

GREELEY, COLORADO

CSC

COLORADO STATE COLLEGE

**GENERAL
CATALOG**

967-68





BULLETIN

COLORADO STATE
COLLEGE

1967-68 GENERAL CATALOG

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COLLEGE CALENDAR

S M T W T F S

SEPTEMBER

1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

OCTOBER

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29 30 31

NOVEMBER

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DECEMBER

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31

JANUARY

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28 29 30 31

FEBRUARY

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MARCH

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31

APRIL

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28 29 30

MAY

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JUNE

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23 24 25 26 27 28 29
30

JULY

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7 8 9 10 11 12 13
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28 29 30 31

AUGUST

1 2 3
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11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

Fall Quarter—1967

September 18—Laboratory School Opens

September 21—New Students Report

September 25-26—Registration

September 27—Classes Begin*

October 21—Homecoming

Oct. 30-Nov. 3—Mid-term Week

November 22—Thanksgiving Vacation
(Begins at Noon)

December 13—Commencement—4:15 p.m.

December 13-14-15—Final Examinations

December 20—Laboratory School Closes

Winter Quarter—1968

January 2-3—Registration

January 4—Classes Begin*

January 26-27—Mid-Year Education
Conference (Classes Meet)

February 5-10—Mid-term Week

March 8—Commencement—4:15 p.m.

March 8-11-12—Final Examinations

Spring Quarter—1968

March 18-19—Registration

March 20—Classes Begin*

April 22-27—Mid-term Week

May 24—Insignia Day

May 25—Commencement—10:00 a.m.

May 30—Memorial Day—Holiday

May 28-29-31—Final Examinations

Summer Quarter—1968

June 10-11—Registration

June 12—Classes Begin

July 4—Independence Day—Holiday

July 15-19—Mid-term Week

August 15—Commencement—10:00 a.m.

August 14-15-16—Final Examinations

*Evening classes begin the same day as day classes.



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Freshman Admissions Timetable

Applications—Applications may be filed any time after the close of the first semester of the senior year in high school and not later than 30 days prior to registration day.

Test Scores—The American College Test (ACT) should be taken early enough so that the test results may be considered at the time the application is filed. An October or December test date is recommended.

Financial Aid Applications—Applications for Student Loans should be filed with the Director of Financial Aid between April 1st and April 30th or until funds are exhausted. A student must have made application for admission to the college and have been officially admitted before any action will be taken on the application for financial aid.

Scholarship Applications—Applications for scholarships should be returned to the high school for their completion by February 1st and must be filed with the Director of Financial Aid no later than March 1st. A student must have been officially admitted to the college before his application for scholarship will be considered.

PLEASE NOTE—All applicants for Financial Aid must submit the Parent's Confidential Statement of the College Scholarship Service in order to be considered for Financial Aid.

Transfer Student Admissions Timetable

Applications—All applications and two official transcripts from each college or university attended must be filed 30 days prior to the quarter for which the transfer student wishes to enroll.

Test Scores—All transfer students must submit scores from the American College Test (ACT). These scores may be submitted by the student's high school, previous college or university, or by the American College Test, Iowa City, Iowa. The Counseling and Testing Service, Colorado State College, Greeley, can supply information regarding registration for this examination.

IMPORTANT—All undergraduate students, whether full or part-time, must make application for admission and be officially admitted in order to take course work. There is no "unclassified" or "special student" status for undergraduate students.

For details concerning admissions, see Pages 28-30.

GENERAL INFORMATION

Functions of the College—Colorado State College provides balanced curricula to allow the student to develop into an effective citizen, to increase his capacity to use the processes of critical, reflective and creative thinking, and to increase his level of personal maturity. Within this framework professional and pre-professional courses are provided to enable each student to become a useful and productive member of society.

Colorado State College has a tradition and a national reputation in the preparation of teachers, offers a variety of majors in many academic disciplines, and is dedicated to the continuing advancement of knowledge.

Accreditation—Colorado State College is completely accredited by the North Central Association of Colleges and Secondary Schools as an institution conferring the Bachelor of Arts, the Bachelor of Science, the Master of Arts, the Specialist in Education, the Doctor of Education, and the Doctor of Philosophy degrees. Accreditation by the North Central Association of Colleges and Secondary Schools was first earned in 1916.

The college is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the doctorate degree as the highest degree approved.

The college is a member of the American Association of Colleges for Teacher Education, the American Council on Education, the Midwest Conference on Graduate Study and Research, and the Western Association of Graduate Schools.

History—The history of Colorado State College closely parallels much of the growth and development of the Greeley Union Colony. The Colony was organized in 1870 by Nathan C. Meeker, traveler and newspaper correspondent, and was named after Horace Greeley.

When the Colony was eighteen years old, a movement was started to establish a normal school to supply teachers for the community and state. The law creating the State Normal School was signed on April 1, 1889, and the cornerstone of the first building was laid on June 13, 1890. Classes were started October 6, 1890, with a staff of the principal, four instructors, and 96 students. Certificates were granted upon the completion of the two-year course.

In 1911 the name was changed to Colorado State Teachers College by the state legislature. The college was then offering four years of undergraduate work and granting the Bachelor of Arts degree. In 1935 the name of Colorado State College of Education was adopted to recognize the fully developed graduate program which was started in 1913. Early in 1957 the state legislature approved shortening the name to Colorado State College, effective October, 1957.

Government—The college is under the management of a Board of Trustees of seven members. All are appointed by the Governor of the State. Money for the maintenance of the college comes from special appropriations made by the legislature, and student tuition and fees.

Location—Colorado State College is in Greeley, a city of approximately 35,000. Greeley is 52 miles north of Denver and 52 miles south of Cheyenne, Wyoming. Estes Park is 51 miles west. The front range of the Rocky Mountains is 30 miles west of the campus. The elevation of Greeley is 4,648 feet, and the climate is invigorating and conducive to study.

Laboratory Schools—The college maintains a Laboratory School which includes Ernest Horn Elementary School with kindergarten and the first six grades and College High School, with grades seven through twelve. For information on tuition and fees consult the Director of the Laboratory School.

The campus Special Education School, a cooperative project of School District No. 6 (Greeley, Evans and Ashton) and the college, is a laboratory school enrolling physically and mentally handicapped and emotionally disturbed children. College students observe and do student teaching in this school. For information consult the Director of Special Education.

A Nursery School is maintained under the direction of the Department of Home Economics. Please consult the department chairman for further information.

Campus—The 240-acre college campus is in a beautiful residential area in the southern part of Greeley. The campus, six blocks from the main business district, is in three parts—East, Central, and West. At present a majority of the academic buildings are on the Central Campus. Residence halls for men and women are located on the East and West campuses and residences for women on the Central Campus. Permanent college-owned apartments for married students and families will be opened on the East Campus during the Summer Quarter of 1967.

Athletic fields for major outdoor sports are on the East Campus, while recreational activity areas extend over all three campuses.

A new \$3,175,000 College Center lies between the Central and West campus areas. Future plans of the college are to have the majority of single student residences and academic buildings on the 153-acre West Campus. Presently Ross Hall, the science complex; Bishop-Lehr, the laboratory school; and the new \$3,100,000 education-classroom building under construction are on the West Campus. Three new coeducational residence halls on the West Campus—McCowen Hall, Harrison Hall and a 13-story hall currently under construction—can house 1,650.

The total physical plant of the campus includes 65 buildings, exclusive of college-owned fraternity and sorority houses. Book values of college assets in buildings and grounds on the campus total \$34,000,000. The college also owns a mountain campus of 80 acres and five buildings adjacent to the city of Estes Park. This area, used for field trips by college classes, includes some of the most spectacular scenery in the Rockies.

Library Facilities—The college library in Carter Hall has more than 222,500 volumes, including microfilms, periodicals, government documents, pamphlets, and reference materials. Carter Hall is a modern building with many comfortable, well-lighted study areas. The air-conditioned book stacks are open to all students and other patrons.

Alumni Association—The Alumni Association of Colorado State College was re-established February 11, 1965. A non-profit corporation organization independent of the college, the Association is governed by a 21-man Board of Directors and has as its purpose the creation and encouragement of activities which are mutually beneficial to the college and its alumni. Local clubs are established in areas where 10 or more alumni indicate an interest. Regular Membership is available to any person who has enrolled in the college. Friends of the college may apply for an Associate Membership. For additional information, please contact the Alumni Office, Colorado State College.

Rocky Mountain Special Education Instructional Materials—An integral part of the special education program at Colorado State College is the new Rocky Mountain Special Education Instructional Materials Center. This facility is one of 11 such centers in the United States which grew out of two applications submitted to the U.S. Office of Education in 1964. The Center's chief function is to provide for acquisition and lending services of special education instructional materials to educators in a five-state area. The states within this area include Montana, Wyoming, Colorado, Utah and New Mexico.

Special education students at the Greeley campus will find the Center's storage of materials and data processing of annotated bibliographical listings most helpful in their studies and research. The Center is most anxious to put within the reach of students and educators alike an ever-expanding wealth of the latest in instructional materials.

Instructional Materials Center—Services provided by the Instructional Materials Center cover the range of educational media. The Center provides a media consulting service for faculty and others.

Faculty film requests and orders are processed by this department. A library of 2,000 films, 900 filmstrips, several hundred audio recordings and numerous video tapes is available. All audio-visual equipment and films for the college and community are centrally located, supplied, and maintained in the Center. Student projectionists are provided for faculty members who desire this help.

Audio production studios provide disc and tape recording services, as well as a campus public address system. A graphics production staff is also available in

the Center, for the creation and reproduction of visual and photographic instructional materials. Through the facilities of CSC-TV a television production studio is also available. A campus-wide six-channel distribution system allows for convenient playback of video tape or distribution of locally originated live telecasts.

Educational Planning Service—Consultant services for school districts and educational institutions are provided through the Educational Planning Service, which is organized to utilize the experience and specialized knowledge of the entire Colorado State College faculty. Services to schools and colleges include curriculum planning, administration and organization problems, planning educational facilities and planning for higher education. The Educational Planning Service is a self-supporting non-profit activity with the fees for services set on a cost basis.

Bureau of Educational Research—Consultative services are provided to the college, individual faculty members, doctoral students, and public schools. Services to individuals and organizations include aid in preparing statistical designs, and aid in other phases of research and development. College and public school organizations are assisted in planning test programs, computer applications to educational problems, large scale research projects, innovation projects, and program evaluation. A research journal is published in cooperation with Alpha Mu chapter of Phi Delta Kappa and Office of Publications. Bureau staff coordinate the doctoral program in Educational Measurement and Research and direct the research practicum experiences in this program.

Insurance Institute—The function of the Insurance Institute is to formulate insurance courses and other insurance programs in cooperation with the Division of Business and insurance industry and to act as coordinator of these courses and programs. Special emphasis is placed on undergraduate work in insurance and on in-service training for insurance industry personnel in academic work leading to advanced professional designations.

Public Services—Coordinated through the Department of Public Relations, the college provides several types of services for students, schools, and communities. The services include off-campus classes and correspondence study, placement of graduates in professional positions, helping to plan and host various types of conferences on campus, scheduling staff members and students for speaking engagements, and assisting schools and communities with their educational problems.

Off-Campus Instruction—One of the many services the college provides for Colorado is an extensive program of off-campus instruction. Three types of programs are offered to help certify and upgrade teachers for the public schools. These three programs are (1) off-campus classes, (2) Tele-Lecture courses, and (3) correspondence study.

Off-campus classes are offered in various sections of the state primarily as in-service courses to the teachers and the school systems.

Tele-Lecture is a means of providing off-campus instruction in a number of sites widely separated and distant from the campus. Through the use of tape recorded lectures the professor is able to teach classes in several communities simultaneously. Visual materials and textbooks are used to supplement the taped lectures. Two-way communication is achieved through the use of amplified telephone conference calls which connect all class groups with the professor on the campus and with other class groups. The conference calls permit interaction between the individual student, other students, and the professor. All Tele-Lecture courses are offered for three quarter hours credit with approximately two hours per week devoted to taped lecture material and one hour per week to amplified telephone lecture and interaction with class groups.

The college provides correspondence courses for the convenience of students who want to earn undergraduate college credit but cannot do so through classes on or off the campus.

Complete information on off-campus classes, Tele-Lecture courses and correspondence study may be obtained from the Off-Campus Study Office, Department of Public Relations, Colorado State College.

Placement Services—The Placement Center of Colorado State College offers its services to present and former students who are seeking positions. It also offers its

services to the principals, superintendents, boards of education and college officials who are seeking employees.

The purpose of the office is to bring students and the employment authorities together either by exchange of correspondence or by personal interview. The functions of the Placement Center are (1) to arrange for meetings of interested parties, (2) to furnish appropriate information to both parties, and (3) to give such assistance to both parties as is possible and ethical.

The only charge for this service is a small one to cover, in part, the cost of assembling data concerning the applicant. The fee is paid when the applicant enrolls. Please consult the Financial Information section for specific fee schedule.

KCBL-FM—The radio voice of Colorado State College. This 10-watt educational radio station is licensed to the Associated Students and is staffed by students interested in broadcasting. While quality music is the primary source of programming, emphasis is also given to the broadcasting of programs dealing with student life, programming from and about foreign countries, programs of general cultural and educational interest, and selected athletic events. KCBL-FM broadcasts at 91.3 megacycles on the FM frequencies. A monthly program guide describes the programming offerings and is available free of charge.

STUDENT PERSONNEL SERVICES

All out-of-class activities and services for students are administered by the Department of Student Personnel under the direction of the Dean of Students. These include pre-college counseling, application for admission, veterans counseling, matriculation and guidance examinations, registration for courses, record keeping, application for graduation, transcription of records, student health services, testing, counseling of a personal nature as well as academic guidance, remedial programs, living accommodations, recreational and social events, student employment, and student loans and scholarships.

Counseling Services—Counseling services are available for all students of the college at the Counseling Center. These services provide an opportunity for students to receive help in determining and understanding their aptitudes and interests in order that they might select a course of study in keeping with their needs and desires. Help is also available for students who are having difficulty with course work or who present other types of problems which arise in college life, such as those of a personal nature involving social situations, physical and mental health, finances, or housing.

Student Employment—A large number of the students of the college have part-time employment on-campus to help defray their expenses. Other jobs are available in Greeley business places and homes. Each student employed on the college campus must maintain a satisfactory grade average. Inquiries concerning employment should be addressed to the Director of Financial Aid, Colorado State College.

Health Services—The Student Health Service offers examination, treatment, and limited dispensary facilities with registered nurses in attendance at all times during the college day, and with physicians available at specific office hours.

Students are issued Health Certificates with the names, addresses and telephone numbers of all physicians in Greeley. A student may go to the office of any Weld County physician, or he may call the physician to his residence. Doctor's charges and hospital bills are paid by the college at the end of each quarter on a restricted basis according to our contract with these agencies. Services allowed are listed on the reverse side of the Health Certificate. Students who are on off-campus assignments doing supervised practice in student teaching, student nursing, and special education may use the Health Certificates in the community where they are assigned by special arrangement at the Accounting Office when the Health Certificates are issued.

A group health and accident insurance policy is issued to all students who do not request a waiver. The cost of the insurance is \$21.50 per year for benefits covering the student during a 52-week period anywhere in the United States and Canada, all vacation periods included.

A Student Health brochure is provided which may be consulted for further details.

Transcripts—Students may obtain official transcripts of their college records on payment of \$1.00 for each copy, payable in advance. Requests should be addressed to the Recorder, Colorado State College.

Education of War Service Personnel—All ex-service personnel entering under the veterans' education and training program must present a Certificate of Eligibility valid for use at Colorado State College. This certificate must be presented at the time of registration. Further information concerning Veterans' Affairs may be obtained from the Director of Financial Aid, Colorado State College.

Photographs—A college photographer will take pictures of all new students on registration day. These pictures are for official files and for the student's identification card.

Housing

Student Residence Halls—Room and board accommodations are available in college residence halls for undergraduate or graduate students on a contract basis for the full school year consisting of the fall, winter and spring quarters. No student is permitted to break this contract unless he or she is leaving the campus. Residence in these halls provides social, educational, and cultural advantages to the student.

Each hall is under the supervision of a director chosen for his or her experience and interest in the personal and social growth of college-age students.

Residence Regulations—All women students are required to be in their places of residence not later than 11:00 p.m. on Sundays through Thursdays and by 1:00 a.m. on Friday and Saturday nights. Freshmen women are required to be in their places of residence by 10:00 p.m. on Sunday through Thursdays during their first quarter of enrollment. In subsequent quarters freshmen women who are maintaining satisfactory grades are permitted the 11:00 p.m. hours.

Desirable study conditions are to be maintained by all students at all times in residence halls, college-owned housing, and college-approved private homes.

Linens and Bedding—Students provide their own personal linens and towels. The college furnishes and launders college-owned bedding in the residence halls and college-owned houses.

Dining Rooms—Students living in the residence halls have their meals in the dining rooms maintained on the campus. Rates are established on a room-and-board basis. These rates may vary slightly depending upon location and size of the room as well as upon any marked fluctuations in food costs. Such changes are authorized by the Board of Trustees. Notification of changes in rates is given at least 30 days in advance of any school quarter.

Application for Rooms—Application blanks may be obtained from the Office of Student Housing. The completed application for housing, with a \$50.00 deposit, must be returned to the Director of Student Housing, Colorado State College. If you decide not to attend Colorado State College, and a written statement is received by the Housing Office, the policy in regard to refunds will be as follows: **FALL QUARTER:** Cancellations received prior to August 1, \$40.00 will be refunded. Cancellations received from August 1 to September 1, \$25.00 will be refunded. Cancellations received on or after September 1, no refund of deposit. **WINTER QUARTER:** Cancellations received prior to November 1, \$40.00 will be refunded. Cancellations received from November 1 to December 1, \$25.00 will be refunded. Cancellations received on or after December 1, no refund of deposit. **SPRING QUARTER:** Cancellations received prior to February 1, \$40.00 will be refunded. Cancellations received from February 1 to March 1, \$25.00 will be refunded. Cancellations received after March 1, no refund of deposit. **SUMMER QUARTER:** Cancellations received prior to May 1, \$40.00 will be refunded. Cancellations received from May 1 to June 1, \$25.00 will be refunded. Cancellations received after June 1, no refund of deposit. If a student living in a residence hall should withdraw from the college in any quarter, he forfeits his room deposit of \$50.00, is charged for the room rent for the balance of the quarter, and is allowed a refund only on the dining hall charges on a pro-rated basis.

If all provisions of the contract have been complied with and no damage charges have been assessed, the \$50.00 deposit will be refunded at the end of the school year. If the resident elects to re-apply for a room in the residence halls for the following year, his deposit will not be refunded but will be transferred to the renewal application. Except for Greeley residents, first-year freshman students are required to live in the residence halls.

Off-Campus Housing—The Director of Student Housing will assist students who are not required to live in residence halls to obtain housing in the City of Greeley. Board is available at the College Center for students living off-campus. Undergraduate students are required to live either in the college residence halls or in approved private residences.

Undergraduate students are required to live in approved off-campus housing with the following exceptions: (1) students 21 years of age or over; (2) students who have successfully completed more than 90 credit hours and have the permission of their parents to live where they choose; (3) students whose parents or guardians live in the Greeley vicinity; (4) married students.

Students living in approved off-campus housing report their addresses and parental approval to the Director of Housing within the first week of each quarter. Failure to report one's address or present written parental approval may result in disciplinary action.

Residents of approved off-campus housing must abide by the college regulations concerning conduct. Those students not living in approved housing are expected to conduct themselves in accordance with the standards of the college and community.

Jackson Field Housing Project—A limited number of temporary apartment units are available for students with families. These furnished apartments are provided with heat, electricity, and water.

There are 98 permanent two-bedroom furnished apartments available for students and their immediate families. These units are located on college-owned property near the residence halls on the east campus between 17th and 18th Streets. Applications for rentals are made to the Director of Student Housing, Colorado State College. A \$50 deposit must accompany an application for Jackson Field Housing.

Loan Funds

Loan funds available to students are administered by a Committee on Loans which determines from time to time the policies and regulations under which loans may be made to students and approves all loans. All applications for loan funds are to be addressed to the Director of Financial Aid, Colorado State College.

Colorado State College participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in CSS subscribe to the principle that the amount of financial aid granted a student should be based upon financial need. The CSS assists colleges and universities and other agencies in determining the student's need for financial assistance. Entering students seeking financial assistance are required to submit a copy of the Parents' Confidential Statement (PCS) form to the College Scholarship Service, designating Colorado State College as one of the recipients, by February 15. The PCS form may be obtained from a secondary school or the College Scholarship Service, P. O. Box 176, Princeton, New Jersey 08540, or P.O. Box 1025, Berkeley, California 94074.

National Defense Education Act Student Loan Program—Colorado State College has been approved as a participant in the Student Loan Program authorized by the Federal Government. Loans are available to outstanding high school seniors and college students in need of financial assistance to be able to attend college. Repayment provisions are especially favorable to graduates in teacher education who enter the teaching profession. Address inquiries to the Director of Financial Aid, Colorado State College.

College Loan Fund—Sixteen college loan funds with aggregate resources of more than \$131,000 are available to help worthy students. Applications for loans may be made through the Director of Financial Aid, Colorado State College.

All loans are completed on personal, unsecured notes bearing a low rate of interest. Over-all living costs, job prospects, potential earning power, and the credit experience of the student are carefully considered by the committee. More than 6,000 students have utilized the loan funds since 1911.

The funds are William Porter Herrick Memorial, Sarah Platt Decker Memorial, Rotary, WTK, Fortnightly Music Club, Kendel Music, Altrusa, Shyn, Sigma Upsilon Graduate, Panhellenic, High School Loan Fund, Merriman Memorial Fund, Andrew P. Bengtson and Gertrude Bengtson Memorial, Phi Delta Kappa, Associated Students, and Alfred L. and Carena L. Jex Fund.

United Student Aid Fund Loan Program—Colorado State College is collaborating with the United Student Aid Fund Loan Program whereby qualified students may obtain loans at cost from their local banks in most states. These loans are available to sophomores, juniors, seniors, and graduate students. For a student who qualifies under Federal Law, the Federal Government will pay the six per cent interest until repayments are due to begin and three per cent interest while the student is repaying the loan. A fee of one-half of one per cent a year of the amount of the loan for the term of the loan is paid in advance by the student. Application forms are available at the Office of the Director of Financial Aid, Colorado State College.

Federal Low-Interest Bank Loans—Colorado State College also participates in the Federal Low-Interest Bank Loan Program which is the same type of program as the United Student Aid Fund Loan Program except that it is available to incoming freshmen as well as upperclassmen and graduate students, and the maximum is increased to \$1,500.00 for graduate students. In the State of Colorado, the United Student Aid Fund Loans, Inc. administers the program for the state and the Federal Government, but outside the State of Colorado, students should contact their State Department of Education to find out whether they are cooperating with United Student Aid Funds, Inc. or have their own administering agency. In the latter case, it will be necessary to obtain an application form used by the

local administering unit designated by their state of residence. Additional information is available at the Office of the Director of Financial Aids, Colorado State College.

Scholarships and Awards

Several scholarships and awards have been established for students of the college. To keep scholarships in force, the recipient must maintain a minimum cumulative grade average as follows: freshmen, 2.5; sophomores, juniors and seniors, 2.75. Unless otherwise noted, applications for scholarships should be made to the Director of Financial Aid, Colorado State College.

Colorado State College Awards—Colorado State College awards a limited number of scholarships to graduates of Colorado high schools and junior colleges who deserve such recognition and are especially interested in becoming teachers. These scholarships are awarded on the basis of academic achievement, but the amount of the award is based on need as determined from the Parents' Confidential Statement and can be used only as a credit toward the cost of tuition. Recipients must be residents of the State of Colorado.

To keep these scholarships in force, the recipient must maintain a grade average meeting the standards established by the Scholarship Committee and must uphold all requirements of good citizenship.

Applications for these awards must be received by the Director of Financial Aid, Colorado State College, not later than March 15.

Air Force ROTC Financial Assistance Grants—The Air Force awards a limited number of two-year Financial Assistance Grants to selected cadets in the Professional Officer Course of the AFROTC program. The grants include full tuition, fees, a quarterly allowance for books, plus \$50 per month. The cadets who are selected to receive the grants must be enrolled in the four-year AFROTC program. Cadets in the two-year program are not eligible for these grants. For additional information, write to the Professor of Aerospace Studies, Colorado State College.

The Pearl Beaver Gleason Scholarship Fund—This fund was established by the wills of Mr. and Mrs. Halton H. Friend in memory of Mrs. Friend's mother to assist each year a deserving and distinguished young undergraduate woman in teacher education. The scholarship may provide a stipend up to \$1,000 to be used for tuition, fees, books and materials, room and board, and/or personal expenses while attending Colorado State College. Applications must be directed to the Director of Financial Aid, Colorado State College, prior to March 15 for the following academic year.

The Eleanor S. and Alma J. Dickerson Scholarships—This fund was established by Dr. Oliver M. Dickerson, professor emeritus of history and political science and former chairman of the Division of Social Studies at Colorado State College, to assist worthy students during their senior year in the field of social sciences. Two scholarships will be awarded each year and may provide a stipend of \$500 each. Qualified recipients of the scholarships will be chosen by the Scholarship Committee on the basis of scholastic achievement, personality and promise of future growth.

The Jule Statton Doubenmier Scholarship Fund—This fund was established by his many friends as a memorial to J. S. "Dobby" Doubenmier, former professor of physical education at Colorado State College and the director of intramural athletics. The Scholarship Committee of the college selects the man or woman to receive the scholarship for each school year. The scholarship is normally awarded to an upperclassman who has been enrolled in the college for at least one year.

The Marvin E. George Memorial Fund—This Memorial Fund has been established by the Greeley Elks Chorus and friends of Marvin E. George, former professor of music at Colorado State College. This fund provides financial aid to a meritorious upperclassman enrolled as a music education major at Colorado State College. The money can be used for tuition, fees, books, materials, room and board, and/or personal expenses while attending Colorado State College. Applications should be made to the Chairman, Division of Music, Colorado State College.

The Kenneth J. Hansen Memorial Scholarship—A fund has been established by his friends and family in memory of Kenneth J. Hansen, former professor and head of the Department of Business Education at Colorado State College. The Scholar-

in the college for at least a year. The award is to be used at Colorado State College and preference is given to a student majoring in business education.

The House of Neighborly Service Scholarship—The House of Neighborly Service Fund has been established as a trust fund, the income of which is to be used to assist a Spanish-American student at Colorado State College, who is a resident of Weld County. The scholarship will be granted on an annual basis as income from the trust fund is available.

The Helen MacCracken Scholarship—A fund has been established by Mrs. Helen MacCracken, a former professor of science at Colorado State College, to provide financial aid to a meritorious student enrolled at Colorado State College studying elementary science education. Inquiries should be made of the Associate Dean, Sciences and Mathematics, Colorado State College.

The Miriam Mitchell Memorial Scholarship Fund—The Miriam Mitchell Memorial Scholarship Fund was established by the will of Miriam Mitchell to assist deserving young women who are resident citizens of the State of Colorado to defray the expenses of attending Colorado State College. A number of scholarships are awarded annually from this fund, and a recipient may qualify for each year she is attending college as a full-time undergraduate student. Normally, a scholarship is not awarded before the sophomore year. The scholarship generally provides a sum equal to tuition, student services fees, and books for the academic year.

The Carl G. Melander Vocal Scholarship Award—A fund was established as a memorial to Carl G. Melander, former professor of music at Colorado State College. The fund provides for private instruction in singing for deserving and talented young singers. Recipients are chosen by the voice faculty of the Division of Music, and the instruction is given by a member of the Division of Music faculty.

The Emily C. Newman Scholarship Fund—This fund was established by the will of Emily C. Newman, pioneer homesteader and teacher of northern Colorado. It provides financial assistance to well-qualified and deserving freshmen applicants from Weld and Morgan counties, Colorado.

The Roof Memorial Scholarship—The Roof Memorial Scholarship assists deserving men and women students to defray expenses of attending Colorado State College. A number of scholarships are awarded annually from the income from this fund. The recipients must be full-time undergraduate students. Normally awards are not made before the sophomore year.

The Edith M. Selberg Science Scholarship—A fund has been instituted by Lambda Sigma Tau, honorary science fraternity, in honor of Professor Emeritus Edith M. Selberg, to provide financial aid to a meritorious member of Lambda Sigma Tau. The scholarship is tenable for one year.

The Soroptomist Club of Greeley Scholarship—An annual scholarship of \$150 has been established by the Soroptomist Club of Greeley to be awarded to a young woman enrolled at Colorado State College in a teacher certification program with a major in special education. The scholarship is good for one year and will normally be granted to a junior or senior student.

The John S. Welling Scholarship—A fund was established by his friends and family in memory of John S. Welling, former professor of social studies at Colorado State College. The Scholarship Committee annually selects a deserving sophomore student who is majoring in social science. The award is to be used for college expenses at Colorado State College.

The Helene Zahnen Memorial Award—A fund was established as a memorial to Helene Zahnen, former professor of foreign languages and teacher in College High School for many years. The fund provides for some financial assistance to a deserving graduating senior of College High School who enters Colorado State College to study to become a teacher of foreign languages. Applications should be made to Principal, College High School, Greeley, Colorado.

STUDENT ACTIVITIES

All campus organizations must apply each year through the Student Council to the Department of Student Personnel for charter approval. When organizations are recognized by the Student Council and the Department of Student Personnel, facilities of the campus, set aside for such purposes, may be used by the groups. The Activities Manager in the College Center is in charge of student activities.

College Center—All student activities are housed in the new College Center. Located on 19th Street between 10th and 11th Avenues, the Center is designed to be the hub of campus community life. Most College Center facilities are open to all faculty, staff, students and visitors on a regular weekly schedule. The Center staff is coordinated by a Director, assisted by the Activities Manager, Food Services Manager, Book Store Manager, Recreation Supervisor and Building Services Supervisor.

Eligibility for Student Activities and Athletics—Students who do not maintain acceptable grade averages will not be permitted to participate in varsity athletics, dramatics, debate and other extracurricular activities of the college, nor are they eligible to be employed on the campus.

Student Government—Student government and activities on the campus are administered by the members of the Associated Students under the direction of the Department of Student Personnel. The Associated Students elect in the Spring Quarter a student governing body, the Student Council. The Student Council serves in the succeeding school year.

Students registered for six or more quarter hours of credit on the campus are automatically members of the Associated Students and are entitled to all regular college services and privileges accorded to this group.

Membership in the Associated Students permits students to attend most cultural, social, dramatic and athletic events without additional charge. Two student publications, the *Mirror*, weekly newspaper, and the *Cache la Poudre*, annual yearbook, are provided without charge to members. Facilities of the College Center are also available to members.

The student government does not function during the Summer Quarter, but comparable activities are provided to students under the direction of the Director of Summer Quarter and the Director of the College Center.

Associated Women Students—All women students are members of the Associated Women Students. This organization supports the many projects which further the growth and betterment of women's activities at the college. The organization is very active in assuring a friendly welcome to each new woman student.

Athletics—The athletic activities of the college are governed by a Board of Athletic Control on which both students and faculty are represented. Intercollegiate and intramural athletic programs are scheduled in football, basketball, baseball, field and track, wrestling, swimming, gymnastics, tennis, and golf. Gunter Hall and Jackson Field, athletic stadium, afford ample facilities for the major indoor and outdoor sports.

Colorado State College is a member of the Rocky Mountain Faculty Athletic Conference, and is bound by the rules of that body in governing eligibility of athletics and the conduct of students at or in connection with athletic events.

The Women's Athletic Association has charge of and encourages intramural participation in athletic sports suitable for women, including swimming, basketball, softball, volleyball, tennis, track and field, archery, and fencing.

Forensics—Students have an opportunity to participate in a comprehensive program of intercollegiate debate and public discussion. The college is a member of the Colorado-Wyoming Intercollegiate Forensic League and has the Colorado Beta chapter of Pi Kappa Delta, national forensic society. Under faculty supervision, students participate in regional and national programs.

Publications—Students interested in journalism have an opportunity for expression in two campus publications owned and published by the students. The *Mirror* is a weekly newspaper, and the *Cache la Poudre* is the student annual.

Little Theatre of the Rockies—The Little Theatre of the Rockies presents several outstanding plays during the school year. Students may try out for parts in the plays or work as stage carpenters, electricians, property managers, etc.

Clubs and Honorary Fraternities—Each division of the college sponsors honorary fraternities and clubs of various types which are of special interest to students majoring or minoring in the division. These organizations provide an opportunity for students and faculty members to become better acquainted.

Qualified students are eligible to become members of numerous honorary and service fraternities. Organizations open to both men and women include:

Alpha Phi Gamma, national journalism fraternity;
 Alpha Psi Omega, national drama fraternity;
 Delta Phi Delta, national art fraternity;
 Lambda Sigma Tau, national science fraternity;
 Orchesis, modern dance organization;
 Phi Sigma Iota, national foreign language fraternity;
 Phi Alpha Theta, national history fraternity;
 Phi Mu Alpha Sinfonia, national music fraternity;
 Pi Kappa Delta, national forensic fraternity;
 Pi Omega Pi, national business education fraternity;
 Kappa Delta Pi, national education fraternity.

The following honorary and service fraternities are for men:

Alpha Phi Omega, national scouting service fraternity;
 Arnold Air Society, honorary AFROTC society;
 Blue Key, national service fraternity;
 Kappa Kappa Psi, national band fraternity;
 Phi Delta Kappa, national professional education fraternity;
 Intercollegiate Knights, national service organization.

Women's honorary and service organizations include:

Angel Flight, National Service Auxiliary of Arnold Air Society;
 Chandelle, junior women's honorary;
 Delta Omicron, national music fraternity;
 Gold Key, senior women's honor society;
 Pi Lambda Theta, national education fraternity;
 Spur, national service fraternity;
 Tau Beta Sigma, national band fraternity.

Social Organizations—At Colorado State College there are eight national social sororities and six national social fraternities.

Sororities

Alpha Delta Pi
 Alpha Gamma Delta
 Alpha Phi
 Alpha Sigma Alpha
 Alpha Sigma Tau
 Delta Zeta
 Sigma Kappa
 Sigma Sigma Sigma

Fraternities

Acacia
 Alpha Kappa Lambda
 Sigma Chi
 Sigma Phi Epsilon
 Tau Kappa Epsilon
 Theta Xi

No student is eligible for pledging until he or she has been enrolled at Colorado State College for one quarter.

Panhellenic Council, composed of two representatives from each sorority, and the Inter-Fraternity Council, composed of three representatives from each fraternity, function as coordinating agencies for their respective groups, governing pledging and initiation and maintaining a high plane of inter-sorority and inter-fraternity relations on the campus. The councils sponsor several awards to the member organizations including awards for high scholastic achievement.

Religious Program—The college emphasizes the values of a religious life and encourages students to attend churches of their choice. Greeley is noted as a city of churches. Most denominations are represented by an active church. There are several student religious groups on the campus. The Religious Affairs Association composed of students, college chaplains and faculty members is the coordinating agency for campus religious activities.

Music Organizations—The music program is an important part of college life. Qualified students are eligible to participate in the choirs, the college bands, the college orchestra, and the Greeley Philharmonic Orchestra. During the school year, the Division of Music presents special programs.

FINANCIAL INFORMATION

Quarterly Tuition and Fees

Tuition and Student Services Fees are assessed and collected during each registration period and are based on the number of quarter credit hour units for which the student enrolls whether arranged for credit or audit registration, or for partial or full study programs. Assessments are uniform for each quarter and depend on the student's assigned residence status, in-state or out-of-state.

<i>On-Campus Instruction</i>			<i>Per Credit Hour of Enrollment</i>
FALL, WINTER, SPRING OR SUMMER QUARTERS			
Colorado Resident			
Tuition	\$ 4.50		
Student Services Fee	2.00		\$ 6.50
<hr/>			
Non-Colorado (out-of-state) Resident			
Tuition	13.50		
Student Services Fee	2.00		15.50
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<i>Off-Campus Instruction* (Extension Services)</i>			
Group Instruction			10.00
Correspondence Study			10.00
<i>Doctoral Research Course Credit</i>			
Tuition only in lieu of regular tuition and Student Services Fees			10.00

*Residence status is not determined for or applied to off-campus programs.

Tuition and Student Services Fee charges are computed by multiplying the number of course credit hours for which registered by the applicable charge quoted above. A typical registration for a complete program each quarter will occur for between 14 and 18 credit hours. Registrations from quarter to quarter may vary considerably. The course load elected is dependent on the adviser's recommendations and is coordinated with the student's needs and interests.

Payment of Tuition and Student Services Fee charges will entitle the student to instruction and a number of campus services.

On campus in the academic year, a student who is enrolled for five or fewer credit hours is entitled to Student Health Office services, normal course materials, the student newspaper, library privileges and the use of College Center facilities.

On campus or on student teaching assignment in the academic year, a student enrolled for six or more credit hours is entitled to all regular college services accorded to full-time students. In addition to those listed in the paragraph above, the services include the issuance of a validated identification card, contractual medical and hospitalization services provided under the terms of a Student Health Certificate, admission to college athletic events, Little Theatre plays, and other public events specified from time to time. The college annual, *Cache la Poudre*, will be issued also each Spring Quarter to those students in residence who have been enrolled for six or more credit hours in each of the three quarters of the academic year.

During the Summer Quarter, college fee charges do not provide for contractual medical and hospitalization services but are used to expand a varied program of campus recreational, social and educational activities.

Residence status is determined by college officials solely for the purpose of assessing tuition. Rulings are made strictly to accord with all the provisions of a 1961 state statute (C.R.S. 1963, 124-18-1-5, inclusive; Vol. 6, pp. 611-613, inclusive) which applies uniformly to all registrants in the state institutions of higher education in Colorado. Administrative procedures which fix status before or at registration have received the approval of the Trustees of the State Colleges in Colorado. If, in special circumstances following a registration and payment of tuition, the resident status conferred on a student is questioned, an appeal from the status conferred may be made on a specified form and the case will

be reviewed by the College Committee on Resident Status. The ruling of the committee following the review is final. A declaration by the student of intent to be or to become a resident of Colorado has no bearing on the determination of the residence status fixed for tuition payment purposes.

In planning a full program of courses, the typical single student on campus should be prepared to meet costs of approximately the following amounts:

	<i>Status</i>	
	<i>In-State</i>	<i>Out-of-State</i>
FALL, WINTER, AND SPRING QUARTERS		
Tuition and Student Services Fee (15 Credit Hours per Quarter)	\$292.50	\$697.50
Books and Supplies (estimated)	100.00	100.00
Board and Room (average)	855.00	855.00
*Personal Expenses	252.50	287.50
<hr/>		
Total Expenses Academic Year of Three Quarters	\$1,500.00	\$1,940.00
SUMMER QUARTER, EXCLUSIVELY		
	<i>In-State</i>	<i>of-State</i> <i>Out-</i>
Tuition and Fees (full quarter of 10 weeks and 15 credit hours)	\$ 97.50	\$232.50
Books and Supplies (estimated)	50.00	50.00
Board and Room (2 to a room average)	290.00	290.00
*Personal Expenses	122.50	137.50
<hr/>		
Total, Full Quarter	\$560.00	\$710.00

Incidental Extra Fees Applicable Under Specified Conditions

Late Registration: Assessed for an enrollment completed on the first day following the scheduled registration day	\$ 5.00
Assessed for each added day, during which late registration is permitted	2.00
Special Examination: Assessed when permission is granted to take an examination at a time other than regularly scheduled	2.00
Late Application for Graduation	2.00
Change of Program: Assessed for each separate change of program permitted	1.00
Extension of Credit: Assessed if and when a deferred payment program is concluded to be effective within a quarter	
Tuition and Student Services Fee Charges	2.00
Tuition, Fees and Board and Room Charges	3.50
Assessed charges are due and payable at registration in each quarter. Deferments are arranged only for sufficient cause and only for payments by installments within the quarter. Any action which has the effect of postponing a cash collection beyond the date on which a charge is due will automatically invoke the applicable extension of credit charge. No registration is permitted without a down payment of at least one-third of total charges. No deferment is issued for a limited course program or for a campus residence of one month or less.	
Proficiency Examination	2.00
Official Transcript of College Records, per copy	1.00

*Amounts given for personal expenses are the estimated normal expenses incurred for clothing, sundries, entertainment, etc. Travel, unusual expenses of a wardrobe or auto maintenance should be added. Family expenses follow the regular family budget elsewhere maintained except for quoted college expenses. Graduate fees, music fees and certain incidental fees below must also be added to the above estimates where applicable.

Student Identification Card Replacement	1.00
Certified Statement of Issuance of Teaching Certificate and/or diploma ..	1.00
Reading Improvement Programs:	
1. Reading Center Diagnosis	40.00
1. Reading Center Group Tutoring, per clock hour	2.50
3. College Study Skills Laboratory Registration, per quarter	10.00
General Education Development Tests	5.00
(May be used to qualify for a High School Equivalency Certificate from the Colorado State Department of Education)	
Special tests by the Counseling Service	5.00
Special Billing: Assessed when an itemized invoice of an account is requested by the student or a supporting agency	1.00
Placement Center Charges:	
(The Placement Year begins October 1 and ends September 30)	
Initial Enrollment before December 1	10.00
Initial Enrollment after December 1	15.00
Re-enrollment before February 1	10.00
Re-enrollment after February 1	15.00
Six sets of credentials furnished with enrollment fee. Seventh and subsequent copies of credentials sent out, per copy	1.00
First and subsequent copies of credentials mailed when applicant has not re-enrolled, per copy	2.00
Telephone calls, telegrams, postage for air mail or special delivery billed at actual cost.	

Fees Added for Graduate Study

Doctoral Research Studies* (assessed to each doctoral applicant in successive quarters of enrollment up to six quarters) for a total (minimum-maximum) of \$300.00. This fee is assessed as follows:	
First quarter	\$25.00
Second quarter	25.00
Third quarter	50.00
Fourth quarter	75.00
Fifth quarter	75.00
Sixth quarter	50.00
Doctoral Research Abstract Publication (assessed at time study is formally accepted and approved)	30.00
Specialist in Education Research Studies* (assessed to each applicant in successive quarters of enrollment up to three quarters) for a total (minimum-maximum) of \$75.00. This is assessed as follows:	
First quarter	25.00
Second quarter	25.00
Third quarter	25.00
Binding and mailing Master's Thesis, Practicum or Doctoral Research Study (4 copies required)	16.00
Comprehensive Examination Retesting Fee	5.00
Foreign Language Examination required for doctoral program fee	5.00

*Enrollees in the doctoral or the specialist program pay all tuition and fees applicable to each regularly registered student in each quarter of attendance plus the applicable fees listed above.

Doctoral candidates, when requesting registration for research credit (usually during the quarter in which the study is formally accepted and approved) will pay \$10.00 tuition per quarter hour of research credit recorded in lieu of the tuition and Student Services Fee.

Any unclassified graduate student who possesses the Master of Arts degree and who subsequent to enrollment elects to enter the Specialist in Education degree program or the Doctor of Education degree program will be charged research studies fees commensurate with the amount of unclassified credit made.

Writing Laboratory for Graduate Students (required of students assigned to the laboratory following tests).....	10.00
Graduate Record Examinations: Advanced Test in Educational, Aptitude, Area Tests in Social Science, Natural Science, and Humanities (for specialist and doctoral students)	10.00

Fees for Music Instruction

Individual music lessons, per quarter	
Music Majors	\$12.50
Other college students	15.00
Persons not enrolled in the college or affiliated schools	25.00
Individual music lessons, less than full quarters	
Violin, piano, organ, strings, each	3.00
Other instruments, each	2.50
Practice room per quarter (includes piano rental)	5.00
Orchestra or band instrument rental per quarter	5.00
Organ rental per quarter	10.00

Policy on Refunds at Withdrawal

Adjustments in tuition and fees permitted when courses are either added or dropped from a student's schedule during the specified grace period only of the first week of a quarter will be charged or credited in cash at the appropriate rates listed on page 21, plus the Incidental Fees section, line 32 of page 21, Change of Program Fee.

The following policy on refunds shall apply to those students only who withdraw completely from college.

To be eligible for a refund of any kind, the student must present a copy of a formal, approved withdrawal notice to the Business Office. The Records Office and the Housing Office must be consulted for information on the required procedure.

A partial refund of tuition and Student Services Fees is made under Board of Trustees rulings in the following terms:

On partial programs of five hours or less, no refunds following the first week of classes; otherwise as provided hereunder.

On any course of two weeks or less in the summer quarter, no refunds following attendance at the first meeting of the class.

Within the first week following the scheduled registration day, all tuition and fees less a deduction of \$1.00 for each course for which registered.

Within the second week following registration, three-fourths of tuition and fees.

Within the third week following registration, one-half of tuition and fees.

Within the fourth week following registration, one-fourth tuition and fees; thereafter no refunds are made.

Incidental fees are not refunded at any time.

Room and board or apartment rental payments are refunded under the provisions of the Residence Halls Lease. Refunds are not made pro rata. The Housing Office shall be consulted at withdrawal for information on the computations applied to partial deposit refunds and allowable credits on board and room payments.

Residence Hall Charges

The rates quoted are first applicable with the Summer Quarter of 1967.

	<i>Minimum</i>	<i>Maximum</i>
	<i>Per Week</i>	
Board and Room per person		
Partial Session in the Summer Quarter, one or more weeks for either Men's or Women's Residences		
Occupancy, two persons to a room	\$ 30.00	\$ 30.00
Occupancy, single person per room	34.00	34.00
Summer and Fall Quarters, 1967, and Winter and Spring Quarters, 1968.		

	<i>Quarterly</i>	
	<i>Minimum</i>	<i>Maximum</i>
All Residence Halls		
Single student occupancy, two persons per room ..	\$275.00	\$290.00
Occupancy, single person per room (available in summer quarter only)	325.00	325.00
Board Service Only		
Is available at the College Center for students not occupying space in the residence halls.		
Rooms Only		
College-owned Fraternity or Sorority houses (restricted to organization members, fall winter or spring quarters) single persons	80.00	80.00
Married couples, rates for two persons (summer quarters only)	180.00	180.00
Family facilities (limited to student and three dependents; not available for single students) summer only per family, 10 weeks	275.00	275.00
	<i>Minimum Maximum</i>	
	<i>Monthly</i>	
Apartments, Student-Family Development, East Campus (includes furnishings and utilities)	\$ 97.50	\$ 99.50
Apartments, Jackson Village	40.00	48.00

All rentals restricted to student families.

Students residing in dormitories and fraternity or sorority residences are expected to provide their own towels and personal linens. The college furnishes and launders college-owned sheets, pillow cases, mattress pads and blankets. Minimum furnishings are provided for student-family apartments.

Address the Housing Office, Department of Student Personnel, when applying for any type of campus housing. A deposit of \$50.00 must be advanced to confirm a reservation. If it is decided not to attend Colorado State College, and a written statement is received by the Housing Office to that effect, the policy in regard to refunds will be as follows:

FALL QUARTER: Cancellations received prior to August 1, \$40.00 will be refunded. Cancellations received from August 1 to September 1, \$25.00 will be refunded. Cancellations received on or after September 1, no refund of deposit. **WINTER QUARTER:** Cancellations received prior to November 1, \$40.00 will be refunded. Cancellations received from November 1 to December 1, \$25.00 will be refunded. Cancellations received on or after December 1, no refund of deposit. **SPRING QUARTER:** Cancellations received prior to February 1, \$40.00 will be refunded. Cancellations received from February 1 to March 1, \$25.00 will be refunded. Cancellations received after March 1, no refund of deposit. **SUMMER QUARTER:** Cancellations received prior to May 1, \$40.00 will be refunded. Cancellations received from May 1 to June 1, \$25.00 will be refunded. Cancellations received after June 1, no refund of deposit. The housing deposit of a student who enters a residence will be held during all consecutive reservation periods and the full term of residence. Penalties assessed for damages to property, when incurred, will be deducted from the housing deposit and any remaining balance returned by mail in approximately 60 days after the student completes campus residence.

A housing contract cannot be terminated unless the student leaves the campus or marries. When a student withdraws from college and vacates a college residence prior to the end of a school quarter, he forfeits the room deposit and is charged full rent for the room. Board charges will be calculated for all days of residence and the balance of the quarter's payment as prorated will be refunded.

The Trustees of the State Colleges in Colorado, the governing body of the college, reserves the right to alter tuition, fees and housing charges on 30 days notice prior to the announced final day of registration for any college quarter.

ACADEMIC INFORMATION

Undergraduate Program—Two degree programs, the Bachelor of Arts and the Bachelor of Science, are offered. Undergraduate degree programs are organized under three basic areas: Arts and Sciences, Teaching Professions (Teacher Education), and Applied and Professional Studies. Bachelor of Arts degrees may be earned in any of the three areas, while the Bachelor of Science degree is offered only under the Applied and Professional Studies program. The Teaching Professions program prepares for teacher certification at the elementary or secondary levels in Colorado and other states. The Arts and Sciences and Applied and Professional Studies programs do not fulfill teacher certification requirements.

Undergraduate Course Load—The normal undergraduate course load for a quarter is 15 hours of academic credit. This does not include the physical education activity courses required in the freshman and sophomore years. Upon the approval of the Assistant Dean of Students, a maximum of 18 academic credit hours plus the required physical education activity may be taken by students who have a college scholastic average of "B" or better. Extra hours for other students who have good records, but below "B", will be considered individually. All requests for permission to carry more than the normal undergraduate course load must have the approval of the Assistant Dean of Students, the Dean of Men, or the Dean of Women. Graduation requirements and the academic standing of the student will be considered by the Assistant Dean of Students in making the decision.

Students are limited to a 16 hour maximum load when they are enrolled for 16 hours of student teaching.

Graduate Program—1. Master of Arts (M.A.) degree. This degree is offered in the School of Arts and Sciences, the School of Education and the divisions of Arts; Business; Health, Physical Education and Recreation; and Music.

2. Specialist in Education (Ed.S.) degree. This degree is granted for one year of work beyond the Master of Arts.

3. Doctor of Education (Ed.D.) degree. This degree is based upon advanced study, successful experience, and research.

4. Doctor of Philosophy (Ph.D.) degree. This degree is based upon advanced study, successful experience, and research.

Graduate Study—Detailed information about the graduate program may be obtained from the graduate section in this catalog. Course work will be outlined by the student's major professor.

Effective Dates of this Catalog—The effective dates of this catalog are from June 1, 1967, to May 31, 1968. Students enrolling for the first time at the college during these effective dates will follow the regulations and requirements in this catalog until their graduation, if such graduation is within six years.

Students enrolling during Summer Quarter, 1967, may follow either the regulations and requirements of the 1966-67 catalog or the 1967-68 catalog.

Academic Standing

The scholastic standing of all students is computed on the basis of courses attempted at this college only. For determining scholarship rank in the awarding of honors the honor point system is used. The honor point average is a quotient obtained by dividing the total number of honor points earned by the total number of hours attempted (that is, those for which grades of "A," "B," "C," "D," or "F" are recorded). All grades earned by a student at Colorado State College become a permanent part of the student's academic record and are computed in the cumulative average. Courses in which a passing grade of "D" or above has been earned at Colorado State College may not be retaken for credit. If a course which was previously failed at Colorado State College is retaken, both the "F" and the second grade remain on the record and are computed in the cumulative average.

An undergraduate either currently or formerly enrolled is either:

1. In good standing
2. On probation
3. Suspended

"Good standing" signifies that the student is eligible to continue, return, or transfer elsewhere. It covers good standing in respect to both grades and conduct.

"Probation" is an intermediate status between good standing and suspension or dismissal and refers to any student whose college attendance does not meet scholastic conditions as set forth on the following pages.

"Suspended" represents an involuntary separation of the student from the college. It implies and may state a time limit when a student's return is acceptable.

Regulations Governing Academic Probation and Dismissal—A student will be placed on academic probation if he fails to attain the designated quarter or cumulative average within the following classifications:

For students with fewer than 90 quarter hours of credit (including transfer credit):

Freshmen students are required to maintain a cumulative grade point average of 1.5 during the freshman year and attain a 1.75 cumulative grade point average by the close of the freshman year. A freshman student achieving less than 1.75 in any quarter will be placed on academic probation for the succeeding quarter. Any freshman student attaining less than 1.5 cumulative during the freshman year or less than 1.75 at the end of the freshman year may be suspended.

Sophomore students are required to maintain a minimum cumulative grade point average of 1.75 during the sophomore year and must attain a cumulative grade point of 2.0 by the close of their sophomore year. A sophomore achieving less than 2.0 in any quarter will be placed on academic probation for the succeeding quarter. Any sophomore attending less than 1.75 during the sophomore year or less than 2.0 at the close of the sophomore year may be suspended.

For students with more than 90 quarter hours of credit (including transfer credit):

A junior or senior student will be placed on academic probation whenever his cumulative or quarterly average is less than 2.0 based on the courses he has taken at this college. Any junior or senior student attaining less than 1.75 in a quarter or less than 2.0 cumulative during the junior and senior year may be suspended.

Academic Suspension. Academic suspension may result in the failure to remove probationary status or in the failure to attain or maintain the minimum quarterly or cumulative grade average as listed in the preceding paragraphs.

A student placed on academic suspension may not enroll at Colorado State College without approval of the Committee on Scholastic Standing. He may not seek such approval until after the lapse of one academic quarter.

Readmission of Students Who Have Been Dismissed for Academic Reasons—A student who has been required to withdraw from the college for academic reasons and is petitioning for readmission must account definitely for the expenditure of his time in a profitable way since leaving the college and should give good reasons for believing that he will improve upon his previous record if readmitted. Such a student is not eligible to be considered for readmission until after the lapse of at least one quarter, not counting the summer quarter. Application for readmission must be made in writing to the Assistant Dean of Students, Colorado State College.

Academic Class Status—A minimum cumulative grade point average of 2.0 is required for graduation.

A student is a freshman until he has completed and passed 45 quarter hours of course credit. He is a sophomore after completing and passing 45 quarter hours of credit until he has completed and passed 90 quarter hours of course credit. A student is a junior after passing 90 quarter hours of credit until he has completed and passed 135 quarter hours of credit. A senior is a student who has passed 135 quarter hours until he is graduated with an A.B. degree. A student must have a cumulative grade point average of 2.0 and a 2.0 average in the area in which he expects to student teach when he applies for a student teaching assignment.

Grading System—Alphabetical grades are used: "A" indicates superior work; "B" indicates work above average; "C" indicates average work; "D" indicates work below average, but passing; "F" indicates failure. Other marks used are "Inc." incomplete; "W" approved withdrawal; "TF" unapproved withdrawal; "WF" failing at withdrawal; "IF" condition not removed. An "Inc." must be removed within the first four weeks of the succeeding quarter or it automatically becomes a grade of "IF".

No student grade can be changed after the first two weeks of the quarter following the receipt of the original grade by the Recorder.

Computing Grade Averages—Prior to September, 1966, the College computed grades on a five-point system. After the above date, grades are computed on a four-point system: Each of the letters of the marking system has a numerical value. The letter "A" has a value of four (4) points; "E" has a value of three (3) points; "C" has a value of two (2) points; "D" a value of one (1) point; and no points are given for an "F." If all the student's marks were "C's," he would have a grade average of 2.0. If one-half of his marks were "C's," and the other half "D's," the numerical value of his grade average would be 1.5.

Quarter System—The school year is divided into four quarters: Fall, Winter, Spring and Summer.

Quarter Hour—All credit toward graduation is computed in "quarter hours." The term "quarter hour" means a subject given one day a week through a quarter of approximately eleven weeks.

Program Planning—Programs outlining specific courses must be planned with the student's adviser. The student is responsible for arranging the necessary meetings with his adviser and for getting course program approval from his adviser.

Majors and Minors—At the time of the first registration, a student must declare his major and minor fields of study and be assigned by the major school or division to a faculty adviser in his major school or division who helps him plan his program of studies. If a student wishes to change to another major or minor field at a later date, he must obtain the approval of all schools or divisions concerned. Majors and minors which may be obtained at the college are listed within the appropriate area (Arts and Sciences, Teaching Professions or Applied and Professional Studies) of this catalog. Specific courses required for the majors and minors are listed by school or division in the course listings section of this catalog.

Proficiency Examinations—Proficiency examinations in certain required courses in a student's major or minor may be taken to determine whether or not the student may be excused from these courses and in some cases to provide evidence for teacher certification.

Credit Offered—Courses offered during Fall, Winter, Spring and Summer quarters will carry the credit designated in the catalog.

Course Numbers—The course numbers are divided into five groups (a) 1 to 99 are primarily for first and second-year students; (b) 100 to 199 are primarily for third and fourth-year students; (c) 200 to 299 are primarily for fourth-year and graduate students; (d) 300 to 399 are for graduate students; (e) 400 to 499 are primarily for candidates for the doctorate.

Course Descriptions—Courses offered in each school or division are listed and described. The course description gives the course number and title, the quarter hours of credit offered, and explanation of the content of the course, and other information needed for planning a program.

Schedule of Classes—The college publishes a Schedule of Classes Bulletin which lists courses being offered during Fall, Winter and Spring Quarters. Courses offered in the Summer Quarter are listed in the Summer Bulletin.

Late Enrollment—No student will be permitted to enroll in a course after the first full week of classes of the Fall, Winter, Spring and Summer quarters. This regulation applies to new registrations and to students wishing to change programs.

Attendance at the first day of every class is of utmost importance to the student, the faculty, and the staff; hence all students are expected to register at the designated time and attend the first meeting of each class. Permission to register after the date for registration stated in the college catalog must be obtained from the Assistant Dean of Students for undergraduate students or the Dean of the Graduate Division for graduate students. The late registration fee will be charged all students who complete registration later than the stated catalog date.

If any student thinks that his late registration fee should be refunded, he should state his reasons either in writing or personally to the Assistant Dean of Students, Colorado State College. (See Financial Information section for late registration fee rate.)

Attendance—Regular attendance in all classes will be assumed and encouraged. The instructor will determine the relationship between class attendance and the objectives of his class and the way in which he will evaluate attendance as a factor in the achievement of the student.

The instructor has the responsibility to inform students of his policies as these policies relate to the students' grades. The student also has the responsibility of knowing the policies in each course.

Withdrawal from Class—When a student registers for a class, he is considered to be a member of that class. If he should wish to withdraw from the class, he must first clear the withdrawal on the withdrawal form at the Records Office. No withdrawals from class are permitted during the last two weeks of a quarter.

Final Examinations—A final examination in each class is to be taken by the student on the dates officially announced. Students granted permission to take a final examination at times other than officially scheduled must pay a fee.

The schedule of final examinations is printed in the Schedule of Classes published each year. Final examinations are usually scheduled during the last three days of the quarter.

Citizenship Standards—A student is expected to be a good citizen of his college community. When a student shows evidence of lacking any of the essential qualities of scholarship, health, and character, he may be suspended by the college.

Advanced Placement

Colorado State College offers advanced placement and/or credit for graduating high school seniors who have participated in special college-level courses in the high school and who have satisfactorily passed the appropriate Advanced Placement Examinations conducted by the College Entrance Examination Board. Applications and advanced placement test results must be forwarded to the Office of Admissions, Colorado State College.

Admission Policy

Admission and Retention—Admission and retention policies at Colorado State College are based on the premise that academic ability and achievement, health and physical fitness, personal and social qualities, and speech skills are important factors in the preparation of teachers as well as students of the Arts and Sciences, and Applied and Professional Studies programs.

Academic Ability and Achievement—A high school graduate or a person holding a high school equivalency certificate may be admitted to Colorado State College for a Teaching Professions, Arts and Sciences or Applied and Professional Studies program if the transcript of his high school record accompanying his application indicates he has the academic ability to do college work successfully. All applications for admission must be received one month prior to registration.

Minimal requirements for admission of both resident and non-resident freshmen are:

1. Graduation from an accredited high school with a minimum of 15 secondary school units. Graduates from high schools not accredited will be examined for admission purposes.
2. Of the 15 units required, 10 must be chosen from the following academic fields: English (minimum of three units), foreign languages, mathematics, science, and social studies.
3. Rank in the upper one-half of the high school graduating class or scores above the national average on the American College Test.
4. All new students are required to submit scores from the American College Test (ACT). Entrance examination results should be submitted as early as possible so admission status can be determined without delay. Information regarding the ACT examination may be obtained from high school principals or counselors.

The Committee on Admissions uses additional information such as secondary school grades, trend in quality of high school performance, and principal—counselor recommendations in assessing the probability of satisfactory performance in the academic program of the college.

A person 20 years of age or over who is not a high school graduate may be admitted to a Teaching Professions, an Arts and Sciences or an Applied and Professional Studies program if the results of an examination taken at least one month prior to the day of registration show he has the academic ability to do college work successfully.

A student transferring from another college may be admitted if he has a "C" average academic record and is in good standing at the college from which he is transferring. His application must be received one month prior to registration.

Health—Prior to final admission and following a medical examination by a qualified medical practitioner, a student shall submit to the Student Health Service of the college a health report which is acceptable to the staff of the Student Health Service indicating the student is in good physical and mental health, has no communicable disease, and has no defects or deficiencies which would hinder satisfactory progress in his chosen curriculum.

Personal and Social Qualities—A student seeking admission to Colorado State College is expected to possess personal and social qualities befitting the curriculum he wishes to study, in keeping with the objectives and traditions of the college, and desirable for the vocation he plans to enter. After admission to the college, he is expected to develop and express these qualities in the classroom, at social and athletic events, in residence, and in community affairs—both on and off campus.

Speech Skills—A student is expected to have such speech skills as will enable him to progress satisfactorily in his chosen curriculum and to perform adequately when in his later vocation.

Matriculation Requirements—A new student, whether freshman or transfer, shall complete during the first quarter on campus certain prescribed tests and the photographic and identification procedures. Guidance in the choice of major and minor fields, selection of courses, need for study skills, and need for counseling stems from the testing program. Matriculation requirements include (1) filing an acceptable application for admission, including high school record and two transcripts from each previous college attended, (2) filing an acceptable health record, (3) completing the matriculations tests, and (4) clearing the photographic and identification procedures.

Failure to Meet Admission or Retention Standards—A student who fails to meet any of the above standards may be denied admission to the college and/or his chosen curriculum, or if already admitted he may (1) be asked to change his curriculum, (2) be asked to withdraw, (3) be suspended, or (4) be dismissed.

Admissions Procedures

New Freshman Students

1. Get an Application for Admission from your high school principal. Out-of-state students write to the Office of Admissions, Colorado State College.
2. Fill in Part I of the Application for Admission and have the high school office complete the form and send it to the Office of Admissions. Applications may be filed any time after the close of the first semester of the senior year in high school and not later than 30 days prior to registration day.
3. Make arrangements to take the American College Test (ACT).
4. Upon receipt of the application, the college will inform you of your admission status and will send you a form for reserving a room in a college residence hall.
5. Additional information regarding the freshman orientation program will be mailed prior to the opening of college to those applicants entering Fall Quarter.

Transfer Students

1. File with the Office of Admissions, Colorado State College: (a) An Application for Admission including high school record; (b) two official transcripts of all credits earned at other colleges or universities; (c) an application for transfer of credit; (d) a report of health examinations; (e) American College Test scores; (f) CSC Statistical Information Form.

In order to insure an evaluation for admission, these materials must be sent to the Office of Admissions, Colorado State College, 30 days in advance of the

quarter for which the transfer student wishes to enroll. Necessary forms may be obtained from the Office of Admissions and the letter of inquiry should state specifically that the student is an undergraduate transfer student. (*Graduate Students: Please consult the Graduate Programs section of this catalog for details concerning graduate students.*)

Minimum Residence Requirements—At least 45 quarter hours of credit must be earned in courses taken on the campus at Greeley to meet the minimum residence requirement for an undergraduate degree including some work in the major field to be determined by the division or department. Course work taken off the campus, both correspondence and off-campus courses, cannot be counted as residence credit in meeting the requirement of 45 quarter hours of credit which must be earned in classes on the Colorado State College campus.

Transfer Credit—Students graduating from a junior college or transferring two years of college work may have to spend more than two years at Colorado State College to complete the requirements for graduation in certain major fields. If the junior college program corresponds to the requirements of the first two years in the same plan of study at Colorado State College, graduation in two additional years is possible in most cases. Credit earned at a junior college after completion of the sophomore year or beyond 90 quarter hours of credit will not be transferable. Not more than 45 quarter hours of credit may be transferred for one year's attendance at a junior college.

Colorado State College *does not* accept credit from other colleges and universities in which grades below "C" have been earned.

Since 1949 Colorado State College has accepted in transfer a maximum of 90 quarter hours of academic credit if and when a complete and official transcript shows that a prospective transfer student has been granted an Associate of Arts degree from an accredited college. (Credit for "D's" is accepted in this instance if such grades are an integral part of the Associate of Arts degree.)

Many specialized courses do not transfer to Colorado State College. College foreign language credit may be transferred provided a student has satisfactorily completed one full year in one language.

Transfer Credit Deadline—Transcripts from other colleges and universities that contain credit necessary for completion of degree requirements at Colorado State College should be received by the College 30 days prior to the date a student expects to graduate.

Off-Campus Instruction

A total of 45 quarter hours of credit may be taken by correspondence or off-campus instruction to be applied toward a bachelor's degree. This maximum of 45 hours of credit includes Colorado State College correspondence work, Colorado State College extension work taken prior to January 1, 1948, Colorado State College off-campus courses, Tele-Lecture courses, and correspondence and extension work transferred from other colleges and universities. Colorado State College correspondence courses must be completed and graded 30 days before the end of the quarter in which the student expects to graduate.

A student pursuing an undergraduate degree program at Colorado State College who desires to earn credit which he expects to apply to that program by taking extension, off-campus, or correspondence courses from institutions other than Colorado State College, must request written permission to take the specific courses *before* enrolling. The request for permission must be accompanied by a copy of the course description, an indication of where it is to be held, the number of sessions to be held, the length of each session, the hours of credit for the course, and the name, title, and position of the person offering the course. A course must be taught by a regular full-time faculty member on the staff of the college or university granting the credit and upon whose official transcript the course will appear. General education course requirements are subject to the approval of the Registrar, and major and minor requirements must have the additional approval of the school or division involved.

Students should obtain a copy of the Correspondence Bulletin for complete information and regulations concerning correspondence courses. This bulletin is available from the Colorado State College Off-Campus Study Office.

Graduation Requirements

1. A student must meet the General Requirements, Professional Education (if applicable), major and minor requirements as required by the academic schools or divisions of the college.
2. A student must have earned 186 quarter hours of credit; 180 quarter hours are "academic" credit. Six quarter hours must be in physical education activity courses. One quarter hour of the physical education activity credit is to be earned in each of six quarters. Physical education activity courses are those numbered from 1 to 60 in the Division of Health, Physical Education and Recreation. (Men students should read the information in regard to the acceptance of Colorado State College Air Force ROTC enrollment in lieu of physical education activity courses.)
3. A student must have a minimum residence of 45 quarter hours on the Colorado State College campus. Colorado State College off-campus course work is unlimited, but cannot be counted as residence credit in meeting the 45 quarter hours on-campus requirement.
4. Forty-five quarter hours in correspondence and/or extension work (Colorado State College 1948 and correspondence and/or extension courses transferred from other colleges) is the maximum number of quarter hours which will apply toward a degree. Correspondence courses must be completed and graded 30 days before the end of the quarter in which the student expects to graduate. This includes the completion and grading of the final examination.
5. Transcripts from all colleges and universities that contain credit necessary for completion of degree requirements must be received by the Registrar at least 30 days prior to the date of graduation.
6. A student must have a Colorado State College cumulative grade point average of at least 2.0.
7. A student must have completed the matriculation tests as required by Colorado State College.
8. Students who have had an Identification Card photograph taken during the regular school year have met the photograph requirement. Other students must furnish a recent photograph (approximately 3" x 4") for the Records Office files.
9. A student must provide the Registrar's Office a "health clearance" form obtained from the Student Health Services at Colorado State College at the time of his application for graduation.
10. The student must apply for graduation, and his application be processed and evaluated by the Registrar's Office and the major and minor divisions or departments. (Application for graduation must be made upon completion of 135 quarter hours of academic credit applicable to the degree from Colorado State College.)
11. The college catalog used on first classification may be used for a period of six years. After six years the student must re-apply for graduation, have his record re-evaluated and he must meet all requirements in the current catalog.
12. Requirements for graduation are checked in accordance with the requirements in one particular college catalog—that is, a student cannot ask that his chosen major be selected from one catalog and his minor from another, etc.
13. Participation in Graduation Exercises is the final requirement for graduation. It is compulsory for all graduating students to participate in Graduation Exercises unless formally excused. Graduating students may obtain forms in the Registrar's Office for requesting an excuse from Graduation Exercises.
14. It is the student's obligation to keep the Registrar's Office informed at all times in regard to his graduation plans, such as: any change in the proposed quarter of graduation after the application was filed, any change of address, etc.

UNDERGRADUATE PROGRAMS

Undergraduate Curriculum

The undergraduate curriculum consists of the following areas totaling at least 186 quarter hours:

A. General Requirements—The following two programs are required of all students and are usually completed during the freshman and sophomore years:

1. *General Education*—Humanities, Communications, Sciences, Social Sciences, General Psychology, and Personal Living for a total of at least 45 academic quarter hours.
2. *Physical Education Activity Courses*—A series of one-hour courses to be taken for a total of six hours, one course per quarter. Male students may substitute Air Force ROTC Corps Training Courses for Physical Education Activity Courses.

B. Broad Areas of Concentration—A major of not less than 48 quarter hours and a minor of not less than 27 quarter hours (if required by a division or department) must be selected from one of the following three programs of the college: Arts and Sciences, Teaching Professions (Teacher Education), or Applied and Professional Studies.

1. *Programs in the Arts and Sciences*

- a. Biological Science
- b. Chemistry
- c. English
- d. Fine Arts
- e. French
- f. German
- g. History
- h. Mathematics
- i. Medical Technology
- j. Music
- k. Physical Science
- l. Physics
- m. Social Sciences
- n. Spanish
- o. Speech
- p. Theatre Arts

2. *Programs in the Teaching Professions (Teacher Education)*

- a. Biological Science (Major and Minor)
- b. Business Education (Major and Minor)
- c. Chemistry (Major and Minor)
- d. Dietetics Major
- e. Dance Education (Minor)
- f. Earth Science (Major and Minor)
- g. Economic Education (Minor)
- h. Elementary Education Certification (Major)
- i. Elementary Science (Major and Minor)
- j. English (Major and Minor)
- k. Fine Arts (Major and Minor)
- l. French (Major and Minor)
- m. German (Major and Minor)
- n. History (Major and Minor)
- o. Home Economics (Major and Minor)
- p. Industrial Arts (Major and Minor)
- q. Journalism (Minor)
- r. Language and Speech — Jr. High School (Minor)
- s. Library Science (Minor)

- t. Mathematics (Major and Minor)
- u. Music Education (Major and Minor)
- v. Outdoor Education (Emphasis)
- w. Physical Education — Men (Major and Minor)
- x. Physical Education — Women (Major and Minor)
- y. Physical Science Major
- z. Physics (Major and Minor)
- aa. Preschool (Minor)
- bb. Psychology (Minor)
- cc. Recreation (Major)
- dd. Science — Jr. High School (Major)
- ee. Spanish — (Major and Minor)
- ff. Social Science (Major and Minor)
- gg. Social Studies (Major)
- hh. Special Education (Major and Minor)
- ii. Speech (Major and Minor)
- jj. Theatre Arts (Major and Minor)

Special Note: The Advanced Teacher Education Program (ATE), consisting of Educational Psychology, Basic Concepts of Education, Methods and Observation, Student Teaching, and Philosophy of Education for a total of not less than 29 quarter hours, is required of all students choosing the Teacher Education area.

3. *Programs in Applied and Professional Studies.*

- a. Aerospace Studies
- b. Business
- c. Home Economics
- d. Nursing
- e. Recreation

C. **Electives**—Sufficient free electives to complete the requirement for graduation.

General Education

The courses listed here are required of all students who are studying for a Bachelor of Arts degree. These courses will be taken in the freshman and sophomore years.

Freshman Year

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
COM	1—Elementary Composition I	3
COM	2—Elementary Composition II	3
COM	3—Principles of Speech	3
PCG	20—General Psychology	3
HPER	61—Personal and Community Health	3
SCI	3—Physical Science	3
SCI	4—Biological Science	3
SCI	5—Earth Science	3

Sophomore Year

HUM	1—Introduction—The Greek and Roman Periods	3
HUM	2—The Middle Ages and the Renaissance	3
HUM	3—The Eighteenth to the Twentieth Century	3
SS	81°—The Individual and His Social Relations	3
SS	82°—American Life and Institutions	3
SS	83°—Contemporary World Cultures	3
	Electives**	3
HPER	—Physical Education Activity courses (1-60 only)**	6

*The student may substitute for the nine hour social requirement any two of the following courses: GEOG 10, ANT 20, ECON 30, PSCI 40, SOC 50, USH 75; or the nine-hour series of WHS 25, 26, and 27.

**To be sure that North Central Association accreditation standards are met, students must elect three additional quarter hours in any of the following fields: English, history, social sciences, science, mathematics, fine arts, languages, and psychology.

***Male students may substitute Air Force ROTC Corps Training courses for physical education activity courses.

Physical Education Activity Courses

Physical Education Activity Program for Women—A total of six quarters of physical education activity courses is required. Courses meeting these requirements are numbered from 1 to 60 inclusive. Courses may be repeated only with the approval of divisional faculty members.

It is recommended that women students in earning their first three credits in this area enroll for one course in dance, one group sport, and one individual activity. After the first three credits are earned, students may register for any one-hour course not previously taken, for a total of six hours credit. Credit may be earned in only one course each quarter. It is recommended that this requirement be met during the first portion of the undergraduate program.

Women students registered for physical education activity courses are required to obtain a locker padlock in the College Bookstore.

The required regulation uniform is available at the College Bookstore. Students are expected to appear dressed for activity the first class meeting.

Medical excuses for exemption from all or part of the physical education activity requirement of the General Education Program are issued only by the Student Health Service.

Physical Education Activity Program for Men—A total of six quarters of physical education activity courses is required. Courses meeting these requirements are numbered from 1 to 60 inclusive. Courses may be repeated only with the approval of divisional faculty members.

It is recommended that men students in earning their first three credits in this area enroll for one course in dance, one team sport, and one individual activity. Credit may be earned in only one course each quarter. It is recommended that this requirement be met during the first portion of the undergraduate program.

Men students registered for physical education activity courses will be issued lockers, and certain items of equipment from the Men's Equipment Room in the basement of Gunter Hall. A cash deposit of \$5 is required prior to any such issue. This deposit is refundable upon return of all issued items at the conclusion of the quarter or program.

Medical excuses for exemption from all or part of the physical education activity requirement of the General Education Program are issued only by the Student Health Service.

PROGRAMS IN THE ARTS AND SCIENCES

Fine Arts

Bachelor of Arts Degree

Major: Fine Arts.

Minor: Fine Arts.

Fine Arts Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

Course No.	Course Title	Hours	Credit
FA	1—Drawing	3	
FA	11—Introduction to Design	5	
FA	17—Introduction to Pottery	3	
FA	51—Introduction to Color	3	
FA	58—Introduction to Sculpture	3	
FA	54—Drawing and Painting Techniques	3	
FA	116—Craft Processes and Design	5	
FA	120—Introduction to Oil Painting	3	
FA	135—Life Drawing	2	
FA	203—Watercolor Painting	5	
FA	220—Oil Painting	5	
FA	221—Art History I	3	
FA	222—Art History II	5	
			<hr/>
			48

3. One minor of 27 quarter hours outside the departmental major.

4. Electives to complete requirements for graduation.

Fine Arts Minor

Course No.	Course Title	Hours	Credit
FA	1—Drawing	3	
FA	11—Introduction to Design	5	
FA	51—Introduction to Color	3	
FA	54—Drawing and Painting Techniques	3	
FA	116—Craft Processes and Design	5	
FA	120—Introduction to Oil Painting	3	
FA	223—Survey of Art	5	
			<hr/>
			27

Humanities

Bachelor of Arts Degree

Majors: English, French, German, Spanish, Speech, Theatre Arts.

Minors: English, French, German, Latin, Russian, Spanish, Speech, Theatre Arts.

English Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Course requirements listed below.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ENG	10—Freshman Literature		4
ENG	50—Shakespeare		3
	Five of the following six courses:	15-16	
ENG	48—English Literature from the Beginnings to 1500		3
ENG	49—English Literature from 1500 to 1660		3
ENG	51—The Restoration and Eighteenth Century		3
ENG	52—The Romantic Movement		3
ENG	53—Victorian Prose and Poetry		3
ENG	54—Contemporary English and American Literature		4
ENG	60—American Literature to the Civil War		4
ENG	61—American Literature Since the Civil War		4
ENG	109, 110 or 111—Creative Writing I, II or III		2
ENG	210—Advanced Expository Writing		3
ENG	211—The English Language		5
ENG	212—Generative-Transformational Grammar		4
ENG	257—History of Ideas in Literature		3
	Electives in English		1
			48

3. One minor of 27 quarter hours.

4. Electives to complete requirements for graduation.

English Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ENG	57—Survey of English Literature (700-1800)		4
ENG	58—Survey of English Literature (1800-present)		4
ENG	59—Survey of American Literature		4
ENG	210—Advanced Expository Writing		3
ENG	211—The English Language		5
	Electives in English		7
			27

FOREIGN LANGUAGES**Bachelor of Arts Degree***Majors:* French, German, Spanish.*Minors:* French, German, Latin, Russian, Spanish.**French Major****Bachelor of Arts Degree**

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. All work in French must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
FR	5—Intermediate French I		4
FR	6—Intermediate French II		4
FR	7—Intermediate French III		4
FR	105—Survey of French Literature I		4
FR	106—Survey of French Literature II		4
FR	107—Survey of French Literature III		4
FR	110—Intermediate French Composition		3
FR	111—Intermediate French Conversation		3
FR	112—Intermediate French Syntax and Stylistics		3
	Electives in French (to be chosen with the consent of the adviser)	15	

48

3. At least one minor of 27 quarter hours.

4. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

German Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. All work in German must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
GER	5-Intermediate German Composition	4	
GER	6-Intermediate German Reading and Conversation	4	
GER	7-Introduction to German Classics	4	
GER	105-Survey of German Literature I	3	
GER	106-Survey of German Literature II	3	
GER	107-Survey of German Literature III	3	
GER	135-German Conversation	4	
GER	136-Advanced German Composition	4	
GER	137-Advanced German Grammar	4	
GER	141-Göthe	3	
GER	142-Schiller	3	
GER	225-Eighteenth Century German Literature	3	
GER	226-Nineteenth Century German Literature	3	
GER	227-Twentieth Century German Literature	3	
			48

3. At least one minor of 27 quarter hours.
4. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

Spanish Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. All work in Spanish must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN	5-Intermediate Spanish I	4	
SPAN	6-Intermediate Spanish II	4	
SPAN	7-Intermediate Spanish III	4	
SPAN	110-Advanced Spanish Grammar	4	
SPAN	125-Advanced Spanish Composition	3	
SPAN	135-Spanish Conversation	4	
SPAN	145-Spanish Pronunciation	4	
A minimum of 14 hours from the following six courses:			14
SPAN	115-Survey of Spanish-American Literature I	3	
SPAN	116-Survey of Spanish-American Literature II	3	
SPAN	117-Survey of Spanish-American Literature III	3	
SPAN	155-Survey of Spanish Literature I	5	
SPAN	156-Survey of Spanish Literature II	5	
SPAN	157-Survey of Spanish Literature III	5	
Electives in Spanish (to be chosen with the consent of the adviser)			7
			48

3. At least one minor of 27 quarter hours.
4. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

French, German, Latin, Russian or Spanish Minor

The requirement for a minor is 27 quarter hours in one language.

SPEECH AND THEATRE ARTS

Majors: Speech, Theatre Arts.

Minors: Speech, Theatre Arts.

Speech Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	16—Voice and Diction	4
SP	62—Public Speaking	4
SP	117—Oral Interpretation	3
SP	118—Argumentation and Debate	4
SP	208—Introduction to Television Production	4
SP	218—Group Discussion	4
SP	260—Introduction to General Semantics	4
SP	280—American Public Address	4
	Electives in Speech	17
		48

3. One minor of 27 quarter hours.

4. Electives to complete requirements for graduation.

Speech Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	16—Voice and Diction	4
SP	62—Public Speaking	4
SP	118—Argumentation and Debate	4
SP	218—Group Discussion	4
	Electives in Speech	11
		27

Theatre Arts Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	13—Introduction to Stagecraft	3
SP	16—Voice and Diction	4
SP	63—First Course in Drama	4
SP	65—Beginning Scene Design	3
SP	113—Stagecraft	3
SP	115—Beginning Characterization	3
SP	116—Beginning Play Direction	4
SP	200—Techniques of Play Direction	3
SP	216—Senior Seminar in Dramatic Production	2
SP	230—History of the Theatre I	3
SP	231—History of the Theatre II	3
SP	232—History of the Theatre III	3
ENG	50—Shakespeare	3
ENG	235—Contemporary American Drama	3
	Electives in Theatre Arts	4
		48

3. One minor of 27 quarter hours.

4. Electives to complete requirements for graduation.

Theatre Arts Minor

Course No.	Course Title	Hours	Credit
SP	13—Introduction to Stagecraft	3	
SP	16—Voice and Diction	4	
SP	63—First Course in Drama	4	
SP	65—Beginning Scene Design	3	
SP	113—Stagecraft	3	
SP	114—Introduction to the Theatre	3	
SP	115—Beginning Characterization	3	
SP	116—Beginning Play Direction	4	

27

Music

Bachelor of Music Degree

Major: Music (Instrumental or Vocal Emphasis).

Bachelor of Arts Degree

Major: Music.

Minor: Music.

Music Major

Bachelor of Music Degree

The following is the required program:

1. General Education totaling 51 academic quarter hours, which includes six quarter hours of physical activity courses.

2. An 84-hour major in the Music Core as outlined for the B.Mus. degree.

3. Complete 4-6 additional quarter hours in the area of major emphasis: instrumental or vocal music.

4. Two years of either French or German. Students electing the vocal emphasis will be required to take one additional year of a second language.

5. Meet all music performance and recital attendance requirements as listed on page 73.

6. Electives to meet requirements for graduation.

Music Core

Course No.	Course Title	Hours	Credit
MUS	1, 2, 3—Sight Singing and Theory I, II, III	9	
MUS	52, 53, 54—Harmony I, II, III	9	
MUS	58, 59, 60—Music Literature and Styles I, II, III	6	
MUS	152—Counterpoint	3	
MUS	153—Form and Analysis	3	
MUS	154—Instrumentation	3	
MUS	158, 159, 160—History of Music I, II, III	9	
	Music Performance—Piano	3	
	*Music Performance	39	

84

*Two hours of applied music credit must be earned in each quarter in the student's major performance medium. Additional hours of credit are to be earned by performance in musical organizations appropriate to the performance emphasis.

Instrumental Music Emphasis

1. Elect a total of at least six music electives from the following courses:

Course No.	Course Title	Hours	Credit
MUS	215—Instrumental Literature	3	
MUS	219—Improvisation	2	
MUS	223—Practicum in Band Conducting and Performance	3	
MUS	225—Practicum in Orchestral Conducting and Performance	3	
MUS	258—Composition I	2	
MUS	262—Symphonic Literature	3	

Vocal Music Emphasis

1. Elect a total of at least four hours of music electives from the following courses:

Course No.	Course Title	Hours	Credit
MUS	201—Stage and Opera Techniques	2	
MUS	184, 284, 384—Opera Workshop	3	
MUS	213—Choral Literature to 1750	3	
MUS	214—Choral Literature from 1750	3	
MUS	224—Practicum in Choral Conducting and Performance	3	
MUS	242—Vocal Repertoire: German Art Song	2	
MUS	243—Vocal Repertoire: French Art Song	2	
MUS	244—Vocal Repertoire: 17th and 18th Centuries	2	

Combination Program—It is possible to combine the Bachelor of Music and the Bachelor of Arts (Teacher Preparation) in a five-year program. For information, please consult page 71.

Music Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. A 48-hour major in music as outlined below:

Course No.	Course Title	Hours	Credit
MUS	1, 2, 3—Sight Singing and Theory I, II, III	9	
MUS	52, 53, 54—Harmony I, II, III	9	
MUS	58, 59, 60—Music Literature and Styles I, II, III	6	
MUS	158, 159, 160—History of Music I, II, III	9	
MUS	152—Counterpoint	3	
MUS	153—Form and Analysis	3	
	Electives in Music	9	
			48

3. One academic minor of 27 quarter hours outside the Division of Music.

4. Two years of French or German.

5. One quarter hour of applied music credit must be earned each quarter in residence in the student's major performance area. One quarter hour of credit must be earned each quarter in residence in a musical organization such as Band, Orchestra or Choir.

6. Meet all music performance and recital attendance requirements as listed on page 73.

7. Electives to meet requirements for graduation.

Music Minor

Course No.	Course Title	Hours	Credit
MUS	48—Music Appreciation	2	
MUS	58, 59, 60—Music Literature and Styles I, II, III	6	
	*Music Performance	6	
	**Music Electives	13	
			27

*Three hours of applied music credit must be earned by taking three continuous quarters of individual instruction in a single musical medium. The other three hours of credit are to be earned by performance in a musical organization such as Band, Choir or Orchestra.

**To be selected upon consultation with minor adviser.

Psychology

Psychology Minor

Required courses for the undergraduate minor in psychology are:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PCG	21—General Psychology and Human Performance		3
PCG	101—Principles and Philosophies of Guidance		3
PCG	170—Introduction to Measurement and Evaluation		3
PCG	222—Seminar: Psychological Issues		3
PCC	240—Psychology of Learning		3
PCG	285—Mental Hygiene and Emotional Adjustment		3
SPED	10—Education of Exceptional Children		3
	Electives		6
			27

Sciences

Bachelor of Arts Degree

Majors: Biological Science (Botany or Zoology), Chemistry, Physical Science, Physics, Mathematics, Medical Technology.

Minors: Biological Science, Chemistry, Earth Science, Physics, Mathematics, Chemistry Minor for Medical Technology.

Biological Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

a. Concentration in Botany:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ZOO	11—General Zoology—Invertebrate		5
ZOO	12—General Zoology—Vertebrate		5
BOT	22—General Botany I		5
BOT	23—General Botany II		5
BOT	122—General Bacteriology		5
<i>or</i>			
BOT	228—Mycology	5	5
BIO	151—Cellular Biology		5
BOT	221—Plant Anatomy		5
BOT	222—Plant Physiology I		5
BOT	225—Plant Ecology		5
BIO	152—Genetics		5
BOT	227—Identification of Seed Plants of the Local Flora		5
BOT	229—Plant Diseases		5
			60

b. Concentration in Zoology:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ZOO	11—General Zoology—Invertebrate		5
ZOO	12—General Zoology—Vertebrate		5
BOT	22—General Botany I		5
BOT	23—General Botany II		5
BIO	151—Cellular Biology		5
BIO	152—Genetics		5
ZOO	117—Human Physiology		5
<i>or</i>			
ZOO	221—Mammalian Physiology I		5
<i>and</i>			
ZOO	222—Mammalian Physiology II		5-10
ZOO	211—Comparative Anatomy of the Vertebrates		5
<i>or</i>			
ZOO	112—Mammalian Anatomy		5 5

ZOO	215—Vertebrate Embryology	5
ZOO	219—Animal Ecology	5
BIO	254—Aquatic Biology	5
	or	
ZOO	214—Faunistics	5 5
	Electives to be selected with approval of adviser	0-5
		<hr/> 60

3. One minor of 27 or more quarter hours in chemistry, physics, or mathematics.
4. A minimum of 15 quarter hours in the above fields (chemistry, physics, or mathematics) not selected as a minor.
5. It is recommended that a foreign language be included.
6. Biology majors may substitute equivalent hours in biology, botany, or zoology for Science 3 and Science 4.
7. Electives to complete requirements for graduation.

Biological Science Minor

Course No.	Course Title	Hours	Credit
BOT	22—General Botany I	5	
BOT	23—General Botany II	5	
ZOO	11—General Zoology—Invertebrate	5	
ZOO	12—General Zoology—Vertebrate	5	
	Biology electives to be selected with approval of student's minor adviser	7	
		<hr/> 27	

Chemistry Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

Course No.	Course Title	Hours	Credit
CHEM	40—Principles of Chemistry I	5	
	or		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	or		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis	5	
CHEM	141—Organic Chemistry I	5	
CHEM	142—Organic Chemistry II	5	
CHEM	145—Quantitative Analysis I	5	
CHEM	243—Organic Chemistry III	5	
CHEM	244—Laboratory in Organic Chemistry	1	
CHEM	248—Inorganic Chemistry I	3	
CHEM	249—Inorganic Chemistry II	3	
CHEM	280—Organic Qualitative Analysis	3	
CHEM	281—Physical Chemistry I	5	
CHEM	282—Physical Chemistry II	5	
CHEM	283—Physical Chemistry III	5	
CHEM	284—Instrumental Methods of Analysis	4	
CHEM	285—Chemical Literature	1	
		<hr/> 65	

3. A mathematics minor of 27 or more quarter hours (through calculus).
4. Physics 65, 66, 67.
5. One year of foreign language (preferably German).
6. Electives to complete requirements for graduation.

Chemistry Minor

Course No.	Course Title	Hours	Credit
CHEM	40—Principles of Chemistry I	5	
	or		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	or		
CHEM	45—Principles of Chemistry IIA	5	5

CHEM	42—Introductory Organic Chemistry	5
	<i>and</i>	
CHEM	46—Qualitative Analysis	5
	<i>and</i>	
CHEM	145—Quantitative Analysis I	5 15
	<i>or</i>	
CHEM	141—Organic Chemistry I	5
	<i>and</i>	
CHEM	142—Organic Chemistry II	5
	<i>and</i>	
CHEM	243—Organic Chemistry III	5 15
	Chemistry electives to be selected	
	with approval of student's minor adviser	2
		<u>27</u>

Earth Science Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
ESCI	130—General Meteorology	4
ESCI	131—Introduction to Astronomy	4
ESCI	132—Physical Geology	5
ESCI	133—Historical Geology	5
ESCI	134—Introduction to Oceanography	3
	Earth Science electives to be selected with approval of	
	student's minor adviser	6
		<u>27</u>

Physical Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
PHYS	65—General Physics—Mechanics	5
PHYS	66—General Physics—Electricity	5
PHYS	67—General Physics—Sound, Light, and Heat	5
PHYS	165—Mechanics I	4
PHYS	166—Electricity and Magnetism I	4
CHEM	40—Principles of Chemistry I	5
	<i>or</i>	
CHEM	44—Principles of Chemistry IA	5 5
CHEM	41—Principles of Chemistry II	5 5
	<i>or</i>	
CHEM	45—Principles of Chemistry IIA	5 5
CHEM	46—Qualitative Analysis	5
CHEM	141—Organic Chemistry I	5
	<i>and</i>	
CHEM	142—Organic Chemistry II	5
	<i>and</i>	
CHEM	243—Organic Chemistry III	5
		<u>15</u>
	<i>or</i>	
CHEM	42—Introductory Organic Chemistry	5
	<i>and</i>	
CHEM	145—Quantitative Analysis I	5
	<i>and</i>	
CHEM	281—Physical Chemistry I	5
		<u>15 15</u>
	Physics Electives (200 course)	5
		<u>58</u>

3. One minor of 27 or more quarter hours, preferably in mathematics.
4. Substitute PHYS 68, Modern Physics, for SCI 3 requirement.
5. Electives to complete requirements for graduation.

Physics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	40—Principles of Chemistry I	5	
	or		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	or		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis	5	5
PHYS	65—General Physics—Mechanics	5	5
PHYS	66—General Physics—Electricity	5	5
PHYS	67—General Physics—Sound, Light, and Heat	5	5
PHYS	165—Mechanics I	4	4
PHYS	166—Electricity and Magnetism I	4	4
PHYS	162—Electrical Measurements	5	5
PHYS	268—Atomic Physics	5	
	or		
PHYS	269—Nuclear Physics I	5	5
	Physics electives of 200 number or higher to be selected with approval of student's adviser		10
			<hr/> 58

3. A mathematics minor of 27 or more quarter hours (through calculus).

4. Substitute PHYS 68, Modern Physics, for SCI 3 requirement.

5. Electives to complete requirements for graduation. It is recommended that these electives include an additional quarter of mechanics, an additional quarter of electricity and magnetism, and wave mechanics. A year of biological science or geology is also advisable.

Physics Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PHYS	65—General Physics—Mechanics	5	
PHYS	66—General Physics—Electricity	5	5
PHYS	67—General Physics—Sound, Light, and Heat	5	5
PHYS	165—Mechanics I	4	4
	or		
PHYS	166—Electricity and Magnetism I	4	
	Physics electives to be selected with approval of student's minor adviser		8
			<hr/> 27

Substitute PHYS 68, Modern Physics, for SCI 3 requirement.

Mathematics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
MATH	31*—Calculus with Analytic Geometry I	5	5
MATH	32*—Calculus with Analytic Geometry II	5	5
MATH	33*—Calculus with Analytic Geometry III	5	5
MATH	122—Introduction to Modern Algebra I	4	4
MATH	131—Introduction to Mathematical Analysis I	4	4
MATH	132—Introduction to Mathematical Analysis II	4	4
MATH	133—Introduction to Mathematical Analysis III	4	4
MATH	230—Differential Equations I	5	5
STAT	150—Elementary Probability Theory	4	4
	Electives in mathematics and/or statistics numbered 100 or above selected with approval of the Mathematics Department		20
			<hr/> 60

*Qualified students may be exempted by examination.

3. One minor of 27 quarter hours preferably in physics.

4. Electives to complete requirements for graduation.

Mathematics Minor

Course No.	Course Title	Hours	Credit
MATH	31°—Calculus with Analytic Geometry I	5	
MATH	32°—Calculus with Analytic Geometry II	5	
MATH	33°—Calculus with Analytic Geometry III	5	
	Electives in mathematics and/or statistics in courses numbered 100 and above selected with approval of the Mathematics Department	12	
		<hr/>	<hr/>
		27	

°Qualified students may be exempted by examination.

Medical Technology Major

Bachelor of Arts Degree

The four-year program leading to the Bachelor of Arts degree in Medical Technology requires the student to earn a total of 180 academic quarter hours, plus six quarter hours of physical education activity courses. A minimum of 139 quarter hours will be earned on the campus of Colorado State College during the first three years and 47 quarter hours of Medical Technology will be earned during the senior year (July to June) at the Weld County General Hospital under the supervision of the clinical staff. The courses in Medical Technology are open only to majors in Medical Technology. The general college policies regarding registration and grading will be followed.

The on-campus program is coordinated by the Department of Chemistry.

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. The following required courses in the major:

Course No.	Course Title	Hours	Credit
MTEC	250—Urinalysis and Clinical Microscopy	4	
MTEC	251—Basal Metabolism and Electrocardiography	1	
MTEC	252—Hematology	8	
MTEC	253—Pretransfusion Tests and Blood Bank Procedures	3	
MTEC	254—Clinical Chemistry	12	
MTEC	255—Serology	4	
MTEC	256—Medical Microbiology	12	
MTEC	257—Histologic Technique	3	
	Electives	1	
		<hr/>	<hr/>
		48	

3. One minor of 27 or more quarter hours is required. The minor is a Medical Technology Chemistry Minor.

4. Forty-four quarter hours are required by the American Society of Clinical Pathologists and the staff of the Weld County General Hospital in the following courses: BIO 151, BOT 122, CHEM 147, MATH 23, 25, PHYS 61, 62, ZOO 11, 12, 117.

5. Twenty-four quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

Chemistry Minor for Medical Technology

Course No.	Course Title	Hours	Credit
CHEM	40—Principles of Chemistry I	5	
	or		
CHEM	44—Principles of Chemistry IA	5	5
	and		
CHEM	41—Principles of Chemistry II	5	
	or		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis	5	
CHEM	141—Organic Chemistry I	5	
CHEM	142—Organic Chemistry II	5	
CHEM	145—Quantitative Analysis I	5	
		<hr/>	<hr/>
		30	

Social Sciences

Bachelor of Arts Degree

Majors: Social Science, History.

Minors: Social Science, World History, U. S. History.

Social Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major (72 hours):

	<i>Hours Credit</i>
a. The introductory courses in the five social science fields (GEOG 10, ANT 20, ECON 30, PSCI 40, and SOC 50). Two of these courses <i>must</i> be substituted for the 9 hour General Education requirement in Social Sciences; hence only 16 hours of the introductory courses can be applied to the major	16
b. Advanced electives in one, two or three social science areas. In each area of concentration that is selected, the following courses must be taken:	32
Anthropology 280 or 281	
Economics 220	
Geography 48 and 221	
Political Science 176 or 275	
Sociology 211 and 291	
c. SS 200—Social Philosophy	3
d. USH 70, 71, 72—United States History I, II III	9
e. WHS 30, 31, 32—World History I, II, III	12
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3. One minor of at least 27 quarter hours.

4. Free electives to complete the 180 quarter hours of academic credit.

Social Science Minor

Thirty-six quarter hours in the areas of anthropology, economics, geography, political science, and sociology. The student, with advisement, will select *one* or *two* of these areas. In each instance, the student will be required to take the introductory course in the area or areas selected. These introductory courses are the following:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
GEOG	10—World Geography	5
ANT	20—General Anthropology	5
ECON	30—Introductory Economics	5
PSCI	40—National Government of the U. S.	5
SOC	50—Principles of Sociology	5

History Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. The following required courses in the major (72 hours):

	<i>Hours Credit</i>
a. WHS 30, 31, 32—World History I, II, III	12
b. USH 70, 71, 72—United States History I, II, III	9
c. Social Science—twenty-five hours in five social science areas. Two of these courses <i>must</i> be substituted for the 9 hour General Education requirement in Social Sciences; hence only 16 hours of the introductory courses can be applied to the major	16
d. World History 200—Introduction to Historical Research	3

- e. Advanced electives:
 - At least 12 hours in U. S. History12
 - At least 12 hours in World History12
 - At least 8 hours in U. S. or World History 8

72

- 3. One minor of at least 27 quarter hours.
- 4. Free electives to complete the 180 quarter hours of academic credit required for graduation.

World History Minor

Twenty-seven quarter hours in World History. The following courses are required:

	<i>Hours Credit</i>
World History 30, 31, 32	12
Advanced electives in World History	15
In lieu of SS 81, 82, 83, world history minors will take 9 hours in social science or history (USH 70, 71, 72). (Consult your adviser.)	

United States History Minor

Twenty-seven quarter hours in United States History. The following courses are required:

	<i>Hours Credit</i>
United States History 70, 71, 72	9
Advanced electives in United States History	18
In lieu of SS 81, 82, 83, United States history minors will take 9 hours in social science or history (WHS 30, 31, 32). (Consult your adviser.)	

Pre-Professional Courses

Courses applicable to pre-law, pre-medicine, pre-dentistry, and pre-engineering are designed for students interested in beginning their course work at Colorado State College. Variations in course requirements for these areas are made to conform to the requirements of the college the student will attend to complete his academic work. Students interested in pre-law should consult with the Dean of Arts and Sciences. For guidance within the area of pre-medicine, pre-dentistry, and pre-engineering, students should see the Associate Dean of Sciences and Mathematics.

PROGRAMS IN THE TEACHING PROFESSIONS

(Teacher Education)

Teacher Education

At Colorado State College, only students of definite professional promise are admitted to the Advanced Teacher Education Program (ATE) and allowed to pursue one of the teacher education curricula at an advanced level.

Admission and Retention—As soon as a student has acquired no fewer than 70 quarter hours, he should make written application to the Teacher Education Committee requesting formal admission to the Advanced Teacher Education Program. Application forms are obtainable from the School of Education. Transfer students possessing no fewer than 85 quarter hours will receive ATE application forms at the time they apply for admission to the college and may be granted tentative admission if they qualify. Transfer students seeking ATE admission are required to enroll in at least one course in the major and one course in education the first quarter in residence. Final admission will be determined by the Teacher Education Committee after the student's first quarter in residence. The application forms require a declaration of majors and minors to be pursued. Students who select a teacher education major and a liberal arts minor *must not expect to be recommended or endorsed for teaching in the liberal arts minor*. Departmental endorsement for ATE admission must be sought for each major declared by the student.

Admission is based upon scholarship, personality, character and the physical characteristics requisite to successful teaching. All students who entered as freshmen and have attended Colorado State College for two years must have completed the General Education Program before beginning the Advanced Teacher Education Program.

Graduate students who seek to meet certification requirements should apply for tentative admission to ATE upon acceptance to a degree or non-degree program. Final admission will be determined by the Teacher Education Committee after the student's first quarter in residence.

Any student admitted to ATE who is placed on probation or suspended by the college is automatically afforded the same status with respect to ATE. Students suspended and later readmitted to the college must reapply for admission to ATE.

Appeal by Students Denied Admission—Any student who has been denied admission to the Advanced Teacher Education Program may request a hearing from the Chairman of the Teacher Education Committee. The hearing shall be scheduled within ten days of the date the request is filed provided the college is in session at that time. The results of the hearing held by the Review Subcommittee of the Teacher Education Committee shall then be transmitted in writing to the student within 24 hours.

Professional Education Core—The professional education component of the teacher education curricula includes the courses listed below which are required of and open only to students who have been formally admitted to the Advanced Teacher Education Program.

Junior Year

Course No.	Course Title	Hours	Credit
ED	101—Basic Concepts of Education		5
PCG	140—Educational Psychology		5

Senior Year

ED	251—Student Teaching		16*
ED	295—Philosophy of Education		3

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*No student shall be allowed to student teach while on ATE probation.

The courses listed above meet North Central Association requirements of 27 quarter hours of professional preparation. In addition to these courses required of all students admitted to the Advanced Teacher Education Program,

there is required a minimum of five quarter hours of work in methods and observation courses which is also a part of the professional education component but listed under the departmental requirements of the particular academic schools or division.

Student Teaching

Student teaching assignments are made in cooperating public schools in the state and in the campus laboratory schools (Ernest Horn Elementary School, College High School, Special Education School). All assignments for student teaching are made with the approval of the Coordinator of Student Field Experiences upon the recommendation by the student's major department or division.

The minimum requirement for graduation with a teaching certificate is 16 quarter hours of student teaching. Eight hours of student teaching must be in a major field.

If a student needs a required course which is scheduled only during the quarter in which the student will be doing full-time off-campus student teaching, he will be exempted from that requirement.

College policy does not allow student teachers to be employed by the district in which the assignment is made.

Prerequisites for Student Teaching—The following requirements must be completed before beginning student teaching. The student teacher must have:

1. Completed at least two quarters as a full time student on the college campus.

2. Completed the following courses or their equivalent: PCG 140 and ED 101.

3. Completed a minimum of 18 quarter hours in Elementary Teacher Education courses including ED 110, 112, and 139 if applying for student teaching at the elementary education level. Of these requirements, ED 110, 112, and 139 must be completed prior to the quarter in which the student submits his application for student teaching.

4. Completed ED 140 and 141 in the subject or fields in which a student does his student teaching if applying for student teaching at the secondary education level.

5. Met the same prerequisite courses or their equivalents even though classified as a Graduate Student.

6. A classification of Junior, Senior, or Graduate Student.

7. A grade of "C" at Colorado State College in his major and in his minor if the student teaches in his minor, as well as having a cumulative average of "C" at Colorado State College.

Students with minimally acceptable grades often have difficulty in gaining a divisional or departmental recommendation for student teaching and/or securing a student teaching assignment. Many districts are reluctant to accept student teachers who do not possess at least an above average grade point average.

8. Been admitted to the Advanced Teacher Education Program in his major(s) where he will be doing student teaching. A student shall be prohibited from student teaching while that student is on ATE or academic probation.

9. Been approved by the Advanced Teacher Education Committee for student teaching upon the recommendation of the appropriate department or division.

Application for Student Teaching—Persons wishing to do student teaching must make application in the Student Teaching Office within the first two weeks of the quarter prior to the quarter in which they wish to do student teaching.

Students making application for student teaching must secure the approval and signature of their adviser.

Arts

Bachelor of Arts Degree

Majors: Fine Arts, Home Economics, Dietetics, Industrial Arts.

Minors: Fine Arts, Home Economics, Industrial Arts.

Fine Arts Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
FA	1—Drawing	3	
FA	11—Introduction to Design	5	
FA	13—Lettering	2	
FA	17—Introduction to Pottery	3	
FA	50—Figure Construction	3	
FA	51—Introduction to Color	3	
FA	58—Introduction to Sculpture	3	
FA	101—Philosophy of Art Education	2	
FA	103—Introduction to Watercolor Painting	2	
FA	116—Craft Processes and Design	5	
FA	120—Introduction to Oil Painting	3	
FA	123—Art Education for the Secondary School	3	
FA	126—Instructional Techniques in Art Education	3	
FA	221—Art History I	3	
FA	222—Art History II	5	

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4. One minor of 27 quarter hours outside of the departmental major.

5. Electives to complete requirements for graduation.

Fine Arts Minor

Course No.	Course Title	Hours	Credit
FA	1—Drawing	3	
FA	11—Introduction to Design	5	
FA	17—Introduction to Pottery	3	
FA	51—Introduction to Color	3	
FA	54—Drawing and Painting Techniques	3	
FA	116—Craft Processes and Design	5	
FA	223—Survey of Art	5	

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Fine Arts Major (Junior High School Level)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit:

3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
FA	1—Drawing	3	
FA	11—Introduction to Design	5	
FA	13—Lettering	2	
FA	17—Introduction to Pottery	3	
FA	51—Introduction to Color	3	
FA	54—Drawing and Painting Techniques	3	
FA	58—Introduction to Sculpture	3	
FA	101—Philosophy of Art Education	2	
FA	103—Introduction to Watercolor Painting	2	
FA	104—Commercial Design and Poster	2	

FA	116—Craft Processes and Design	5
FA	120—Introduction to Oil Painting	3
FA	126—Instructional Techniques in Art Education	3
FA	223—Survey of Art	5
FA	240—Art in 7th,8th, and 9th Grades	5
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4. One minor of 27 quarter hours outside of the departmental major.
5. Electives to complete requirements for graduation.

Fine Arts Minor (Junior High School Level)

<i>CourseNo.</i>	<i>Course Title</i>	<i>Hours Credit</i>
FA	1—Drawing	3
FA	11—Introduction to Design	5
FA	13—Lettering	2
FA	17—Introduction to Pottery	3
FA	54—Drawing and Painting Techniques	3
FA	104—Commercial Design and Poster	2
FA	116—Craft Processes and Design	5
FA	240—Art Education in 7th, 8th, and 9th Grades	5
		28

Home Economics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HEC	70—Clothing Selection	2
HEC	71—Textile Fundamentals	3
HEC	72—Elementary Clothing Construction	3
HEC	77—Family Meal Cookery and Service	4
HEC	81—Art in Home Living	2
HEC	98—Basic Nutrition	3
HEC	173—Intermediate Clothing Construction	4
HEC	178—Principles of Food Preparation	4
HEC	180—Family Relationships	3
HEC	191—Management in Family Living	3
HEC	203—Development and Guidance of the Young Child	3
HEC	219—Infant and Child Care	4
HEC	268—Family Housing	2
HEC	275—Home Furnishings	3
HEC	284—Demonstration Techniques	2
HEC	298—Meal Planning and Service	4
HEC	299—Home Management Residence	3
CHEM	40—Principles of Chemistry I	5
		57

4. The 22 quarter hours listed under the requirements for a credential to teach Vocational Homemaking in secondary schools in Colorado;

OR

One minor of 27 quarter hours selected in any division.

5. Electives to complete 180 quarter hours of academic credit required for graduation. Recommended electives: HEC 199, 255, 261, 274, 295, four hours of Fine Arts, and Chemistry 41, Principles of Chemistry II.

Credential for Teaching Vocational Homemaking

In order to qualify for a Vocational Homemaking Credential under the State Board for Vocational Education, the following courses are required. If these are successfully completed, a minor is not required for the Bachelor of Arts degree in teacher education.

Course No.	Course Title	Hours	Credit
HEC	183—Home Nursing	2	
HEC	188—Costume Design—Flat Pattern	3	
HEC	255—Consumer Problems of the Family	3	
HEC	293—Adult Education in Homemaking	3	
ED	249—Principles of Vocational Education	3	
PCG	285—Mental Hygiene and Emotional Adjustment	3	
	Electives in the Science Division	5	
		<hr/> 22	

Home Economics Minor

Course No.	Course Title	Hours	Credit
HEC	70—Clothing Selection	2	
HEC	72—Elementary Clothing Construction	3	
HEC	94—Elementary Cookery and Food Service	4	
HEC	98—Basic Nutrition	3	
HEC	180—Family Relationships	3	
HEC	191—Management in Family Living	3	
HEC	203—Development and Guidance of the Young Child	3	
HEC	275—Home Furnishings	3	
	Electives in Home Economics	3	
		<hr/> 27	

Recommended electives for Home Economics minors who want to teach homemaking in the secondary schools:

Course No.	Course Title	Hours	Credit
HEC	219—Infant and Child Care	4	
ED	141—Methods of Teaching in the Secondary School	3	
	Additional Home Economics courses selected in terms of student's background	5	

Preschool Minor

Course No.	Course Title	Hours	Credit
HEC	81—Art in Home Living	2	
HEC	98—Basic Nutrition	3	
HEC	203—Development and Guidance of the Young Child	3	
HEC	219—Infant and Child Care	4	
HEC	240—Parent Education	3	
HEC	261—Participation in Preschool	3	
HEC	264—Workshop in Preschool	3	
	Electives	6	
		<hr/> 27	

Recommended electives for Preschool Minor:

Course No.	Course Title	Hours	Credit
ED	227—Kindergarten Education	3	
HEC	180—Family Relationships	3	
SP	16—Voice and Diction	4	

Dietetics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit and ED 141, three hours credit.

3. The following courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HEC	70—Clothing Selection	2	
HEC	71—Textile Fundamentals	3	
HEC	72—Elementary Clothing Construction	3	
HEC	77—Family Meal Cookery and Service	4	
HEC	98—Basic Nutrition	3	
HEC	178—Principles of Food Preparation	4	
HEC	180—Family Relationships	3	
HEC	191—Management in Family Living	3	
HEC	203—Development and Guidance of the Young Child	3	
HEC	219—Infant and Child Care	4	
HEC	275—Home Furnishings	3	
HEC	278—Advanced Nutrition	3	
HEC	282—Nutrition in Disease	3	
HEC	284—Demonstration Techniques	2	
HEC	285—Experimental Cookery	3	
HEC	287—Institutional Management	5	
HEC	298—Meal Planning and Service	4	
HEC	299—Home Management Residence	3	
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4. One minor of 30 quarter hours in the Sciences to include:

<i>Course No.</i>	<i>Course Description</i>	<i>Hours</i>	<i>Credit</i>
BOT	122—General Bacteriology	5	
CHEM	40—Principles of Chemistry I	5	
CHEM	41—Principles of Chemistry II	5	
CHEM	42—Introductory Organic Chemistry	5	
CHEM	147—Biochemistry	5	
ZOO	117—Human Physiology	5	
			30

5. Electives to complete 180 quarter hours of academic credit required for graduation.

American Dietetics Association Internship Requirements

In order to qualify for an internship approved by the American Dietetics Association, the following credits are required:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HEC	199—Preservation of Food	2	
HEC	274—Equipment Selection and Maintenance	4	
HEC	286—Quantity Cookery	4	
BUS	20—Principles of Accounting I	4	
			14

Recommended Courses:

<i>Course No.</i>	<i>Course Description</i>	<i>Hours</i>	<i>Credit</i>
BUS	150—Principles of Management	5	
<i>or</i>			
BUS	253—Personnel Management	3	
PCG	184—Industrial Psychology	3	

Industrial Arts Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
IA	6 —Freehand Drafting and Design	3	
IA	41 —Graphic Arts Fundamentals	3	
IA	50 —Bench Woodwork	3	
IA	61 —Principles of Drafting	3	
IA	70 —Introduction to General Metal	3	
IA	71 —Art Metal and Metal Spinning	3	
IA	72 —Gas and Electric Welding	2	
IA	80 —General Electricity	3	

IA	90	—Introduction to Power	2
IA	115	—General Crafts	5
IA	141	—Graphic Arts	2
IA	150	—Woodworking Technology	5
IA	161	—Pictorial Drafting	2
IA	181	—Electrical Mechanical Equipment	2
IA	191	—Internal Combustion-Reciprocating Engines	3
IA	220	—Course Organization in Industrial Arts	3
IA	235	—History and Philosophy of Industrial Arts	3
IA	236*	—Principles of General Shop Organization	3

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*Should be taken prior to student teaching if possible.

4. Elect 12 additional hours in two of the following areas (6 hours each) of industrial arts: Wood, Drafting, Metal, Crafts, Power, Graphic Arts, and Electricity-Electronics (Total IA major is 65 hours)

5. One minor of 27 quarter hours outside of the departmental major.

6. Free electives to complete 180 quarter hours of academic credit for graduation.

Industrial Arts Minor

Course No.	Course Title	Hours Credit
IA	50—Bench Woodwork	3
IA	61—Principles of Drafting	3
IA	70—Introduction to General Metal	3
IA	71—Art Metal and Metal Spinning	3
IA	72—Gas and Electric Welding	2
IA	150—Woodworking Technology	5
IA	161—Pictorial Drafting	2
IA	162—Working Drawings	3
IA	220—Course Organization in Industrial Arts	3

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An alternate minor to meet requirements for teaching in three areas of industrial arts may be elected.

Alternate Industrial Arts Minor

Required courses in this minor:

IA	61—Principles of Drafting	3
IA	161—Pictorial Drafting	2
IA	162—Working Drawings	3
IA	220—Course Organization in Industrial Arts	3

Select any two areas of eight quarter hours each to complete 27 quarter hours required for a minor:

Crafts

FA	17—Introduction to Pottery	3
IA	115—General Crafts	5
	<i>and/or</i>	
IA	116—General Leathercraft	3
IA	118—General Plastics	3
IA	173—Jewelry Design and Construction	2

Drafting

IA	163—Sheet Metal Drafting	2
IA	261—Architectural Drawing	3
IA	262—Machine Drafting	3

Electricity and Electronics

IA	80—General Electricity	3
IA	283—Electronic Hardware and Components	2
IA	284—Electronic Circuitry	3

Graphic Arts

IA	41—Graphic Arts Fundamentals	3
IA	141—Graphic Arts	2
IA	142—Photography	3

Metal

IA	70—Introduction to General Metal	3
IA	71—Art Metal and Metal Spinning	3
IA	72—Gas and Electric Welding	2

Power

IA	292—Steam and Reaction Engines	3
IA	293—Direct Energy Conversion	2
IA	294—Transmission of Power	3

Wood

IA	50—Bench Woodwork	3
IA	150—Woodworking Technology	5

Business Education

Bachelor of Arts Degree

Major: Business Education (Specialization in Accounting, Basic Business and Economics, Distributive Education, or Secretarial).

Minors: Business Education, Economic Education.

Business Education Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Teacher Education Program courses as listed on page 48, plus BUED 140 and three hours credit selected from BUED 141, 142, 143, 144, 146. (The specific methods courses required in each of the specializations listed below is indicated for each specialization.)

3. The required courses listed in the Business Core plus the required courses in one of the areas of specialization plus business or business education electives for a total of 80 quarter hours.

4. Twenty-one hours of electives to complete the 180 quarter hours of academic credit required for graduation.

5. A minor is not required.

Business Core

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
BUS	1 —The American Business System	5
BUS	10 ^o —Typewriting I	0
BUS	20 —Principles of Accounting I	4
BUS	21 —Principles of Accounting II	4
BUS	30 —Introduction to Business Law	3
BUS	115 —Business Communications	3
BUS	150 —Principles of Management	5
BUS	170 —Business Finance	3
BUS	190 —Mathematics for Management	3
BUS	191 —Business Statistics I	3
BUS	280 —Systems and Procedures	3
ECON	30 —Introductory Economics	5
ECON	102 —Contemporary Economic Problems	3

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Note: Business Education majors electing this specialization must complete both BUED 141, Methods and Materials of Teaching Typewriting, one hour credit, and BUED 143, Methods and Materials of Teaching Bookkeeping, one hour credit in partial fulfillment of meeting this specialization must complete both BUED 141, Methods and Materials of Teaching Typewriting, one hour credit, and BUED 143, Methods and Materials of Teaching Bookkeeping, one hour credit, in partial fulfillment of requirement two listed above. Approved business experience of at least 2,000 hours is required. A notarized affidavit must be approved by your adviser and filed in the division office.

BUS	11—Typewriting II	4
BUS	12—Typewriting III	4
BUS	22—Principles of Accounting III	4
BUS	81—Data Processing-Unit Record	3
BUS	120—Intermediate Accounting I	3
BUS	121—Intermediate Accounting II	3
BUS	228—Income Tax Accounting I	3

BUS	287—Electronic Data Processing	3
BUED	277—Adult Programs in Business Education	3
ED	249—Principles of Vocational Education	3
	Electives in Business or Business Education	3
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Specialization in Basic Business and Economics

Note: Business Education majors electing this specialization must complete both BUED 141, Methods and Materials of Teaching Typewriting, one hour credit, and BUED 144, Methods and Materials of Teaching Basic Business Subjects, one hour credit, in partial fulfillment of requirement two listed above.

Course No.	Course Title	Hours Credit
BUS	11—Typewriting II	4
BUS	12—Typewriting III	4
BUS	131—Principles of Business Law	5
BUS	240—Introduction to Insurance	3
BUS	271—Investments	3
BUED	230—Economic Education Seminar	3
ECON	210—History of Economic Systems	5
ECON	277—Government and Business	3
	Electives in Business or Business Education	6
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Specialization in Distributive Education

Note: Business Education majors electing this specialization must complete BUED 146, Methods and Materials of Teaching Distributive Classes, two hours credit, in partial fulfillment of requirement two listed above. Approved business experience of at least 4,000 hours is required. A notarized affidavit must be approved by your adviser and filed in the division office.

Course No.	Course Title	Hours Credit
BUS	60—Marketing	3
BUS	61—Salesmanship	3
BUS	62—Display	2
BUS	161—Retail Management	4
BUS	162—Advertising	3
BUED	145—Distributive Education Programs	3
BUED	147—Coordination Techniques	2
BUED	151—Job Analysis	2
BUED	277—Adult Programs in Business Education	3
ED	249—Principles of Vocational Education	3
	Electives in Business or Business Education	8
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Specialization in Secretarial

Note: Business Education majors electing this specialization must complete both BUED 141, Methods and Materials of Teaching Typewriting, one hour credit, and BUED 142, Methods and Materials of Teaching Shorthand, one hour credit. Approved business experience of at least 2,000 hours is required. A notarized affidavit must be approved by your adviser and filed in the division office.

Course No.	Course Title	Hours Credit
BUS	11—Typewriting II	
BUS	12—Typewriting III	4- 8
BUS	13—Secretarial Machines	2
BUS	14—Records Management	2
BUS	16—Beginning Gregg Shorthand	
BUS	17—Intermediate Gregg Shorthand	
BUS	18—Advanced Gregg Shorthand	
BUS	19—Shorthand Transcription	4-16
BUS	80—Introduction to Data Processing	2
BUS	110—Secretarial Procedures	3
ED	249—Principles of Vocational Education	3

Business Education Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	1—The American Business System		5
BUS	10—Typewriting I	(0)	
BUS	11—Typewriting II	(4)	
BUS	12—Typewriting III	(4)	
BUS 16, 17, 18, 19	—Beginning, Intermediate, Advanced, Gregg Shorthand Transcription		4- 8
	<i>or</i>		
BUS	20, 21—Principles of Accounting I, II		8-16
	Electives to complete 27 hours.		
			27

Most states require courses in methods and materials of teaching specific subjects for certification. Students minoring in Business Education should take BUED 140, 141, and 142 or 143.

Economic Education Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	1—The American Business System		5
BUS	205—The Consumer in Our Economy		3
BUED	230—Economic Education Seminar		3
ECON	30—Introductory Economics		5
ECON	102—Contemporary Economic Problems		3
	Electives in Business or Economics		8
			27

The electives must be planned in cooperation with the minor adviser. Elective courses may be chosen from the economic courses listed on pages 157-160, and from the following list: GEOG 203, World Resources and Industries, three hours credit; BUS 60, Marketing, three hours credit; BUS 240, Introduction to Insurance, three hours credit; or HEC 191, Management in Family Living, three hours credit.

Education

Bachelor of Arts Degree

Majors: Elementary Education, Special Education (Audiology, Mental Retardation, or Teaching the Acoustically Handicapped).

Minors: Library Science, Psychology, Special Education (Mental Retardation).

Emphasis: Outdoor Education.

Elementary Education Certification

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus physical education requirement.

2. Major in a subject field of specialization or in a special major called Arts and Sciences. The following are requirements for an Arts and Sciences Major. (All courses are in addition to general education requirements.)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
FA	124—Elementary Art		3
	Electives in fine art (not art education)		2- 3
	Electives in humanities, English, and speech (not English education or speech education)		6
MUS	48—Music Appreciation		2
MUS	49—Music Fundamentals		2
	Electives in music (not music education)		2
MATH	1—Basic Mathematics I		3
MATH	2—Basic Mathematics II		3
	Electives in science (not science education)		5

GEOG	10—World Geography	
	<i>or</i>	
GEOG	48—Anglo-America	5
USH	75—Unit Survey of United States History	5
PSCI	40—National Government of the United States	5
	Electives in history and social science (not social studies education)	4- 5
		Minimum of 48

3. Minor in a subject field of specialization or in a special minor called Arts and Sciences. The minor must be Arts and Sciences if the major is in a subject field of specialization. The minor must be in a subject field of specialization if the major is Arts and Sciences.

The following are requirements for a minor in Arts and Sciences. (All courses are in addition to general education requirements.)

Course No.	Course Title	Hours	Credit
FA	124—Elementary Art		3
	Electives in humanities, English, and speech (not English education or speech education)	2-	3
MUS	49—Music Fundamentals		2
MATH	1—Basic Mathematics I		3
MATH	2—Basic Mathematics II		3
	Electives in science (not science education)	3-	4
GEOG	10—World Geography		
	<i>or</i>		
GEOG	48—Anglo-America		5
USH	75—Unit Survey of United States History		5
			Minimum of 27

4. The following requirements in the Elementary Education Major:

Professional Core

Course No.	Course Title	Hours	Credit
ED	101—Basic Concepts of Education		5
PCG	140—Educational Psychology		5
*ED	251—Student Teaching		16
ED	295—Philosophy of Education		3
			29

Elementary Teaching Education

Course No.	Course Title	Hours	Credit
ED	109—Teaching Handwriting and Spelling in the Elementary School		2
ED	110—Improvement of Instruction in Reading in the Elementary School		3
ED	111—Improvement of Instruction in English in the Elementary School		3
ED	112—Improvement of Instruction in Mathematics in the Elementary School		3
ED	113—Improvement of Instruction in Social Studies in the Elementary School		3
ED	115—Improvement of Instruction in Literature in the Elementary School		2
ED	139—Introduction to Student Teaching in the Elementary School		2
ED	222—Reading in the Primary Grades		
	<i>or</i>		
ED	223—Reading in the Intermediate Grades		3
†FA	125—Methods of Teaching Art in the Elementary School		2
‡HPER	88—Physical Education Activities for the Elementary School		2
‡HPER	101—Health Education in the Elementary School		2
§MUS	209—Music Methods and Materials for Elementary Teachers		2
§CED	270—Teaching Science in the Elementary School		3
			32

*A minimum of eight of the sixteen quarter hours of student teaching must be in kindergarten or in grades one through six.

†Not required if a Fine Arts major in teacher education.

‡Not required if a Physical Education major or minor at elementary level.

§Not required if a Music major or if a Music minor at elementary level.

5. ED 109, 111, 112, 113, 222, and 223 taken at Colorado State College.

6. Completion of ED 101, PCG 140, and a minimum of eighteen quarter hours in Elementary Teacher Education courses including ED 110, 112, and 139 before student teaching. Of these requirements, ED 110, 112, and 139 must be completed prior to the quarter in which the student submits his application for student teaching.

7. Sufficient electives to complete 180 quarter hours of academic credit.

Special Education Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus methods and observation courses.
3. The required courses in either of the majors as listed.
4. Twenty-four to 32 quarter hours of electives to complete the 180 quarter hours of academic credit required for graduation.

Concentration in Mental Retardation

Required courses in the major:

Course No.	Course Title	Hours	Credit
SPED	10 —Education of Exceptional Children	3	
SPED	64 —Introduction to Speech Correction	3	
SPED	202 —Counseling Parents of Exceptional Children	3	
SPED	210 —Introduction to Mental Retardation	4	
SPED	211 —Education of Severely Mentally Retarded Children	3	
SPED	212 —Curriculum Development and Methodology for Mentally Retarded	4	
SPED	230 —Care and Pathology of the Physically Handicapped	3	
ED	206 —Audio-Visual Materials in Education	4	
PCG	170 —Introduction to Measurement and Evaluation	3	
PCG	230* —Psychology of Childhood and Adolescence	3	
FA	127 —Craft Techniques	3	
HPER	101 —Health Education in the Elementary School	2	
MUS	49 —Music Fundamentals	2	
	Electives in Special Education	8	
		<hr/>	48

*If PCG 30 has been taken in the last five years, a Special Education elective may be substituted for PCG 230.

One minor of 27 hours outside the field of Special Education.

Special Education majors must student teach in their minor area.

Concentration in Acoustically Handicapped

Required courses in the major:

Course No.	Course Title	Hours	Credit
SPED	10 —Education of Exceptional Children	3	
SPED	250 —Pathology and Introduction to Education of the Deaf	3	
SPED	251 —Speech Development for Acoustically Handicapped Children	6	
SPED	252 —Language Development for Acoustically Handicapped Children	6	
SPED	253 —Methods of Teaching Content Subjects to the Deaf	6	
SPED	257 —Speech Reading	3	
SPED	260 —Speech Pathology I	3	
SPED	265 —The Auditory and Speech Mechanism	3	
SPED	270 —Audiology	3	
PCG	230* —Psychology of Childhood and Adolescence	3	
PCG	170 —Introduction to Measurement and Evaluation	3	
	Electives	6	
		<hr/>	48

*If PCG 30 has been taken in the last 5 years, a Special Education elective may be substituted for PCG 230.

Recommended electives to complete the 180 quarter hours of academic credit required for graduation are ED 222, 223, HPER 88, PSCI 172, and MATH 1.

Special Education Minor (Mental Retardation)

Course No.	Course Title	Hours	Credit
SPED	10 —Education of Exceptional Children	3	
SPED	64 —Introduction to Speech Correction	3	
SPED	210 —Introduction to Mental Retardation	4	
SPED	211 —Education of Severely Mentally Retarded Children	3	
SPED	212 —Curriculum Development and Methodology for Mentally Retarded	4	

PCG	170	—Introduction to Measurement and Evaluation	3
PCG	230*	—Psychology of Childhood and Adolescence	3
FA	127	—Craft Techniques	3
		Electives	1
			27

*If PCG 30 has been taken in the last 5 years, a Special Education elective may be substituted for PCG 230.

Special Education Minors must student teach in Special Education.

Library Science Minor

The following program offers 27 quarter hours of credit to meet the North Central Association and the Northwestern Association requirements for a school library and teacher-librarian in a high school having a student enrollment of 499 or fewer. The following courses are required:

Course No.	Course Title	Hours Credit	
LS	280—Organization and Administration of the School Library	5	
LS	281—Classification and Cataloging	5	
LS	282—Reference Materials for School Libraries	5	
LS	283—Book Selection for School Libraries	5	
LS	284—The Librarian and Reading Guidance for Youth	2	
	Electives (minimum)	2	
			27

Electives should be chosen from the following courses:

Course No.	Course Title	Hours Credit
ED	115—Improvement of Instruction in Literature in the Elementary School	2
ED	206—Audio-Visual Materials in Education	4
LS	285—Junior High School Library Workshop	3

Psychology Minor

Required courses for the undergraduate minor in psychology are:

Course No.	Course Title	Hours Credit	
PCG	21—General Psychology and Human Performance	3	
PCG	101—Principles and Philosophies of Guidance	3	
PCG	170—Introduction to Measurement and Evaluation	3	
PCG	222—Seminar: Psychological Issues	3	
PCG	240—Psychology of Learning	3	
PCG	285—Mental Hygiene and Emotional Adjustment	3	
SPEd	10—Education of Exceptional Children	3	
	Electives	6	
			27

Outdoor Education

An interdisciplinary emphasis on outdoor education affords students the opportunity to actively participate in learning experiences conducted beyond the classroom. Natural and community resources (including human) are utilized in providing direct, firsthand learning experiences. Undergraduate and graduate students are provided an opportunity to participate in the outdoor school programs conducted in the Laboratory School and in Special Education. Course offerings, which have significance for this broad area, are offered in every division of the college. Listed below are three specific courses which are introductory courses in this area:

Course No.	Course Title	Hours Credit
ED	80—Introduction to Outdoor Education	3
ED	200—Education Workshop: Outdoor Education	3
ED	380—Philosophy and Principles of Outdoor Education	3

Health and Physical Education

Bachelor of Arts Degree

Majors: Physical Education for Women, Physical Education for Men.

Minors: Physical Education (Secondary), Physical Education (Elementary), Health Education, Dance Education.

All majors and minors in this division will earn academic credit in HPER 61, Personal and Community Health.

Physical Education Major for Women

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours. HPER 80, 81, 89, 95 and 98 will be substituted for the six hours of physical education activity courses required as a part of the General Education.

2. Advanced Teacher Education, 29 hours, plus HPER 144, three hours credit, and HPER 145, two hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HPER	62—First Aid	2	2
HPER	82—Techniques of Hockey and Soccer	2	2
HPER	84—Techniques of Tennis and Softball	2	2
HPER	85—Techniques of Tumbling and Gymnastics	2	2
HPER	90—Techniques in Folk Dance	2	2
HPER	92—American Square and Social Dance	2	2
HPER	93—Techniques in Contemporary Dance	2	2
HPER	94—Problems in Dance Composition	2	2
HPER	102—Health Education in the Secondary School	4	4
HPER	120—Anatomical Kinesiology	3	3
HPER	121—Mechanical Kinesiology	3	3
HPER	122—Physiological Kinesiology	3	3
HPER	123—Psychological Kinesiology	3	3
HPER	125—Teaching of Team Sports	2	2
HPER	126—Teaching of Dance	2	2
HPER	127—Teaching of Individual Sports	2	2
HPER	226—Tests and Measurements in Physical Education	3	3
HPER	232—Adapted Physical Education	3	3
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	3
HPER	272—Recreation Leadership	3	3
		50	

4. One minor of 27 quarter hours outside the Division of Health, Physical Education, and Recreation.

5. Twenty-four quarter hours of free electives to complete the 180 quarter hours of academic credit for graduation.

6. Electives may be used at the students' option and under advisement to complete teaching competencies in health education and driver education.

Physical Education Minor for Women (Secondary Level)

The following courses will be substituted for the six hours of Physical Education Activity Courses required as a part of General Education: HPER 84, 89, 90, 95.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HPER	62—First Aid	2	2
HPER	81—Techniques of Volleyball and Basketball	2	2
HPER	82—Techniques of Hockey and Soccer	2	2
HPER	85—Techniques of Tumbling and Gymnastics	2	2
HPER	92—American Square and Social Dance	2	2
HPER	102—Health Education in the Secondary School	4	4
HPER	120—Anatomical Kinesiology	3	3
HPER	121—Mechanical Kinesiology	3	3
HPER	122—Physiological Kinesiology	3	3
HPER	145—Methods and Observation of Teaching Physical Education in the Secondary School (Women)	2	2
HPER	226—Tests and Measurements in Physical Education	3	3
	<i>or</i>		
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	3
		28	

Physical Education Major for Women (Elementary Education Majors only)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours. HPER 90, 91, and 92 will be substituted for the six hours of physical education activity courses required as a part of General Education.

2. Advanced Teacher Education, 29 hours.

3. The Elementary Teacher Education Core, 28 hours. (HPER 144 will be substituted for HPER 88. HPER 144 and 101 are included in the Physical Education Major Program.)

4. The following required courses in the major:

Course No.	Course Title	Hours	Credit
HPER	62—First Aid	2	
ED	80—Introduction to Outdoor Education	3	
HPER	81—Techniques of Volleyball and Basketball	2	
HPER	82—Techniques of Hockey and Soccer	2	
HPER	83—Techniques of Swimming	2	
HPER	85—Techniques of Tumbling and Gymnastics	2	
HPER	89—Techniques of Track and Field	1	
HPER	95—Techniques of Movement Fundamentals	1	
HPER	101—Health Education in the Elementary School	2	
HPER	120—Anatomical Kinesiology	3	
HPER	121—Mechanical Kinesiology	3	
HPER	122—Physiological Kinesiology	3	
HPER	124—Maturational Kinesiology	3	
HPER	144—Methods and Observation of Teaching Physical Education in the Elementary School	3	
HPER	226—Tests and Measurements in Physical Education	3	
HPER	232—Adaptive Physical Education	3	
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	
HPER	272—Recreation Leadership	3	
	Electives to be planned with major adviser	4	

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5. One minor in Arts and Sciences, 27 hours.

6. Electives to complete 180 quarter hours of academic credit for graduation.

Physical Education Minor for Women (Elementary Level)

Course No.	Course Title	Hours	Credit
HPER	62—First Aid	2	
HPER	81—Techniques of Volleyball and Basketball	2	
HPER	82—Techniques of Hockey and Soccer	2	
HPER	85—Techniques of Tumbling and Gymnastics	2	
HPER	89—Techniques of Track and Field	1	
HPER	90—Techniques of Folk Dance	2	
HPER	91—Rhythms for the Elementary School	2	
HPER	95—Techniques in Movement Fundamentals	1	
HPER	101—Health Education in the Elementary School	2	
HPER	120—Anatomical Kinesiology	3	
HPER	121—Mechanical Kinesiology	3	
HPER	144—Methods and Observations of Teaching Physical Education in the Elementary School	3	
HPER	235—Educational Interpretations of Health, Physical Education and Recreation	3	

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Physical Education Major for Men

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours. HPER 70, 71 and 72 will be substituted for the six hours of physical education activity courses required as a part of General Education.

2. Advanced Teacher Education, 29 hours, plus HPER 144, three hours credit, and HPER 145, two hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
HPER	62—First Aid	2	
HPER	73—Theory and Practice of Basketball	2	
HPER	74—Theory and Practice of Swimming	1	
HPER	75—Theory and Practice of Wrestling	1	
HPER	76—Theory and Practice of Football	2	
HPER	77—Theory and Practice of Track	1	
HPER	78—Theory and Practice of Baseball	1	
HPER	90—Techniques in Folk Dance	2	
HPER	92—American Square and Social Dance	2	
HPER	102—Health Education in the Secondary School	4	
HPER	120—Anatomical Kinesiology	3	
HPER	121—Mechanical Kinesiology	3	
HPER	122—Physiological Kinesiology	3	
HPER	123—Psychological Kinesiology	3	
HPER	161—Coaching of Football	2	
HPER	162—Coaching of Basketball	2	
HPER	163—Coaching of Track and Field	2	
HPER	164—Coaching of Baseball	2	
HPER	226—Tests and Measurements in Physical Education	3	
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	
HPER	250—Administration of Physical Education	3	
HPER	272—Recreation Leadership	3	

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4. One minor of 27 quarter hours outside the Division of Health, Physical Education, and Recreation.

In addition, men majoring in this field will complete the following in the minor outside the major division: Introduction of Student Teaching and Methods of Teaching.

5. Twenty-four quarter hours of free electives to complete the 180 quarter hours of academic credit for graduation.

6. Electives may be used at the students' option and under advisement to complete teaching competencies in health education and driver education.

Physical Education Minor for Men (Coaching Emphasis—Secondary Level)

Before enrolling in courses in this minor, secure application form from the division office. Entry to this minor is by division approval only.

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
A minimum of 5 hours elected from:		5	
HPER	70—Theory and Practice of Gymnastics and Tumbling		
HPER	73—Theory and Practice of Basketball		
HPER	74—Theory and Practice of Swimming		
HPER	75—Theory and Practice of Wrestling		
HPER	76—Theory and Practice of Football		
HPER	77—Theory and Practice of Track		
HPER	78—Theory and Practice of Baseball		
A minimum of 4 hours elected from:		4	
HPER	161—Coaching of Football		
HPER	162—Coaching of Basketball		
HPER	163—Coaching of Track and Field		
HPER	164—Coaching of Baseball		
And the following:			
HPER	120—Anatomical Kinesiology	3	
HPER	121—Mechanical Kinesiology	3	
HPER	122—Physiological Kinesiology	3	
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	
or			
HPER	260—Scientific Principles of Coaching	3	
HPER	270—Administration of Athletics	3	
HPER	280—Care of Sports Injuries	3	

Physical Education Minor for Men (Teaching Emphasis—Secondary Level)

The following courses will be substituted for the six hours of Physical Education Activity Courses required as a part of General Education: HPER 76, 77, 78, 90.

Course No.	Course Title	Hours	Sredit
HPER	62—First Aid	2	
HPER	70—Theory and Practice of Gymnastics and Tumbling	2	
HPER	71—Theory and Practice of Team Sports	2	
HPER	72—Theory and Practice of Individual and Dual Sports	2	
HPER	73—Theory and Practice of Basketball	2	
HPER	74—Theory and Practice of Swimming	1	
HPER	75—Theory and Practice of Wrestling	1	
HPER	92—American Square and Social Dance	2	
HPER	120—Anatomical Kinesiology	3	
HPER	121—Mechanical Kinesiology	3	
HPER	122—Physiological Kinesiology	3	
HPER	145—Methods and Observation of Teaching Physical Education in the Secondary School	2	
HPER	226—Tests and Measurements in Physical Education		
	or		
HPER	235—Educational Interpretations of Health, Physical Education and Recreation	3	
			28

Physical Education Major for Men (Elementary Education Majors only)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours. HPER 90, 91, and 92 will be substituted for the six hours of physical education activity courses required as a part of General Education.
2. Advanced Teacher Education, 29 hours.
3. The Elementary Teacher Education Core, 28 hours. (HPER 144 will be substituted for HPER 88. HPER 144 and 101 are included in the Physical Education Major Program.)
4. The following required courses in the major:

Course No.	Course Title	Hours	Sredit
HPER	62—First Aid	2	
HPER	70—Theory and Practice of Gymnastics and Tumbling	2	
HPER	71—Theory and Practice of Team Sports	2	
HPER	73—Theory and Practice of Basketball	2	
HPER	74—Theory and Practice of Swimming	1	
HPER	75—Theory and Practice of Wrestling	1	
HPER	77—Theory and Practice of Track	1	
HPER	78—Theory and Practice of Baseball	1	
ED	80—Introduction to Outdoor Education	3	
HPER	101—Health Education in the Elementary School	3	
HPER	120—Anatomical Kinesiology	2	
HPER	121—Mechanical Kinesiology	3	
HPER	122—Physiological Kinesiology	3	
HPER	124—Maturational Kinesiology	3	
HPER	144—Methods and Observation of Teaching Physical Education in the Elementary School	3	
HPER	226—Tests and Measurements in Physical Education	3	
HPER	232—Adaptive Physical Education	3	
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3	
HPER	272—Recreation Leadership	3	
	Electives to be planned with major adviser	4	
			48

5. One minor in Arts and Sciences, 27 hours.
6. Electives to complete 180 quarter hours of academic credit for graduation.

Physical Education Minor for Men (Elementary Level)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	62—First Aid	2
HPER	70—Theory and Practice of Gymnastics and Tumbling	2
HPER	71—Theory and Practice of Team Sports	2
HPER	73—Theory and Practice of Basketball	2
HPER	77—Theory and Practice of Track	1
HPER	78—Theory and Practice of Baseball	1
HPER	90—Techniques in Folk Dance	2
HPER	91—Rhythms for the Elementary School	2
HPER	101—Health Education in the Elementary School	2
HPER	120—Anatomical Kinesiology	3
HPER	121—Mechanical Kinesiology	3
HPER	144—Methods and Observations of Teaching Physical Education in the Elementary School	3
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation <i>or</i>	
HPER	272—Recreation Leadership	3
		28

Health Education Minor (Men and Women)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	62—First Aid	2
HEC	98—Basic Nutrition <i>or</i>	
HEC	209—New Trends in Nutrition	3
HPER	99—Introduction to Community Health	4
HPER	102—Health Education in the Secondary School	4
HPER	271—Safety Education	3
PCG	285—Mental Hygiene and Emotional Adjustment	3
Electives to complete 27 quarter hours from the following:		
	HPER 205, 213, 274; BIO 252; BOT 122	8
		27

Dance Education Minor (Men and Women)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	90—Techniques in Folk Dance	2
HPER	91—Rhythms for the Elementary School	2
HPER	92—American Square and Social Dance	2
HPER	93—Techniques in Contemporary Dance	2
HPER	94—Problems in Dance Composition	2
HPER	126—Teaching of Dance	2
HPER	255—Contemporary Dance Techniques	4
HPER	256—Workshop in Contemporary Dance	4
HPER	257—Dance History and Philosophy	4
Electives to complete 27 quarter hours from the following:		
SP	13—Introduction to Stagecraft	3
SP	65—Beginning Scene Design	
SP	113—Stagecraft	
SP	220—Stage Costuming	
MUS	267—Music in America	
HEC	72—Elementary Clothing Construction	
		27

Humanities

Bachelor of Arts Degree

Majors: English, English (Junior High School Level), French, German, Spanish, Speech, Theatre Arts.

Minors: English, Language and Speech (Junior High School Level), French, German, Journalism, Latin, Russian, Spanish, Speech, Theatre Arts.

English Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
ENG	10—Freshman Literature	4	
ENG	50—Shakespeare	3	
	Five of the following six courses:	15-16	
ENG	48—English Literature from the Beginnings to 1500	3	
ENG	49—English Literature from 1500 to 1660	3	
ENG	51—The Restoration and Eighteenth Century	3	
ENG	52—The Romantic Movement	3	
ENG	53—Victorian Prose and Poetry	3	
ENG	54—Contemporary English and American Literature	4	
ENG	60—American Literature to the Civil War	4	
ENG	61—American Literature Since the Civil War	4	
ENG 109, 110	or 111—Creative Writing I, II or III	2	
ENG	210—Advanced Expository Writing	3	
ENG	211—The English Language	5	
ENG	212—Generative-Transformational Grammar	4	
EED	226—Literature and Materials in the Secondary School	4	
ENG	257—History of Ideas in Literature	3	

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4. At least one minor of 27 quarter hours.

5. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

English Minor

Course No.	Course Title	Hours	Credit
ENG	57—Survey of English Literature (700-1800)	4	
ENG	58—Survey of English Literature (1800-present)	4	
ENG	59—Survey of American Literature	4	
ENG	210—Advanced Expository Writing	3	
EED	226—Literature and Materials in the Secondary School	4	
	Electives in English	8	

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English Major (Junior High School Level)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
ENG	10—Freshman Literature	4	
ENG	49—English Literature from 1500 to 1660	3	
ENG	50—Shakespeare	3	
ENG	51—The Restoration and Eighteenth Century	3	
ENG	52—The Romantic Movement	3	
ENG	53—Victorian Prose and Poetry	3	
ENG	54—Contemporary English and American Literature	4	
ENG	60—American Literature to the Civil War	4	

ENG	61—American Literature Since the Civil War	4
ENG	109, 110	
	or 111—Creative Writing I, II or III	2
EED	227—Literature and Materials in the Junior High School	4
EED	228—The Teaching of Reading in the Secondary School	4
SP	124—Teaching Speech in Junior High School	4
	Electives	3

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4. At least one minor of 27 quarter hours.
5. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

FOREIGN LANGUAGES

Majors: French, German, Spanish.

Minors: French, German, Latin, Russian, Spanish.

French Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. All work in French must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
FR	5—Intermediate French I	4
FR	6—Intermediate French II	4
FR	7—Intermediate French III	4
FR	105—Survey of French Literature I	4
FR	106—Survey of French Literature II	4
FR	107—Survey of French Literature III	4
FR	110—Intermediate French Composition	3
FR	111—Intermediate French Conversation	3
FR	112—Intermediate French Syntax and Stylistics	3
	Electives in French (to be chosen with the consent of the adviser)	15

4. At least one minor of 27 quarter hours.
5. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

German Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. All work in German must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
GER	5—Intermediate German Composition	4
GER	6—Intermediate German Reading and Conversation	4
GER	7—Introduction to German Classics	4
GER	105—Survey of German Literature I	3
GER	106—Survey of German Literature II	3
GER	107—Survey of German Literature III	3
GER	135—German Conversation	4
GER	136—Advanced German Composition	4
GER	137—Advanced German Grammar	4
GER	141—Goethe	3
GER	142—Schiller	3
GER	225—Eighteenth Century German Literature	3
GER	226—Nineteenth Century German Literature	3
GER	227—Twentieth Century German Literature	3

4. At least one minor of 27 quarter hours.
5. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

Spanish Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. All work in Spanish must be beyond the first-year level. The following required courses in the major (or their equivalents):

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SPAN	5—Intermediate Spanish I	4	4
SPAN	6—Intermediate Spanish II	4	4
SPAN	7—Intermediate Spanish III	4	4
SPAN	110—Advanced Spanish Grammar	4	4
SPAN	125—Advanced Spanish Composition	3	3
SPAN	135—Spanish Conversation	4	4
SPAN	145—Spanish Pronunciation	4	4
A minimum of 14 hours from the following six courses		14	14
SPAN	115—Survey of Spanish-American Literature I	3	3
SPAN	116—Survey of Spanish-American Literature II	3	3
SPAN	117—Survey of Spanish-American Literature III	3	3
SPAN	155—Survey of Spanish Literature I	5	5
SPAN	156—Survey of Spanish Literature II	5	5
SPAN	157—Survey of Spanish Literature III	5	5
Electives in Spanish (to be chosen with the consent of the adviser)		7	7

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4. At least one minor of 27 quarter hours.
5. Twenty-four to 32 quarter hours of free electives to complete 180 quarter hours of academic credit required for graduation.

French, German, Latin, Russian or Spanish Minor

1. The requirement for a minor in French, German, or Spanish is 27 quarter hours in one language beyond the first-year level.
2. The requirement for a minor in Latin or Russian is 27 quarter hours in one language.

SPEECH AND THEATRE ARTS

Majors: Speech, Theatre Arts.

Minors: Speech, Theatre Arts.

Speech Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SP	16—Voice and Diction	4	4
SP	62—Public Speaking	4	4
SP	63—First Course in Drama	4	4
SP	114—Introduction to the Theatre	3	3
SP	117—Oral Interpretation	3	3
SP	118—Argumentation and Debate	4	4
SP	208—Introduction to Television Production	4	4

SP	218—Group Discussion	4
SP	260—Introduction to General Semantics	4
SP	280—American Public Address	4
	Electives in Speech	10
		48

4. At least one minor of 27 quarter hours.
5. Meet the minimum requirements in English set up by the North Central Association for teachers of Speech. Consult your adviser.

6. Free electives to complete 180 quarter hours of academic credit required for graduation.

Students majoring in Speech are expected to participate in intercollegiate forensics for a minimum of one year.

Speech Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	16—Voice and Diction	4
SP	62—Public Speaking	4
SP	118—Argumentation and Debate	4
SP	218—Group Discussion	4
ED	141—Teaching Speech in the Secondary Schools	3
	Electives in Speech	8
		27

Theatre Arts Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	13—Introduction to Stagecraft	3
SP	16—Voice and Diction	4
SP	63—First Course in Drama	4
SP	65—Beginning Scene Design	3
SP	113—Stagecraft	3
SP	115—Beginning Characterization	3
SP	116—Beginning Play Direction	4
SP	200—Techniques of Play Direction	3
SP	216—Senior Seminar in Dramatic Production	2
SP	230—History of the Theatre I	3
SP	231—History of the Theatre II	3
SP	232—History of the Theatre III	3
ENG	50—Shakespeare	3
ENG	235—Contemporary American Drama	3
	Electives in Theatre Arts	4
		48

4. At least one minor of 27 quarter hours.
5. Meet the minimum requirements in English set up by the North Central Association for teachers of Drama. Consult your adviser.

6. Free electives to complete 180 quarter hours of academic credit required for graduation.

Students majoring in Theatre Arts are expected to participate in productions each quarter.

Theatre Arts Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
SP	13—Introduction to Stagecraft	3
SP	16—Voice and Diction	4
SP	63—First Course in Drama	4
SP	65—Beginning Scene Design	3

SP	113—Stagecraft	3
SP	114—Introduction to the Theatre	3
SP	115—Beginning Characterization	3
SP	116—Beginning Play Direction	4

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Students minoring in Theatre Arts are expected to participate in productions for a minimum of one quarter.

Language and Speech Minor (Junior High School Level)

Course No.	Course Title	Hours Credit
ENG	210—Advanced Expository Writing	3
ENG	211—The English Language	5
ENG	212—Generative-Transformational Grammar	4
EED	230—The Teaching of Language	4
SP	123—Basic Speech and Oral Reading	5
	Electives in English and Speech	6

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JOURNALISM

Journalism Minor

Course No.	Course Title	Hours Credit
JOUR	95—Introduction to Journalism	2
JOUR	96—Newsriting	3
JOUR	97—Advanced Newsriting	3
JOUR	201—Methods of Teaching Journalism in the Secondary School	3
SP	260—Introduction to General Semantics	4
BUS	162—Advertising	3
IA	145—Publication Production	5
	Electives in Journalism or Social Sciences	4

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Music

Bachelor of Arts Degree

Major: Music Education (Instrumental or Vocal and General Teaching Emphasis).

Minors: Music Minor for Elementary Education Majors.

Bachelor of Arts Degree and Bachelor of Music Degree

Major: Music Education (a five-year program).

Bachelor of Arts Degree

Major: Music Education and Elementary Education (a double major program).

Music Education

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus MUS 141, two hours credit and MUS 142, three hours credit.

3. The required courses listed in the Music Core plus the required courses for the Instrumental Music Teaching Emphasis or the Vocal and General Music Teaching Emphasis.

Music Core

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	1, 2, 3—Sight Singing and Theory I, II, III	9
MUS	40, 41, 42—Introduction to Music Education I, II, III	6
MUS	52, 53, 54—Harmony I, II, III	9
MUS	58, 59, 60—Music Literature and Styles I, I, III	6
MUS	152—Counterpoint	3
MUS	153—Form and Analysis	3
MUS	154—Instrumentation	3
MUS	158, 159, 160—History of Music I, II, III	9
MUS	165—Teaching Instrumental Music	3
MUS	190—Clarinet Class	1
MUS	191—Trumpet and French Horn Class	1
MUS	194—Percussion Class	1

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Instrumental Music Teaching Emphasis

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	10, 11, 12—Beginning Class Piano I, II, III	
	<i>or</i>	
MUS	20, 21, 22—Intermediate Class Piano I, II, III	
	<i>or</i>	
	Electives in Music (Upon evidence of piano proficiency)	6
MUS	13, 14, 15—Beginning String Instruction I, II, III	3
MUS	162, 163, 164—Instrumental Techniques and Conducting I, II, III	3
MUS	192—Brass Class	1
MUS	195—Double Reed Class	1
MUS	196—Voice Class	1
MUS	197—Flute and Saxophone Class	1
MUS	215—Instrumental Literature	3
MUS	217—Methods and Materials for Class Instrumental Instruction	3
MUS	220—Instrument Care and Repair	2
MUS	241—Marching Band Techniques	2

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Vocal and General Music Teaching Emphasis

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	10, 11, 12— Beginning Class Piano I, II, III	
	<i>or</i>	
MUS	20, 21, 22— Intermediate Class Piano I, II, III	
	<i>or</i>	
	Music Performance (Piano)	3
	Music Performance (Vocal)	3
MUS	166, 167, 168— Choral Techniques and Conducting I, II, III	3
MUS	193— String Class	1
MUS	211— Improvement of Instruction in Music Reading	3
MUS	216— Methods and Materials for Class Voice Instruction	3
	*Electives in Music	10

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*To be selected from:

201—Stage and Opera Techniques

213—Choral Literature to 1750

214—Choral Literature from 1750

*242—Vocal Repertoire: German Art Song

*243—Vocal Repertoire: French Art Song

*244—Vocal Repertoire: 17th and 18th Centuries

*266—Teaching Music Appreciation

*Proficiency Level II in piano or voice is required as prerequisite for these courses.

4. One hour of applied music credit to be earned each quarter in residence in the student's major performance area and one hour of credit to be earned each quarter in residence in a musical organization such as Band, Orchestra or Choir.

5. Meet all music performance and recital attendance requirements as listed on page 73.

6. Electives to meet requirements for graduation.

Music Education

Bachelor of Arts (Teacher Education) and Bachelor of Music Degrees—Five-Year Combined Course

Admission to candidacy for the combined Bachelor of Arts and Bachelor of Music degrees is based upon the recommendation of a Music Division faculty reviewing committee. The student who desires to complete the combined degrees must demonstrate outstanding musical talent. Application for admission to the combined degree program must take place prior to the close of the student's second year in college.

The following is required for the completion of the combined degrees program:

1. Complete the requirements for the Bachelor of Arts Degree (Teacher Education).
2. Complete 27 additional quarter hours of applied music and performance.
3. Present a complete graduation recital.
4. Meet all music performance and recital attendance requirements as listed on page 73.
5. Elect a minimum of 18 quarter hours from the following courses:

Course No.	Course Title	Hours	Credit
MUS	202—Opera Workshop	3	2
MUS	242—Vocal Repertoire: German Art Song	2	2
MUS	243—Vocal Repertoire: French Art Song	2	2
MUS	244—Vocal Repertoire: 17th and 18th Centuries	2	2
MUS	262—Symphonic Literature	3	3
MUS	263—Eighteenth Century Harmony and Forms	3	3
MUS	264—Nineteenth Century Harmony and Forms	3	3
MUS	265—Twentieth Century Harmony and Forms	3	3
MUS	268—Church Music	3	3

Music Education and Elementary Education

A Double Major Program

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. A 48-hour major in music as outlined below:

Course No.	Course Title	Hours	Credit
MUS	1, 2, 3—Sight Singing and Theory I, II III	9	9
MUS	52, 53—Harmony I, II	6	6
MUS	162—Instrumental Techniques and Conducting I or		
MUS	166—Choral Techniques and Conducting I	1	1
MUS	10, 11, 12—Beginning Class Piano I, II, III or		
MUS	20, 21, 22—Intermediate Class Piano I, I, III or		
MUS	Music Performance (Piano)	3	3
MUS	Music Performance (Individual Instruction)	6	6
MUS	Music Performance (Major Ensemble)	3	3
MUS	209—Music Methods and Materials	2	2

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3. Conditions for admission to the program: (1) Current registration as a major in Elementary Education or Special Education; (2) Proficiency in music: (a) successful completion of Music 2, 3, 4 (an average grade of "C" or above); (b) successful completion of a proficiency examination in music skills administered by the music faculty.

4. It is suggested that the student teaching assignment shall include eight hours experience in music teaching in the elementary classroom under an approved music supervisor.

5. Meet all music performance and recital attendance requirements as listed on page 73.

6. One hour of applied music credit to be earned each quarter in residence in the student's major performance area and one hour of credit to be earned each quarter in residence in a musical organization such as Band, Orchestra or Choir.

7. The following courses in the major:

Music History and Literature

(Elect 5-6 hours from the following courses)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	48—Music Appreciation	2
MUS	58, 59, 60—Music Literature and Styles I, II, III	6
MUS	262—Symphonic Literature	3
MUS	267—Music in America	3
		(5-6)

Music Theory

(Elect 5-6 hours from the following courses)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	54—Harmony III	3
MUS	152—Counterpoint	3
MUS	153—Form and Analysis	3
MUS	154—Instrumentation	3
MUS	219—Improvisation	2
		(5-6)

Music Education

(Elect 6-7 hours from the following courses)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	40, 41, 42—Introduction to Music Education I, II, III	6
MUS	196—Voice Class	1
MUS	210—Music Literature for Elementary Grades	3
MUS	211—Improvement of Instruction in Music Reading	3
MUS	212—Music Activities for Classroom Teachers	3
MUS	253—Music for the Exceptional Child (Required of Special Education Double Major)	3
MUS	266—Teaching Music Appreciation	3
		(6-7)

Music Minor (for Elementary Education Majors)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
MUS	1, 2, 3—Sight Singing and Theory I, II, III	9
MUS	10, 11, 12—Beginning Class Piano I, II, III <i>or</i>	
MUS	20, 21, 22—Intermediate Class Piano I, II, III <i>or</i>	
MUS	Music Performance (Piano)	6
MUS	48—Music Appreciation	2
MUS	Music Performance (Choral)	4
MUS	210—Music Literature for Elementary Grades	3
MUS	212—Music Activities for Classroom Teachers <i>or</i>	
MUS	266—Teaching Music Appreciation	3
		27

Music Performance Requirements

All students enrolling in the Division of Music as majors are required to participate in these three areas: Recital Attendance; Individual Performance; and Major Ensemble Performance. Details of these programs are listed below:

Recital Attendance

Each music major will be required to attend 80% of all college sponsored music events (Tuesday afternoon recitals, faculty recitals, major performances) during his undergraduate residency. An evaluation will be made at the end of each quarter for each student so that deficiencies in one quarter may be compensated for by excess in another quarter. If a deficiency continues to exist the student will have the final academic quarter in residence to meet the require-

ment. Such recital attendance will constitute a divisional requirement for graduation regardless of the successful completion of the academic program. If the requirement is not met at the conclusion of the final quarter, then an additional quarter of residence will be required to fulfill this obligation.

Individual Performance

The music major must demonstrate continuous growth in his ability to perform on his major instrument. Each student will be expected to appear frequently as a soloist in the weekly student recital series. During the senior year he will be presented in joint recital with other graduating seniors. Such proficiency in performance requires continuous study of the major instrument, or voice, under the tutorship of a private teacher.

Individual Instruction—The faculty of the Division of Music offers private lessons in music in all major instruments and voice. Students enrolled receive a minimum of one-half hour lesson each week.

Individual Instruction in Voice

Individual Instruction in Piano

Individual Instruction in Organ

Individual Instruction in Stringed Instruments

(violin, viola, cello, bass)

Individual Instruction in Percussion Instruments

Individual Instruction in Woodwind Instruments

(flute, clarinet, oboe, English horn, bassoon, saxophone)

Individual Instruction in Brass Instruments

(French horn, trumpet, trombone, baritone, tuba)

Major Ensemble Performance

The music major must participate each quarter in the music organization in which his instrument normally belongs—band, orchestra, or choir. Piano and organ majors may select either a vocal or an instrumental organization for a minimum of eight quarter hours. The remaining three quarter hours will be in a piano ensemble.

The Division of Music offers a complete program in music performance. Opportunities in music activities are available to all interested and qualified college students. The performing organizations are listed below. For course description see page 236.

Symphonic Wind Band

Concert Band

Marching Band

Varsity Band

Stage Band

Symphony Orchestra

Chamber Orchestra

Laboratory Orchestra

Mixed Concert Choir

Oratorio Chorus

Chorus and Orchestra Workshop

Women's Choir

Varsity Men's Glee Club

Chamber Singers

Opera Workshop

String Ensemble

Woodwind Ensemble

Percussion Ensemble

Piano Ensemble

Admission to the Teacher Education Program

In addition to meeting the general requirements for formal admission to the teacher education program at the close of the sophomore year the student majoring in music must:

1. Demonstrate an acceptable level of performance on his major instrument or voice. Such ability will be evaluated by a jury examination conducted by the music faculty, and through the scheduled performances of the student in the weekly recital series.

2. Pass a proficiency examination in functional piano in which he will demonstrate his ability to play, at sight, piano accompaniments suitable for community and classroom singing.

3. Demonstrate to a jury of the music faculty his ability to read music vocally at sight with the use of solfege symbols.

4. Show acceptable aptitude for music study as demonstrated by his record in the required freshman and sophomore music courses—Sight-singing and Theory, Harmony, and Literature and Styles.

5. Demonstrate, to the satisfaction of a reviewing music education committee, professional promise as a teacher.

Sciences

Bachelor of Arts Degree

Majors: Biological Science, Chemistry, Earth Science, Elementary Science, Junior High Science, Physical Science, Physics, Mathematics.

Minors: Biological Science, Chemistry, Earth Science, Elementary Science, Physics, Science for Home Economics Majors, Mathematics.

Biological Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

a. General Approach

Course No.	Course Title	Hours	Credit
ZOO	11—General Zoology—Invertebrate	5	5
ZOO	12—General Zoology—Vertebrate	5	5
BOT	22—General Botany I	5	5
BOT	23—General Botany II	5	5
BIO	151—Cellular Biology	5	5
BIO	152—Genetics	5	5
ZOO	211—Comparative Anatomy of the Vertebrates	5	
	or		
BOT	221—Plant Anatomy	5	5
ZOO	117—Human Physiology	5	
	or		
BOT	222—Plant Physiology I	5	5
ZOO	214—Faunistics	5	
	or		
BIO	254—Aquatic Biology	5	
	or		
BOT	227—Identification of Seed Plants of the Local Flora	5	5
ZOO	219—Animal Ecology	5	
	or		
BOT	225—Plant Ecology	5	5
	Electives in biology, botany, or zoology to be selected with approval of student's adviser		6
			<hr/> 56

4. A minor of 27 or more quarter hours is required. Chemistry or physics is recommended. If a chemistry minor is chosen, the student may substitute courses in biology, botany, or zoology for the chemistry requirements in the major.

5. CHEM 40 or 44, 41 or 45, and 42.

6. Biology majors may substitute equivalent hours in biology, botany, or zoology for Science 3 and Science 4.

7. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

b. Ecological Approach

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ZOO	11—General Zoology—Invertebrate	5	5
ZOO	12—General Zoology—Vertebrate	5	5
BOT	22—General Botany I	5	5
BOT	23—General Botany II	5	5
BIO	151—Cellular Biology	5	5
BIO	152—Genetics	5	5
ZOO	214—Faunistics	5	
	<i>or</i>		
BIO	254—Aquatic Biology	5	5
BOT	227—Identification of Seed Plants of the Local Flora	5	5
ZOO	219—Animal Ecology	5	5
BOT	225—Plant Ecology	5	5
	Electives in biology, botany, or zoology to be selected with approval of student's adviser		6
			56

4. A minor of 27 or more quarter hours is required. Chemistry or physics is recommended. If a chemistry minor is chosen, the student may substitute courses in biology, botany, or zoology for the chemistry requirements.

5. CHEM 40 or 44, 41 or 45, 42.

6. Biology majors may substitute equivalent hours in biology, botany, or zoology for Science 3 and Science 4.

7. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

c. Physiological Approach

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ZOO	11—General Zoology—Invertebrate	5	5
ZOO	12—General Zoology—Vertebrate	5	5
BOT	22—General Botany I	5	5
BOT	23—General Botany II	5	5
BIO	151—Cellular Biology	5	5
BIO	152—Genetics	5	5
ZOO	117—Human Physiology	5	
	<i>or</i>		
ZOO	221—Mammalian Physiology I	5	
	<i>and</i>		
ZOO	222—Mammalian Physiology II	5	5-10
BOT	222—Plant Physiology I	5	5
	Electives in biology, botany, or zoology to be selected with approval of student's major adviser		3-8
			48

4. A minor of 27 or more quarter hours is required. Chemistry or physics is recommended. If a chemistry minor is chosen, the student may substitute courses in biology, botany, or zoology for the chemistry requirements.

5. CHEM 40 or 44, 41 or 45, 141, 142, 147.

6. Biology majors may substitute equivalent hours in biology, botany, or zoology for Science 3 and Science 4.

7. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

Biological Science Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	151—Cellular Biology	5	5
BOT	22—General Botany I	5	5
BOT	23—General Botany II	5	5
ZOO	11—General Zoology—Invertebrate	5	5
ZOO	12—General Zoology—Vertebrate	5	5
	Biology electives to be selected with approval of student's minor adviser		2
			27

Chemistry Major**Bachelor of Arts Degree**

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	40—Principles of Chemistry I	5	
	<i>or</i>		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	<i>or</i>		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis		5
CHEM	141—Organic Chemistry I		5
CHEM	142—Organic Chemistry II		5
CHEM	145—Quantitative Analysis I		5
CHEM	243—Organic Chemistry III		5
CHEM	248—Inorganic Chemistry I		3
PHYS	60—Introductory Physics—Mechanics	4	
PHYS	61—Introductory Physics—Heat, Sound and Light	4	
PHYS	62—Introductory Physics—Electricity and Magnetism	4	
	<i>or</i>		
PHYS	65—General Physics—Mechanics	5	
PHYS	66—General Physics—Electricity	5	
PHYS	67—General Physics—Sound, Light, and Heat	5	12-15
	Chemistry electives to be selected with approval of student's adviser		5-8
			58

4. One minor of 27 or more quarter hours. It is recommended that this minor be in Mathematics.

5. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

Chemistry Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	40—Principles of Chemistry I	5	
	<i>or</i>		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	<i>or</i>		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis		5
CHEM	42—Introductory Organic Chemistry	5	
	<i>or</i>		
CHEM	141—Organic Chemistry I	5	5
	Chemistry electives to be selected with approval of student's minor adviser		7
			27

Earth Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ESCI	130—General Meteorology	4	
ESCI	132—Physical Geology	5	
ESCI	133—Historical Geology	5	
ESCI	134—Introduction to Oceanography	3	
ESCI	221—General Astronomy I: Solar System	4	4
ESCI	222—General Astronomy II: Stellar	3	
ESCI	231—Mineralogy	5	
ESCI	239—Climatology	3	
	Electives to be selected with approval of students major adviser	16	
			48

Electives:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ESCI	229—Seminar in Earth Science	(maximum)	4
ESCI	232—Principles of Stratigraphy and Paleontology		4
ESCI	233—Geologic Field Methods		4
ESCI	234—Geomorphology		4
ESCI	235—Rocky Mountain Geology		3
ESCI	236—Petrography and Petrology		5
ESCI	238—Elementary Physical Meteorology		3
SCI	206—Conservation of Natural Resources		4

4. One minor of 27 or more quarter hours in biology, chemistry, or physics.

5. It is strongly recommended that the student also complete at least ten quarter hours of course work in each of the two science fields not selected as a minor. These courses should be selected from the following:

CHEM 40, 41, and 42 or 46

PHYS 60, 61, and 62

ZOO 11 and 12 and/or BOT 22 and 23

6. Earth Science majors should substitute courses in chemistry or physics, biology, and earth science for the SCI 3, 4, and 5 requirements.

7. Additional electives to complete 180 quarter hours of academic credit required for graduation.

Earth Science Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
ESCI	130—General Meteorology		4
ESCI	131—Introduction to Astronomy		4
ESCI	132—Physical Geology		5
ESCI	133—Historical Geology		5
ESCI	134—Introduction to Oceanography		3
	Earth Science electives to be selected with approval of student's minor adviser		6

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Elementary Science Major**Bachelor of Arts Degree**

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, including ED 252, Internship in Advanced Student Teaching, four hours credit, plus SCED 150, Observation and Participation in Elementary School Science, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BOT	22—General Botany I		5
BOT	23—General Botany II		5
CHEM	40—Principles of Chemistry I	5	
	and		
CHEM	41—Principles of Chemistry II	5	
	or		
PHYS	60—Introductory Physics—Mechanics	4	
	and		
PHYS	61—Introductory Physics—Heat, Sound, and Light	4	8-10
ZOO	11—General Zoology—Invertebrate		5
ZOO	12—General Zoology—Vertebrate		5
ZOO	219—Animal Ecology	5	
	or		
SCI	206—Conservation of Natural Resources	4	4-5
BIO	152—Genetics		5
ESCI	130—General Meteorology		4
ESCI	131—Introduction to Astronomy		4
ESCI	136—General Geology		4

SCI	109—Science for Elementary Teachers	3	
	<i>or</i>		
SCI	203—Elementary Biological Science	3	3
SCED	270—Teaching Science in the Elementary School		3
	Electives to be selected with approval of student's adviser		0-3
			58

Recommended Electives:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	151—Cellular Biology		5
BIO	251—Evolution		3
BIO	254—Aquatic Biology		5
BOT	122—General Bacteriology		5
CHEM	42—Introductory Organic Chemistry		5
ESCI	133—Historical Geology		5
ESCI	239—Climatology		3
PHYS	62—Introductory Physics—Electricity and Magnetism		4
SCI	109—Science for Elementary Teachers		3
SCI	203—Elementary Biological Science		3
SCI	205—Physical Science Concepts		4
SCI	206—Conservation of Natural Resources		4
SCI	209—Aviation and Space Flight		4
ZOO	117—Human Physiology		5
ZOO	219—Animal Ecology		5

4. One minor of 27 or more quarter hours. It is recommended that this minor be in Elementary Education.

5. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

Elementary Science Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
SCI	109—Science for Elementary Teachers		3
SCI	203—Elementary Biological Science		3
SCI	205—Physical Science Concepts		4
SCI	206—Conservation of Natural Resources		4
SCED	270—Teaching Science in the Elementary School		3
	Electives to be selected with approval of student's minor adviser		10
			27

Note: If a student's major is Arts and Sciences in Elementary Education, substitute a subject matter course for SCED 270.

Recommended Electives:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	251—Evolution		3
BOT	22—General Botany I		5
ESCI	130—General Meteorology		4
ESCI	131—Introduction to Astronomy		4
ESCI	136—General Geology		4
SCI	208—Elementary Science Workshop		3
ZOO	11—General Zoology—Invertebrate		5
ZOO	114—Ornithology		3

Science Major (Junior High School Level)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BOT	22—General Botany I		5
BOT	23—General Botany II		5
CHEM	40—Principles of Chemistry I		5
	<i>or</i>		
CHEM	44—Principles of Chemistry IA		5 5

CHEM	41—Principles of Chemistry II	5	
	<i>or</i>		
CHEM	45—Principles of Chemistry IIA	5	5
PHYS	60—Introductory Physics—Mechanics		4
PHYS	61—Introductory Physics—Heat, Sound, and Light		4
ZOO	11—General Zoology—Invertebrate		5
ZOO	12—General Zoology—Vertebrate		5
ESCI	136—General Geology (If an Earth Science Minor is elected, replace ESCI 136 with four hours of additional electives)		4
	Electives*		14
			<hr/> 58

4. One minor of 27 or more hours.

5. Sufficient electives to complete 180 quarter hours of academic credit required for graduation.

*Other courses recommended for adequate preparation in the junior high school science area:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BIO	151—Cellular Biology		5
BIO	152—Genetics		5
BIO	251—Evolution		3
BOT	122—General Bacteriology		5
CHEM	42—Introductory Organic Chemistry		5
ESCI	130—General Meteorology		4
ESCI	131—Introduction to Astronomy		4
ESCI	133—Historical Geology		5
ESCI	238—Elementary Physical Meteorology		3
ESCI	239—Climatology		3
PHYS	62—Introductory Physics—Electricity and Magnetism		4
SCI	206—Conservation of Natural Resources		4
ZOO	117—Human Physiology		5

Physical Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PHYS	65—General Physics—Mechanics		5
PHYS	66—General Physics—Electricity		5
PHYS	67—General Physics—Sound, Light, and Heat		5
PHYS	165—Mechanics I		4
PHYS	166—Electricity and Magnetism I		4
CHEM	40—Principles of Chemistry I	5	
	<i>or</i>		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	<i>or</i>		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis		5
CHEM	141—Organic Chemistry I	5	
	<i>and</i>		
CHEM	142—Organic Chemistry II	5	
	<i>and</i>		
CHEM	243—Organic Chemistry III	5	
			<hr/> 15
	<i>or</i>		
CHEM	42—Introductory Organic Chemistry	5	
	<i>and</i>		
CHEM	145—Quantitative Analysis I	5	
	<i>and</i>		
CHEM	281—Physical Chemistry I	5	
			<hr/> 15
	Physics Electives (200 course)		5
			<hr/> 58

4. Twenty-seven or more quarter hours Mathematics Minor required.
5. Substitute PHYS 68, Modern Physics, for SCI 3 requirement.
6. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.

Physics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.
3. The following required courses in the major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
CHEM	40—Principles of Chemistry I	5	
	<i>or</i>		
CHEM	44—Principles of Chemistry IA	5	5
CHEM	41—Principles of Chemistry II	5	
	<i>or</i>		
CHEM	45—Principles of Chemistry IIA	5	5
CHEM	46—Qualitative Analysis		5
PHYS	65—General Physics—Mechanics		5
PHYS	66—General Physics—Electricity		5
PHYS	67—General Physics—Sound, Light, and Heat		5
PHYS	165—Mechanics I		4
PHYS	166—Electricity and Magnetism I		4
PHYS	162—Electrical Measurements		5
PHYS	268—Atomic Physics		
	<i>or</i>		
PHYS	269—Nuclear Physics I		5
	Physics electives of 200 number or higher to be selected with approval of student's adviser		10
			58

4. Mathematics minor of 27 or more quarter hours.
5. Additional hours of electives to complete 180 quarter hours of academic credit required for graduation.
6. Substitute PHYS 68, Modern Physics, for SCI 3 requirement.

Physics Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
PHYS	65—General Physics—Mechanics		5
PHYS	66—General Physics—Electricity		5
PHYS	67—General Physics—Sound, Light, and Heat		5
PHYS	165—Mechanics I		
	<i>or</i>		
PHYS	166—Electricity and Magnetism I		4
	Physics electives to be selected with approval of student's minor adviser		8
			27

Substitute PHYS 68, Modern Physics, for SCI 3 requirement.

Science Minor for Home Economics Majors

This minor consists of three or four quarters of chemistry and bacteriology (BOT 122) and electives with approval of the minor adviser to complete 27 hours.

Mathematics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit.

3. The following required courses in the major:

Course No.	Course Title	Hours	Credit
MATH	31*—Calculus with Analytic Geometry I	5	5
MATH	32*—Calculus with Analytic Geometry II	5	5
MATH	33*—Calculus with Analytic Geometry III	5	5
MATH	101 —Basic Mathematical Logic	3	3
MATH	102 —Theory of Sets	3	3
MATH	122 —Introduction to Modern Algebra I	4	4
MATH	123 —Introduction to Modern Algebra II	4	4
MATH	131 —Introduction to Mathematical Analysis I	4	4
MATH	132 —Introduction to Mathematical Analysis II	4	4
MATH	141 —Introduction to Modern Geometry I	4	4
MATH	142 —Introduction to Modern Geometry II	4	4
STAT	150 —Elementary Probability Theory	4	4
	Electives: Courses numbered 100 or higher in mathematics, mathematics education, statistics, or applied statistics se- lected with approval of the Mathematics Department	11	11

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*Qualified students may be exempted by examination.

4. One minor of 27 or more quarter hours.

5. Electives to complete requirements for graduation.

Mathematics Minor

Course No.	Course Title	Hours	Credit
MATH	24*#—College Algebra	5	5
MATH	25*#—Plane Trigonometry	5	5
MATH	31* —Calculus with Analytic Geometry I	5	5
MATH	32* —Calculus with Analytic Geometry II	5	5
MATH	122 —Introduction to Modern Algebra I	4	4
	and		
MATH	123 —Introduction to Modern Algebra II	4	4
	or		
MATH	141 —Introduction to Modern Geometry I	4	4
	and		
MATH	142 —Introduction to Modern Geometry II	4	8

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#If student is exempted from MATH 24 and/or 25, electives in mathematics to complete 28 hours must be selected from the following: MATH 101, 102, 122, 123, 141, 142, 203, 222, 250, 281, STAT 150.

*Qualified students may be exempted by examination.

The Mathematics Department adheres to the policy that a student who applies for student teaching in mathematics or who seeks the recommendation of the Department as a prospective teacher of mathematics shall be required to take the methods course in the Mathematics Department.

Social Sciences

Bachelor of Arts Degree

Majors: Social Science, History, Social Studies (Junior High School).

Minors: Social Science, World History History, U. S. History.

Social Science Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit. (See "Advanced Teacher Education—Social Sciences" below for special requirements and prerequisites for admission in the Social Sciences.)

3. The following required courses in the major (72 hours):

	<i>Hours Credit</i>
a. The introductory courses in the five social science fields (GEOG 10, ANT 20, ECON 30, PSCI 40, and SOC 50). Two of these courses <i>must</i> be substituted for the 9 hour General Education requirement in Social Sciences; hence only 16 hours of the introductory courses can be applied to the major	16
b. Advanced electives in one, two, or three social science areas. It is recommended that one of the areas be political science. In each area of concentration that is selected, the following courses must be taken:	32
Anthropology 280 or 281	
Economics 220	
Geography 48 and 221	
Political Science 176 or 275	
Sociology 211 and 291	
c. SS 200—Social Philosophy	3
d. USH 70, 71, 72—United States History I, II, III	9
e. WHS 30, 31, 32—World History I, II, III	12
	72

4. One minor of at least 27 quarter hours.

5. Free electives to complete the 180 quarter hours of academic credit. (Suggested elective: ED 206, Audio-Visual Materials in Education—4 hours.)

Social Science Minor

Thirty-six quarter hours in the areas of anthropology, economics, geography, political science, and sociology. The student, with advisement, will select *one* or *two* of these areas. In each instance, the student will be required to take the introductory course in the area or areas selected. These introductory courses are the following:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
GEOG	10—World Geography	5
ANT	20—General Anthropology	5
ECON	30—Introductory Economics	5
PSCI	40—National Government of the U. S.	5
SOC	50—Principles of Sociology	5

History Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit. (See "Advanced Teacher Education—History" below for special requirements and prerequisites for admission.)

3. The following required courses in the major (72 hours):

	<i>Hours Credit</i>
a. WHS 30, 31, 32—World History I, II, III	12
b. USH 70, 71, 72—United States History I, II, III	9
c. Social Science—twenty-five hours in five social science areas. Two of these courses <i>must</i> be substituted for the 9 hour General Education requirement in Social Sciences; hence only 16 hours of the introductory courses can be applied to the major	16
d. World History 200—Introduction to Historical Research	3
e. Advanced electives:	
At least 12 hours in U. S. History	12
At least 12 hours in World History	12
At least 8 hours in U. S. or World History	8
	72

4. One minor of at least 27 quarter hours.

5. Free electives to complete the 180 quarter hours of academic credit required for graduation. (Suggested elective: ED 206, Audio-Visual Materials in Education—4 hours.)

World History Minor

Twenty-seven quarter hours in World History. The following courses are required:

	<i>Hours Credit</i>
World History 30, 31, 32	12
Advanced electives in World History	15

In lieu of SS 81, 82, 83 world history minors will take 9 hours in social science or history (USH 70, 71, 72). (Consult your adviser.)

United States History Minor

Twenty-seven quarter hours in United States History. The following courses are required:

	<i>Hours Credit</i>
United States History 70, 71, 72	9
Advanced electives in United States History	18

In lieu of SS 81, 82, 83, American history minors will take 9 hours in social science or history (WHS 30, 31, 32). (Consult your adviser.)

Social Studies Major (Junior High School)

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours plus six quarter hours of physical education activity courses.

2. Advanced Teacher Education, 29 hours, plus ED 140, two hours credit, and ED 141, three hours credit. (See "Advanced Teacher Education—Social Studies below for special requirements and prerequisites for admission in the Social Studies.)

3. The following required courses in the major (72 hours):

	<i>Hours Credit</i>
a. The introductory courses in the five social science fields (GEOG 10, ANT 20, ECON 30, PSCI 40, and SOC 50). Two of these courses <i>must</i> be substituted for the nine hour General Education requirement in Social Sciences; hence, only 16 hours of the introductory courses can be applied to the major	16
<i>Course No.</i>	<i>Course Title</i>
b. GEOG	48—Anglo-America
GEOG	250—Geography of Colorado
PSCI	171—State and Local Government
PSCI	275—The United Nations
SOC	104—Marriage and the Family
SOC	201—Delinquency
	Advanced Electives in Social Sciences
c. WHS	30, 31, 32—World History I, II, III
USH	70, 71, 72—United States History I, II, III
USH	250—History of Colorado
USH	253—Great Men in American History
d. SSED	231—Instructional Materials for the Social Studies in the Junior High School
	2

72

4. One minor of at least 27 quarter hours.

5. Free electives to complete the 180 quarter hours of academic credit. (Suggested elective: ED 206, Audio-Visual Materials in Education—four hours.)

Advanced Teacher Education—Social Sciences

1. The faculty of the Social Sciences will not consider any student's application for the ATE program until he has passed at least twenty-one hours in social science and/or history, and until he has passed at least eight hours of social science and/or history at Colorado State College. General Education courses SS 81, 82, and 83 are not counted.

2. To be admitted to ATE one must have a grade point average of at least 2.0 in the major. In figuring the grade point average in the major *only*

courses taken at Colorado State College are counted excluding the General Education courses, SS 81, 82, and 83.

3. Before one can register for ED 140 and ED 141 one must have completed ED 101 and PCG 140, and the following courses or their equivalents in the relevant major:

	<i>Credit Hours</i>
Social Science Major	
All five introductory courses in the social sciences	25
USH 70, 71, 72—U. S. History I, II, III	9
	34

4. Before one may register for ED 251, Student Teaching, all majors in the Social Sciences must have completed at least 40 hours in the major.

Advanced Teacher Education—History

1. The faculty of the History Department will not consider any student's application for the ATE program until he has passed at least twenty-one hours in social science and/or history, and until he has passed at least eight hours of social science and/or history at Colorado State College. General Education courses are not counted.

2. To be admitted to ATE one must have a grade point average of at least 2.0 in the major. In figuring the grade point average in the major *only* courses taken at Colorado State College are counted excluding the General Education courses or their substitutes.

3. Before one may register for ED 140 and ED 141 one must have completed ED 101 and PCG 140, and the following courses or their equivalents in the relevant major:

	<i>Credit Hours</i>
History Major	
USH 70, 71, 72—U. S. History I, II, III	9
WHS 30, 31, 32—World History I, II, III	12
Two of the introductory courses in the social sciences	10
Advanced electives in history	3
	34

4. Before one may register for ED 251, Student Teaching, all majors in History must have completed at least 40 hours in the major.

Advanced Teacher Education—Social Studies

1. The faculty of the Social Sciences will not consider any student's application for the ATE program until he has passed at least twenty-one hours in social science and/or history, and until he has passed at least eight hours of social science and/or history at Colorado State College. General Education courses SS 81, 82, and 83 are not counted.

2. To be admitted to ATE one must have a grade point average of at least 2.0 in the major. In figuring the grade point average in the major *only* courses taken at Colorado State College are counted excluding the General Education courses, SS 81, 82, and 83.

3. Before one can register for ED 140 and ED 141 one must have completed ED 101 and PCG 140, and the following courses or their equivalents in the relevant major.

	<i>Credit Hours</i>
Social Studies Major	
All five introductory courses in the social sciences	25
USH 70, 71, 72—U. S. History I, II, III	9
	34

4. Before one may register for ED 251, Student Teaching, all majors in the Social Studies must have completed at least 40 hours in the major.

PROGRAMS IN APPLIED AND PROFESSIONAL STUDIES

Aerospace Studies

History—Air Force ROTC was first established in 1946 in leading colleges and universities as a part of the Army's ROTC program. Formal control of its own ROTC program was assumed by the Air Force at college level on July 1, 1949, and introduced at Colorado State College in the Fall Quarter of 1951. The ROTC Vitalization Act of 1964 modified the traditional four-year program to enable transfer students to compete for an Air Force commission through a two-year program.

Purpose—The Air Force ROTC mission is, through a college campus program, to commission career-oriented Second Lieutenants in responses to Air Force requirements.

Objectives—1. Identify, motivate, and select qualified college students to complete the Air Force ROTC program.

2. Provide college level education which will qualify cadets for commissioning in the USAF.

3. Heighten each cadet's appreciation of and dedication to American principles.

4. Increase each cadet's understanding of how the United States Air Force serves the national interest.

5. Develop each cadet's potential as a leader and manager.

6. Develop in each cadet an understanding of officer professionalism in the United States Air Force.

7. Commission in the United States Air Force Second Lieutenants who:

a. Are dedicated to their assignment.

b. Accept responsibility willingly.

c. Think critically and creatively.

d. Speak and write effectively.

General Information—The Air Force ROTC program is the primary source of junior officers for the United States Air Force. The Division of Aerospace Studies offers a program which prepares students to become flying and non-flying officers in the Air Force.

Physically qualified commissioned Air Force ROTC graduates are eligible to apply for pilot or navigator training in the grade of Second Lieutenant with all pay and allowances of that grade.

The prospective nonflying officer can expect to be commissioned in a specialty that closely resembles and utilizes his academic major.

AFROTC Program

The AFROTC program is integrated with the regular college academic degree requirements to permit the student to receive undergraduate credit for courses in Aerospace Studies. Upon successful completion of the AFROTC program and attainment of a degree, the student will be commissioned as a Second Lieutenant in the United States Air Force Reserve.

The Air Force ROTC, at Colorado State College, offers both a two-year and a four-year campus program. Both programs are elective and lead to an Air Force commission.

Four-Year Program—The four-year program requires student participation during four academic years. During the first two years, while enrolled in the General Military Course (GMC), a cadet must apply and be qualified mentally, physically, and morally to be accepted into the Professional Officer Course (POC). Those selected will normally enter the POC at the beginning of their junior year on campus. A cadet will be commissioned in the Air Force Reserve upon: (1) completion of the POC, (2) a four-week Field Training Course at a designated Air Force base between the junior and senior year, and (3) upon

receipt of a college degree. (Prior active duty military service for a minimum of four months with any branch of the Armed Forces may be applied [at the discretion of the PAS] toward the required two years of the GMC.)

Two-Year Program—A student must have two years of undergraduate or graduate study remaining to be eligible to apply for the two-year program. He must be physically and mentally qualified and recommended by an AFROTC interview board for attendance at a six-week Field Training Course. After successful completion he is eligible for formal enrollment in the POC. (The six-week Field Training Course is a modified version of the GMC, and it serves to qualify two-year program students for entry into the POC.) On completion of the POC and receipt of his college degree he will be commissioned in the Air Force Reserve.

Flight Instruction Program—Senior students scheduled for flight training as officers are given 36½ hours of flight instruction with opportunity to obtain an FAA private pilot's license.

General Information—Military textbooks, a complete blue Air Force uniform and additional equipment are furnished to AFROTC students by the Air Force.

Professional Officer Course students receive pay of \$40.00 per month during the school year while earning their commission. Pay during the summer training course is increased to \$120.00 per month plus compensation to cover travel, food and lodging.

General Military Course students may substitute the 4 quarter hours of AFROTC Corps Training for 4 of the required 6 quarter hours of physical education activity courses.

Deferment—Military deferment for students enrolled in the AFROTC program and in good standing is permitted by the National Selective Service Act. Students become eligible for deferment in the winter quarter of the freshmen year. This is made possible by the need of the Air Force for college graduates for Air Force Commissioned Officers. This deferment, under present Department of Defense policies, will remain in effect should a national emergency arise.

To qualify for an AFROTC deferment a student must willingly assume the following obligations:

1. To enroll in, and satisfactorily complete, the AFROTC course of instruction (contingent upon remaining in school).

2. Upon graduation and completion of the AFROTC course, to accept a reserve commission in the United States Air Force. The commission must be retained in an active status for a period of six years by serving as a member of the regular or reserve component.

3. After graduation to serve on active duty for a period of not less than four years (five years if a pilot or navigator) if called by the Secretary of the Air Force.

Deferment of AFROTC students will be terminated if the student:

1. Fails to remain in good standing in either his military or academic courses.

2. Fails to demonstrate sufficient aptitude.

3. Fails to enroll in an AFROTC course during any quarter in which he normally is expected to be in attendance.

4. Fails to attend summer camp when ordered to do so.

General Military Course

The General Military Course is open to all incoming male freshmen provided they meet the following prerequisites:

1. Citizen of the United States.

2. Full-time student.

3. No record of previous convictions by military or civil court.

4. Pass AFROTC Pre-Enrollment Test.

5. Pass pre-enrollment medical screening examination.

Veterans desiring to enroll in the AFROTC program will be excused from certain course requirements as deemed appropriate by the Professor of Aerospace Studies.

The General Military Course is of two years duration and includes Aerospace Studies (AS) 11, 15, 21, 22, 24, 25, 104 and 106.

The freshman enrolls in the following courses:

Fall Quarter

Course No.	Course Title	Hours	Credit
AS	11—Corps Training I		1*
AS	22—World Military Systems I		1

Winter Quarter

AS	24—World Military Systems II		2
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Spring Quarter

AS	15—Corps Training II		1*
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The sophomore enrolls in the following courses:

Fall Quarter

Course No.	Course Title	Hours	Credit
AS	21—Corps Training III		1*

Winter Quarter

AS	104—World Military Systems III		2
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Spring Quarter

AS	25—Corps Training IV		1*
AS	106—World Military Systems IV		1

*The 4 quarter hours of AFROTC Corps Training may be substituted for 4 of the required 6 quarter hours of physical education activity courses. These hours do not apply toward the required 180 hours of academic credit.

Professional Officer Course

The Professional Officer Course is a two-year course of instruction with emphasis on subjects which will develop in the cadet a high growth potential as an Air Force officer. The AFROTC curriculum has been up-dated and is totally new. All courses are student-centered and meet 3 hours per week for 3 hours credit. Pilot trainees in addition will be required to take 36½ hours of flight instruction.

Eligibility Requirements—To be eligible for enrollment in the Professional Officer Course the student must submit an application to the Professor of Aerospace Studies. This application will include:

1. Documentary evidence of completion of the General Military Course from any college or university with an ROTC detachment or successful completion of a six-week Field Training Program at an Air Force base prior to entering the Professional Officer Education Program. Veterans will submit a photostatic copy of discharge to support active service in lieu of the General Military Education Program.

2. Documentary evidence of age.

3. A statement that the student will attend an Air Force ROTC Field Training Program of four weeks duration during his summer vacation between the junior and senior years. (Cadets enrolled in the two-year program are exempt from this requirement.)

4. A statement that, upon successful completion of the course and graduation, the student will accept a commission as a Second Lieutenant if tendered and complete his service obligation. Also, the student will serve a minimum of four or five years of active duty, if called by the Secretary of the Air Force.

5. Willingness to enlist in the Air Force Reserve (IRS) only for the purpose of being in the Professional Officer Course of the AFROTC.

6. A statement that the student will arrange his student teaching to permit his continued attendance of military classes on the campus.

7. A statement that the student has never been convicted by military or civil court. (A waiver can be requested for those students who have been found guilty of minor violations.)

8. Academic record and results of general survey and screening tests.

Selection for the Professional Officer Course— The Professor of Aerospace Studies will select those applicants found to be the most highly qualified for enrollment.

Required Courses in the Professional Officer Course:

Course No.	Course Title	Hours	Credit
AS	216—Growth and Development of Aerospace Power I		3
AS	218—Growth and Development of Aerospace Power II		3
AS	220—Growth and Development of Aerospace Power III		3
AS	256—The Professional Officer I		3
AS	258—The Professional Officer II		3
AS	260—The Professional Officer III		3
AS	263—Flight Instruction		3*

*AS 263 (Flight Instruction) is required for all pilot trainees; however, enrollment for the ground school class is open to any interested student.

Benefits and Allowances for the Professional Officer Course

1. Commission in either the Regular Air Force or the United States Air Force Reserve.
2. Deferment from induction under Selective Service.
3. Officer-type uniform furnished by the government.
4. Monetary allowances:
 - a. \$40 per month for students enrolled in the Professional Officer Course (maximum 20 months).
 - b. \$120 per month while attending the advanced four-weeks summer Field Training Course.
 - c. Travel allowance of six cents per mile to and from camp site.
5. Academic credit minimum of three hours each quarter.
6. AFROTC texts will be furnished on a loan basis.
7. Opportunity for graduate training in civilian institutions after call to active duty. Such training is accomplished with full pay and allowances.
8. Thirty-six and one-half hours of flying time for all potential Air Force pilot trainees. (Flying time may be credited toward a private pilot's license.)

AFROTC Financial Assistance Grants—The Air Force awards a limited number of two-year Financial Assistance Grants to selected cadets in the Professional Officer Course. The grants include full tuition, fees, a quarterly allowance for books, plus \$50 per month. The cadets who are selected to receive the grants must be enrolled in the four-year AFROTC program. Cadets in the two-year program are not eligible for these grants.

Staff and Equipment—Air Force personnel are detailed by Headquarters, United States Air Force, as instructors in the AFROTC unit. The Professor of Aerospace Studies, as well as his officers and airmen assistants are highly qualified and are usually combat duty veterans.

Equipment for instruction is furnished by the Air Force, including many training aids, mock-ups, and visual training charts pertaining to the subjects taught.

Business

Majors: Business with specializations in Accounting, Finance, Management or marketing; Secretarial (two-year non-degree).

Minor: Business.

Business Major

Bachelor of Science Degree

The following program is required:

1. General Education totaling 45 academic hours, plus six hours of physical education activity.
2. The required courses listed in the Business Core plus the required courses in one of the areas of specialization plus business electives for a total of 80 quarter hours.
3. Fifty-five hours of free electives to complete the 180 quarter hours of academic credit required for graduation.
4. A minor is not required.

Business Core

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	1 -The American Business System	5	
BUS	10*-Typewriting I	0	
BUS	20 -Principles of Accounting I	4	
BUS	21 -Principles of Accounting II	4	
BUS	30 -Introduction to Business Law	3	
BUS	70 -Principles of Finance	3	
BUS	115 -Business Communications	3	
BUS	150 -Principles of Management	5	
BUS	190 -Mathematics for Management	3	
BUS	191 -Business Statistics I	3	
BUS	280 -Systems and Procedures	3	
ECON	30 -Introductory Economics	5	
ECON	102 -Contemporary Economic Problems	3	

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*One year of typwriting in high school may be substituted.

Specialization in Accounting

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	22-Principles of Accounting III	4	
BUS	120-Intermediate Accounting I	3	
BUS	121-Intermediate Accounting II	3	
BUS	122-Cost Accounting	5	
BUS	131-Principles of Business Law	5	
BUS	221-Advanced Accounting	5	
BUS	228-Income Tax Accounting I	3	

At least six hours of additional accounting chosen from among the

following:

BUS	223-Governmental and Institutional Accounting	(3)	
BUS	227-Auditing	(4)	
BUS	229-Income Tax Accounting II	(3)	6
	Electives in Business		2

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Specialization in Finance

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	240-Introduction to Insurance	3	
BUS	256-Business Policies and Management	3	
BUS	270-Financial Management	3	
BUS	271-Investments	3	
ECON	202-Money and Banking	5	
ECON	241-Public Finance	5	
	Electives in business		14

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Specialization in Management

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	22-Principles of Accounting III	4	
BUS	122-Cost Accounting	5	
BUS	192-Business Statistics II	3	
BUS	253-Personal Management	5	
BUS	256-Business Policies and Management	3	
BUS	270-Financial Management	3	
ECON	277-Government and Business	3	
	Electives in Business		10

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Specialization in Marketing

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	22-Principles of Accounting III	4	
BUS	60-Marketing	3	
BUS	61-Salesmanship	3	
BUS	161-Retail Management	4	
BUS	162-Advertising	3	
BUS	256-Business Policies and Management	3	
BUS	260-Marketing Strategy	3	
BUS	262-Marketing Research	3	
	Electives in Business		10

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Secretarial Major (Two-Year Non-Degree Program)

The following program is required:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	1—The American Business System	5	5
BUS	11—Typewriting II	4	4
BUS	12—Tepewriting III	4	4
BUS	13—Secretarial Machines	2	2
BUS	14—Records Management	2	2
BUS	16—Beginning Gregg Shorthand	4	4
BUS	17—Intermediate Gregg Shorthand	4	4
BUS	18—Advanced Shorthand	4	4
BUS	19—Shorthand Transcription	4	4
BUS	20—Principles of Accounting I	4	4
BUS	21—Principles of Accounting II	4	4
BUS	30—Introduction to Business Law	3	3
BUS	80—Introduction to Business Data Processing	2	2
BUS	81—Data Processing—Unit Record	3	3
BUS	90—Calculating Machines and Business Arithmetic	4	4
BUS	110—Secretarial Procedures	3	3
BUS	115—Business Communications	3	3
BUS	252—Office Management	3	3
COM	1—Elementary Composition I	3	3
COM	2—Elementary Composition II	3	3
COM	3—Principles of Speech	3	3
PCG	20—General Psychology	3	3
	Business Electives	16	16
		<hr/>	<hr/>
		Minimum	90

Business Minor

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
BUS	1—The American Business System	5	5
BUS	20—Principles of Accounting I	4	4
BUS	21—Principles of Accounting II	4	4
BUS	30—Introduction to Business Law	3	3
BUS	115—Business Communications	3	3
BUS	150—Principles of Management	5	5
ECON	30—Introductory Economics	5	5
		<hr/>	<hr/>
		Minimum	29

Home Economics

Majors: Dietetics, Home and Family Living.

Minor: Home and Family Living.

Dietetics Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. At least 58 quarter hours in Dietetics.
3. One minor of 30 quarter hours in the Division of the Science to include BOT 122, General Bacteriology (five hours); CHEM 40, Principles of Chemistry I (five hours); CHEM 41, Principles of Chemistry II (five hours); CHEM 42, Introductory Organic Chemistry (five hours); CHEM 147, Biochemistry (five hours).
4. Electives to complete requirements for graduation.

Home and Family Living Major

Bachelor of Arts Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours, plus six quarter hours of physical education activity courses.
2. At least 57 quarter hours in Home Economics.
3. One minor of 27 quarter hours.
4. Electives to complete requirements for graduation.

Home and Family Living Minor

Course No.	Course Title	Hours	Credit
HEC	70—Clothing Selection	2	
HEC	71—Textile Fundamentals	3	
HEC	72—Elementary Clothing Construction	3	
HEC	94—Elementary Cookery and Food Service	4	
HEC	98—Basic Nutrition	3	
HEC	191—Management in Family Living	3	
HEC	203—Development and Guidance of the Young Child	3	
	Electives in Home Economics	6	
		<hr/>	27

Nursing

Nursing Major

Bachelor of Science Degree

The following is the required program:

1. General education, foundation, and contributory courses totaling 91 quarter hours.
2. Nursing courses totaling 83 quarter hours.
3. Sufficient electives to complete 180 quarter hours of academic credit.
4. Six quarter hours of physical education activity courses. These should be taken the freshman and sophomore years.

Freshman Year

Course No.	Course Title	Hours	Credit
COM	1—Elementary Composition I	3	
COM	2—Elementary Composition II	3	
COM	3—Principles of Speech	3	
PCG	20—General Psychology	3	
PSCI	40*—National Government of the U. S.	5	
SOC	50—Principles of Sociology	5	
CHEM	40—Principles of Chemistry I	5	
CHEM	41—Principles of Chemistry II	5	
CHEM	42—Introductory Organic Chemistry	5	
NURS	10—Introduction to Nursing	3	
HPER	—Physical Education Activity Courses	3	
	Elective	3	
		<hr/>	46

*Students may substitute ANT 20, GEOG 10, ECON 30 or USH 75 for PSCI 40.

Sophomore Year

Course No.	Course Title	Hours	Credit
HUM	1—Introduction—The Greek and Roman Periods	3	
HUM	2—The Middle Ages and the Renaissance	3	
HUM	3—The Eighteenth to the Twentieth Century	3	
CHEM	147—Biochemistry	5	
ZOO	12—General Zoology—Vertebrate	5	
ZOO	112—Mammalian Anatomy	5	
ZOO	117—Human Physiology	5	
BOT	122—General Bacteriology	5	
HEC	98—Basic Nutrition	3	
PCG	21—General Psychology and Human Performance	3	
PCG	30—Human Growth Processes and Developmental Tasks	3	
HPER	—Physical Education Activity Courses	3	
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Junior Year

(Summer Quarter)

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
NURS	100—Basic Principles of Nursing	10	
NURS	101—Pharmacology	3	
(Fall, Winter, Spring)			
NURS	102—Maternity Nursing	10	
NURS	103—Medical-Surgical Nursing	10	
NURS	104—Psychiatric Nursing	10	
PCG	142—Teaching Learning Process	3	
HEC	282—Nutrition in Disease	3	
	Elective	3	
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Senior Year

<i>Course No.</i>	<i>Course Title</i>	<i>Hours</i>	<i>Credit</i>
NURS	200—Public Health Nursing	10	
NURS	201—Preventive Medicine and Public Health	3	
NURS	202—Nursing of Children	10	
NURS	203—Advanced Medical-Surgical Nursing	12	
NURS	204—Trends in Nursing	2	
	Elective	3	
			40

Policy for Admission of Students to the Nursing Major

Lower Division—Applicants seeking admission to the Division of Nursing must meet the general admission requirements of the college. It is highly recommended that students planning for a career in nursing include chemistry, physics, and mathematics in the required 15 secondary school units. Studies indicate that students with high grades in mathematics, science and English are most likely to succeed in nursing.

In addition to the general health requirements, applicants to the nursing program must bring the following immunizations up to date before entering college: smallpox, diphtheria, tetanus, typhoid, and polio.

Application is made to the Colorado State College Office of Admissions. Upon admission students planning to major in nursing are enrolled in the required pre-nursing program. Each student shall complete during the first quarter on campus the Minnesota Multiphasic Personality Inventory in addition to other required matriculation tests.

Upper Division—After completing 75 hours of the required program students must make application to the Division of Nursing to continue the nursing major program. A personal interview with a Division of Nursing faculty member is required.

Only those applicants who have met the academic requirements of the college will be considered. Students must have a cumulative grade point average of C. In addition, they must have demonstrated personal and social qualities appropriate for professional nursing. These include: desire and ability to master the knowledge and skills required to practice nursing; strong sense of responsibility; emotional stability; ability to work well with people; and a genuine desire and willingness to help others.

A nursing selection and promotion committee will review each applicant's academic progress, personal adjustment, health status, and suitability for nursing. Educational records, nurse faculty adviser's observations, physical examinations and health records, personal interviews, and all available information about overall college performance are used to determine eligibility. Students who satisfy these requirements will be accepted for the nursing major program.

Policy for Promotion and Graduation of Nursing Students

Promotion—Pre-nursing students must have a cumulative average of C at the end of the sophomore year. An average of C each quarter in the nursing major is required for promotion without condition. A grade below C in any clinical nursing course or an average for a quarter which is less than C places a student on probation for the succeeding quarter.

At the end of each quarter of the nursing major the student's progress is considered by the nursing selection and promotion committee. Accomplishments

in theory and practice, relationships with patients and others, and general development are considered. The Division of Nursing faculty reserves the right to place on probation or to recommend withdrawal from the nursing major of any student who, in their judgment, fails to satisfy the requirements of scholarship, health, nursing performance, or personal suitability for nursing.

Graduation—The degree of Bachelor of Science in nursing will be granted by Colorado State College upon the recommendation of the faculty of the Division of Nursing for those who have successfully completed the prescribed curriculum with an average of C or above.

Policies for Attending Nursing Classes

Attendance is expected at all nursing classes, laboratory and clinical assignments. Excused absence may be granted only upon the permission of the instructor in charge or the Chairman of the Division. Students who are unable for any reason to report for nursing practice as assigned are required to report to the instructor, or to the Division of Nursing office, not less than one hour prior to the time the assignment is scheduled. No unexcused absences are allowed.

Students are responsible to the instructor in charge for making up any work missed due to illness, leave of absence or non-attendance for any reason. The number of excused absences allowed for each course will be determined by the instructor in charge on the basis of the nature of the content and activities missed and the ability of the student. Students who are unable to meet the objectives of a clinical nursing course due to excessive excusable absences will be required to withdraw and repeat the course. If the course is not offered in the succeeding quarter it may be necessary for the student to discontinue further study until the course is offered again.

Health Policies for Nursing Majors

At the time the student makes application to the nursing major a health examination by a Student Health Service physician is required. The examination shall include the following:

1. Immunizations: smallpox, typhoid-paratyphoid, adult tetanus, diphtheria, and polio.
2. A tuberculin skin test.
3. A large chest x-ray at the student's expense.
4. Examination and conference.

During the spring quarter of the senior year all nursing majors planning to graduate shall complete the following:

1. Repeat tuberculin skin test.
2. If the tuberculin skin test is positive, a large chest x-ray.
3. Immunizations shall be brought up to date.

Additional Expenses for Nursing Majors

In addition to the regular tuition and fees, nursing majors have the following expenses:

<i>Year</i>	<i>Quarter</i>	<i>Item</i>	<i>Amount*</i>
Sophomore	Spring	Uniforms and caps	55.00
		Chest x-ray	10.00
Junior	Summer	White shoes	10-15.00
		Name pin	.50
		Bandage scissors	1.50
		Watch with second hand (May be inexpensive)	Variable
		School pin	12.95
Senior	Spring	Chest x-ray	10.00

*Costs listed above are approximate and are subject to change.

Public health nursing is offered either the fall, winter, or spring quarter of the senior year. During the quarter students are enrolled in this course they may visit clinics, schools, and patients in their homes anywhere in Weld County. Use and maintenance of a car, a current Colorado driver's license and liability insurance are a requirement. These are at the student's expense.

Recreation

Recreation Major for Men and Women

Bachelor of Science Degree

The following is the required program:

1. General Education totaling 45 academic quarter hours. For women, HPER 80, 81, 89, 95 and 98 will be substituted for the six hours of physical education activity courses required as a part of the General Education; for men, HPER 70, 71, and 72 will be substituted for the above six hours.

2. Course requirements listed for the Recreation Major:

<i>Course No.</i>	<i>Course Title</i>	<i>Hours Credit</i>
HPER	62—First Aid	2
HPER	74—Theory and Practice of Swimming (Men)	2
	<i>and</i>	
HPER	77—Theory and Practice of Track (Men)	2
	<i>or</i>	
HPER	84—Techniques of Tennis and Softball (Women)	2
HPER	88—Physical Education Activities for the Elementary School	2
HPER	90—Techniques in Folk Dance	2
HPER	92—American Square and Social Dance	2
HPER	97—Introduction to Health, Physical Education, and Recreation	2
SP	112—Children's Theatre	3
FA	127—Craft Techniques	3
HPER	172—Social Recreation	2
HPER	173—Camp Counseling	3
MUS	206—Music and Recreation	2
HPER	235—Educational Interpretations of Health, Physical Education, and Recreation	3
PCG	230—Psychology of Childhood and Adolescence	3
HPER	251—Administration of Community Recreation	4
HPER	268—Programs in Recreation	4
HPER	269—Recreation for the Handicapped	3
HPER	271—Safety Education	3
HPER	272—Recreation Leadership	3

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3. One minor of 27 quarters hours, or 27 quarter hours of supporting courses selected with approval of the major adviser.

4. Senior recreation majors will complete HPER 252, Internship in Recreation, 15 hours.

5. Electives to complete requirements for graduation.

GRADUATE PROGRAMS

Program—Colorado State College offers advanced programs of professional work leading to the Master of Arts degree, Specialist in Education degree, Doctor of Education degree, and Doctor of Philosophy degree. Graduate study was first offered during the Summer Session of 1913, and the first master's degree was conferred in June, 1914. In 1929 the Board of Trustees authorized the college to provide a program leading to the doctor's degree, and in 1952 the specialist's degree was approved.

Organization—The Graduate Council is the legislative body for graduate work. Each of the instructional schools and divisions of the college offering a graduate program is represented on the Graduate Council.

Admission—All candidates for the graduate degree must file with the Dean of the Graduate Division an application in triplicate and two copies of certified transcripts of all previous academic credits preferably *thirty days before registration*. Students failing to make formal application for admission prior to the date of registration should expect a delay in completing enrollment while IBM materials are being prepared. The College requires that the Graduate Record Examination aptitude section (verbal and quantitative) scores accompany the doctoral application. If a student scores below the minimum acceptable score in the aptitude section he will be denied admission to the "formal" doctoral program.

All classified graduate students, and all graduate students enrolled in a Teacher Certification program, are required to take the English usage examination, consisting of an objective English usage test and an essay.

Students scoring at the 80th percentile and above in the English usage test are excused from the Writing Laboratory requirement.

Students in the Master of Arts program scoring in the 20th through the 79th percentiles on the standardized English usage examination are excused from the Writing Laboratory for Graduate Students providing they have written an acceptable essay.

Students in the Specialist in Education, Doctor of Education and Doctor of Philosophy programs scoring in the 40th through the 79th percentiles are excused from the Writing Laboratory for Graduate Students requirement on the basis of an acceptable essay.*

A non-credit Writing Laboratory for Graduate Students (0300) will be required of those students who fail to meet these minimum standards. Students who are required to enroll in the Writing Laboratory must attain a satisfactory level of proficiency. Students who fail to satisfactorily complete 0300 by the end of their second attempt will have their degree programs terminated. This requirement must be met before a student will be permitted to take the comprehensive examination in any degree program.

Health—Prior to final admission and following a medical examination by a qualified medical practitioner, a student shall submit to the Student Health Service of the college a health report which is acceptable to the staff of the Student Health Service indicating the student is in good physical and mental health, has no communicable disease, and has no defects or deficiencies which would hinder satisfactory progress in his chosen curriculum.

Photograph—Each student is required to furnish two photographs, application size of 3 by 4 inches, for the official files of the college. These photographs are for identification purposes only and not a criterion for admission.

Courses for Seniors—Senior students may, in their last quarter of academic undergraduate study, register for graduate courses which are in excess of the requirements for the bachelor's degree when formal application for admission to the Master of Arts program is filed prior to the final quarter. Students will be held for final examinations in the courses taken for graduate credit.

*Master of Arts students continuing into the doctoral or specialist degree program who scored in the 40th percentile or above on the standardized test and who were judged competent on the written essay examination, hence, exempted from the 0300 Writing Laboratory requirement, are excused from retaking the English usage examination.

Registration and Advisement—The Dean of the Graduate Division will request the department, division, or school chairman or dean to appoint an adviser for those students who have completed admission requirements. All degree programs will be planned with and approved by the student's adviser.

Graduate students who are not candidates for advanced degrees will register as unclassified students. However, each student is urged to plan a degree program at the beginning of his graduate experience. None of the work taken by a graduate student who is enrolled in an unclassified status may be counted in meeting the minimum residence requirements. All residence requirements must be completed after the student has been admitted to a degree program. The Assistant to the Dean of the Graduate Division, or one designated by him, must sign the registration forms of all unclassified graduate students.

Student Responsibility—The graduate student is expected to know the requirements for the degree he plans to earn. While the personnel of the Graduate Office and the student's adviser will endeavor to aid in every way possible, the responsibility for any error in his enrollment or in the interpretation of the rules rests with the student.

Course Load, Credit, and Off-Campus Courses—The normal load for graduate credit applicable to a degree is fifteen hours per quarter. Overloads (above 15 quarter hours) must be approved by the Dean of the Graduate Division.

Students holding full-time teaching contracts may not carry more than five quarter hours during any quarter in which they are in full-time employment.

With the exception of ED 251, Student Teaching, all courses bearing catalog numbers of 200 or above carry graduate credit.

Graduate credit is not given for any courses taken by correspondence.

A student may earn a maximum of nine quarter hours of credit applicable to the master's degree in off-campus courses or Tele-Lecture courses taught by regular full-time Colorado State College faculty members. No off-campus credit is applicable to the specialist or doctorate degrees.

Grading System—Alphabetical grades are used: A, B, C, D, F. Other marks used are "Inc." incomplete; "W" approved withdrawal; "TF" unapproved withdrawal; "WF" failing at withdrawal. An "Inc." must be removed within the first four weeks of the succeeding quarter or it automatically becomes a grade of "IF."

Each of the letters of the grading system has a numerical value. The letter "A" has a value of 4 points per unit of credit; "B" a value of 3 points; "C" a value of 2 points; "D" a value of 1 point; and "F" a value of zero.

Scholastic Average—Candidates for the Master of Arts degree must maintain a minimum grade point average of 2.66 (B—) each quarter; candidates for the Specialist in Education of 2.8 (B—); Doctor of Education and Doctor of Philosophy degrees must maintain a minimum grade point average of 3.00 (B) each quarter.

Late Enrollment—No student will be permitted to enroll in a course after the first week of the Fall, Winter, Spring and Summer quarters. This regulation applies to new registrations and to students wishing to change programs.

Attendance at the first day of every class is of utmost importance to the student, the faculty, and the staff; hence all students are expected to register at the designated time and attend the first meeting of each class. Permission to register after the date for registration stated in the college catalog must be obtained from the Assistant Dean of Students for undergraduate students or the Dean of the Graduate Division for graduate students. The late registration fee will be charged all students who complete registration later than the stated catalog date.

Withdrawal from Class—No withdrawals from classes are permitted during the last two weeks of a quarter. Withdrawals prior to the final two weeks must have the approval of the candidate's adviser. If a student discontinues class attendance he must withdraw *officially* from the course or a grade of TF (Technical Failure) will be recorded.

English Style-Form Standards—The student's written material must conform with *A Manual for Writers of Term Papers, Theses and Dissertations*, by Kate L. Turabian. This manual is available for purchase in the College Bookstore.

Teacher Certification—A student who holds a baccalaureate degree and who wishes to meet teacher certification requirements must enroll as either an unclassified or classified graduate student.

The successful completion of a graduate degree program does not automatically earn institutional recommendation for the certification of the degree recipient. Both degree seeking and unclassified graduate students who have not completed an accredited undergraduate teacher education program or who wish to become certified in a subject area other than the one for which they prepared at the undergraduate level must apply for admission to the Graduate Student Certification Program.

Additional information on the Teacher Certification program can be obtained by writing to the Assistant to the Dean of the Graduate Division, Colorado State College.

In some cases some of the credits earned to meet certification requirements may also be used to partially satisfy the requirements for a Master of Arts degree.

Limitations on Enrollment—1. The first regular quarter in residence is a trial quarter.

2. Members of the faculty of Colorado State College above the rank of instructor are not permitted to enter any graduate degree program.

MASTER OF ARTS DEGREE

The degree of Master of Arts is offered in the School of Arts and Sciences, the School of Education and in the Divisions of Arts; Business; Health, Physical Education and Recreation; and Music. Majors are offered as follows:

ARTS

Fine Arts; Home Economics; Industrial Arts

BUSINESS EDUCATION

EDUCATION

Audio-Visual Education; Educational Administration (Elementary,¹ Junior High School,¹ Secondary,¹); Elementary Education (Content, Developmental Reading, or Remedial Reading); Junior High School Curriculum and Instruction; Psychology, Counseling and Guidance;² Reading; Secondary Education: Curriculum and Instruction; Special Education (Acoustically Handicapped, Audiology, Mentally Retarded, Physically Handicapped, Socially and Emotionally Disturbed, Speech Correction, Visually Handicapped); Vocational Rehabilitation Counseling³

Limited Emphasis—Outdoor Education (elective credit and thesis)

HEALTH, PHYSICAL EDUCATION, AND RECREATION

Health Education; Physical Education (Dance, Recreation, or Supervision¹)

HUMANITIES

English; Speech and Drama

MUSIC

Applied Music and Performance; Music Education; Supervision of Music¹

SCIENCES

Biological Science; Botany;⁴ Chemistry;⁴ Mathematics; Physical Science; Physics⁴; Science Education; Zoology⁴

SOCIAL SCIENCES

History; Social Science

Admission—A student must hold a baccalaureate degree from an accredited college or university to be admitted to a Master of Arts degree program. An overall grade point average of C+ (2.5) is required to be admitted unconditionally. Applicants having a cumulative grade point average between 2.3 and 2.5 may be admitted on condition. The first 15 quarter hours of graduate work completed will be used to establish eligibility. On successful completion of this requirement the candidate will be invited to initiate the minimum 45 quarter hour degree program. Therefore the minimum requirement for a person admitted on a conditional basis will be 60 quarter hours of graduate work.

Transfer of Credit—A maximum of eight quarter hours of graduate credit in which grades of A and B are recorded may be transferred from institutions approved by a recognized accrediting agency to offer a graduate program leading to the master's degree. No transfer credit shall be counted that was earned more than five years prior to *completion* of the degree. This credit must be compatible with the student's area of concentration and can not be used to meet the requirement that 50 per cent of the course work must be in courses numbered 300 or above and taken in residence at Greeley. Student must complete a transfer of credit petition at the Graduate Office. Graduate credit is not transferable if earned in off-campus classes or in courses classified as "extension" unless these credits

¹These majors require two years of actual teaching experience as a prerequisite.

²Concentrations in this major require as prerequisite two years of teaching or equivalent experience. One year of this experience must be obtained prior to admittance to the program.

³Two year Master of Arts degree program.

⁴A master's thesis is required in the Arts and Sciences programs, but is optional in the Teacher Education Programs.

are acceptable toward a master's degree at the "parent institution." Transferred credit may not be used to make up "D" or "F" grades received in required courses.

Residence and Time Requirement—Candidates for the Master of Arts degree must satisfactorily complete a minimum of ten quarter hours of valid graduate credit in the campus program each of two quarters in order to satisfy minimum residence requirements. All residence requirements must be completed after the candidate has been admitted to a degree program. Ten quarter hours credit equals two-thirds of a regular load, and by definition enables the candidate to be technically classified as a full-time student. The remaining requirements may be satisfied by regular full or part-time attendance, or by a combination of part-time attendance and transfer credit. (See conditions of transfer of credit.)

The maximum time limit for completion of the graduate program for the master's degree is five calendar years.

Introduction to Graduate Study—In the first quarter in residence all graduate students working toward the Master of Arts degree are required to register for ID 300, Introduction to Graduate Study. In this course standards for graduate study, research methods, evaluation of printed research, bibliographical tools and other items will be emphasized. The candidate should take Introduction to Graduate Study and a course with his adviser during his first quarter.¹

Minimum Requirements for the Major—For the degree of Master of Arts, the student must have a minimum of 64 quarter hours of graduate and undergraduate credit in the major field. At least 24 quarter hours of graduate credit for the degree of Master of Arts must be in the field of the major and must be taken at Colorado State College.

The student whose undergraduate record shows a high specialization in a few areas at the expense of general cultural background in the arts and sciences may be required to earn part of his graduate credit in these areas.

Specific Requirements for Graduation—All general requirements for a master's degree must be met. In addition, the candidate shall:

1. Earn a minimum of 45 quarter hours of graduate credit and maintain a 2.66 average. At least 22 hours of this credit must be in courses open only to graduate students (courses numbered 300 and above) and taken in residence at Greeley.

Candidates electing to write a thesis must, 17 days before the end of the quarter in which they expect to graduate, present to the Graduate Office four copies of the thesis in final typed form, approved and signed by the adviser. The thesis must be presented to the adviser for final reading by the beginning of the fourth week of the final quarter in residence. The thesis shall conform with *A Manual for Writers of Term Papers, Theses, and Dissertations*, by Kate L. Turabian.

After being signed and bound, three copies of the thesis become the property of the college and one is sent to the student. The ribbon copy and the first carbon copy are filed in the college library; the third copy is delivered to the student's major adviser. A charge is made for binding and mailing the four copies.

The student must provide with each bound copy of the thesis an abstract of the study. In addition an extra copy of the abstract shall be filed with the student's record in the Graduate Office.

With the approval of the adviser and the Dean of the Graduate Division, a creative project in audio-visual education, fine arts, literature, or music may be undertaken as the equivalent of the thesis for the master's degree. Upon the completion of the project, the student shall submit a detailed written explanation of the problem's contribution to contemporary thought and life to be filed in the Graduate Office at least 17 days before the end of the quarter in which the candidate expects to graduate. This paper must have the signature of the adviser.

A maximum of 15 quarter hours of credit is granted for the thesis or creative project.

¹Following course substitutions may be made in lieu of ID 300; Biology majors, BIO 357; Mathematics majors (teacher education), MED 372; Mathematics majors (liberal arts), MATH 310, 3 hrs; Chemistry majors; at least three hours in CHEM 346, Seminar; History majors, WHS 399; Science Education majors, SCED 372.

2. Pass a written comprehensive examination in the major field. The student's examination paper, after being evaluated by the adviser, will be filed in the Graduate Office at least 17 days before the end of the last quarter in residence. The comprehensive examination may not be taken until the student has completed, or has in progress, the basic required program of his major, and has the approval of his major adviser and the Graduate Office. (The English usage requirement must be met before a student will be permitted to take the comprehensive examination.)

In case of failure to pass the comprehensive examination or any part of it, the student may be permitted to retake the test. One quarter must intervene before the examination may be retaken. A special examination fee will be charged for this additional test. Failure to pass the retest will terminate the candidate's degree program.

3. Make a formal application for graduation not later than 30 days prior to the quarter in which the candidate expects to graduate. A late fee will be charged for failure to apply on time.

SPECIALIST IN EDUCATION DEGREE

The Specialist in Education degree program shall prepare one to be a specialist. It is not to be a program of more courses and more credits in the same divisional patterns as those usually found in the present master's and doctor's programs.

Each applicant for admission to the program will be considered as an individual case in terms of the area in which he wishes to specialize, his background and experience preparing him for such specialization, and the possibility of a program being provided to offer him the opportunity he desires. The applicant will be expected to have a very clear idea of his proposed area of specialization.

A candidate might wish to specialize in areas similar to the following:

- a. The Supervision of Student Teaching
- b. The Supervision of Science Instruction
- c. Conservation Education
- d. Reading (Elementary School; Secondary School; Remedial)
- e. Guidance (Elementary School; Secondary School)
- f. Testing in the Elementary School
- g. Consultant in School Buildings
- h. Curriculum Specialization
- i. Specialization in Academic Areas (Preparation to teach on the junior college level)
- j. Outdoor Education

Several programs are partially or fully prescribed in areas where certification requirements so advise. Among the programs are:

- a. Counseling
- b. Educational Administration
- c. School Psychology
- d. Vocational Rehabilitation Counseling

The college does not have the facilities, offerings, or staff to support all of the areas that might be suggested by the applicant. Please note that many of the programs cut across divisional lines.

Candidates who choose to continue work toward the Ed.D. degree upon completion of the Ed.S. degree may apply for admission to the doctoral program. If admitted to the doctoral program, courses which are ordinarily applicable to the doctorate degree will be considered transferable from the Ed.S. to the Ed.D. degree.

Admission—1. Although a master's degree from an accredited college or university is usually a prerequisite for admission, students may be admitted with a bachelor's degree and permitted to by-pass the Master of Arts degree requirements, depending upon the general nature of the specialist program which is requested. In such cases the student must earn a minimum of 90 hours for the specialist's degree.

2. The applicant must have an adequate academic background in the areas involved in his plan of specialization. If inadequate, the supervising committee will require course work in addition to the minimum requirements of the Ed.S. degree.

3. The applicant must have an acceptable undergraduate and graduate scholastic average of 2.7 (B-) or better.

4. Two years of successful teaching experience is a prerequisite for admission to work for the Specialist in Education degree (exception: Vocational Rehabilitation Counseling).¹

5. In addition to the admission requirements, the applicant is required to take the Graduate Record Examination Battery consisting of the Advanced Test in Education, the Area Test in Social Sciences, Natural Sciences and Humanities, and the General Aptitude Test.

Transfer of Credit—A maximum of eight quarter hours of graduate credit in which grades of A and B are recorded may be transferred from institutions approved by a recognized accrediting agency to offer a graduate program lead-

¹The major in School Psychology requires as a prerequisite two years of teaching or equivalent experience. One year of this experience must be obtained prior to admittance to the program.

ing to specialist or doctorate degrees. No transfer credit shall be counted that was earned more than six years prior to *completion* of the degree. This credit must be compatible with the student's area of concentration and cannot be used to meet the requirement that 50 per cent of the course work must be in courses numbered 300 or above and taken in residence at Greeley. The student must complete a transfer of credit petition at the Graduate Office. Graduate credit is not transferable if earned in off-campus classes or in courses classified as "extension." Transferred credit may not be used to make up "D" or "F" grades received in required courses.

Residence and Time Requirements—Candidates for the Specialist in Education degree must satisfactorily complete a minimum of 10 quarter hours of valid graduate credit in the campus program each of two quarters in order to satisfy minimum residence requirements. All residence requirements must be completed after the candidate has been admitted to a degree program. Ten quarter hours credit equal two-thirds of a regular load, and by definition enable the candidate to be technically classified as a full-time student. The remaining requirements may be satisfied by regular full or part-time attendance, or by a combination of part-time attendance and transfer credit. (See conditions of transfer of credit.)

The maximum time limit for completion of the graduate program for the specialist's degree is six calendar years.

Specific Requirements for Graduation—All the general requirements for a specialist degree must be met. In addition the candidate shall:

1. Earn a minimum of 45 quarter hours of graduate credit and maintain a 2.80 average. At least 24 quarter hours of this credit must be in courses open only to graduate students (courses numbered 300 and above) and taken in residence at Greeley. The required practicum, ID 401, or its equivalent, hours may be counted to meet this requirement.

Specialized interests of the student for which no regularly scheduled courses are available will be cared for through Individual Studies (322), Practice in School Administration (345), Practicum (301), and the required Practicum (401).

2. Complete the course, Introduction to Doctoral Research (400), or its equivalent unless a comparable course on the graduate level has been completed and accepted by the adviser.

3. Demonstrate that he has a knowledge and understanding in the three areas of Natural Sciences, Social Sciences, and Humanities. Candidates who fail to make satisfactory scores on the Graduate Record Examination battery will be held for deficiency course work. These requirements will be imposed in addition to the minimum requirements for the specialist's degree.

4. Present at least one practicum (401) representing his major interest and for which eight quarter hours of credit will be given.¹ A written plan for the required practicum shall be filed in the Graduate Office by the end of the eighth week of the second quarter in residence and must have been approved by the supervising committee. Supervising committee is composed of the major adviser and one additional professor who will direct the preparation and evaluation of the required practicum.

At least 17 days before the end of the final quarter in residence, four typewritten copies of the report of the practicum which has been approved by the student's adviser and the supervisory committee shall be filed in the Graduate Office. The four copies will be bound. The original and first carbon copy will be placed in the library, the second carbon copy will be delivered to the faculty committee, and the third carbon copy will be sent to the student. A binding and mailing fee will be charged.

5. Pass a written comprehensive examination over his specialty and his practicum, and meet such other final requirements as his committee may prescribe. This written examination, when approved, shall be filed with the student's records in the Graduate Office at least 17 days before the date of graduation. The adviser shall make all arrangements for final examination with

¹Students in Vocational Rehabilitation Counseling, and School Psychology, will be required to complete supervised field experience in lieu of the required practicum. Students in Vocational Rehabilitation Counseling will register for SPED 394, Supervised Clinical Practice in Rehabilitation Counseling, 16 quarter hours; students in School Psychology will register for PCG 390, Internship in School Psychology, 16 quarter hours. Students in Counseling will be required to substitute three 3-hour practicums selected from PCG 410, 411, 413, 414, 415 in lieu of the required practicum.

the approval of the Graduate Office. (The English usage requirement must be met before a student will be permitted to take the comprehensive examination.)

In case of failure to pass the comprehensive examination or any part of it, the student may be permitted to retake the test. A special examination fee will be charged for this additional test. One quarter must intervene before the examination may be retaken. Failure to pass the retest will terminate the candidate's degree program.

6. Make formal application for graduation not later than 30 days prior to the quarter in which he expects to graduate. A late fee will be charged for failure to apply on time.

DOCTOR OF EDUCATION AND DOCTOR OF PHILOSOPHY DEGREES

The degree of Doctor of Education is offered in the following areas of concentration:

- Business Education
- Educational Administration
- Elementary Education
- English
- English Education
- Health and Physical Education
- Industrial Arts Education
- Mathematics Education
- Mathematics
- Music Education
- Psychology, Counseling and Guidance
- Reading
- Science Education
 - Botany
 - Chemistry
 - Physics
 - Zoology
- Secondary Curriculum and Instruction
- Secondary Curriculum and Instruction (in content area)
- Social Science
- Special Education
 - Administration
 - Mental Retardation
 - Visually Handicapped
 - Vocational Rehabilitation

The degree of Doctor of Philosophy is offered in the following areas of concentration:

- College Student Personnel Work
- Educational Measurement and Research

In most instances a candidate will complete 48 or more hours in his area of concentration. This does not include credit for his research study. In addition to his area of concentration a student may be required by the major adviser or department to take a minimum of 24 quarter hours in one or more supporting areas. Supporting areas include the following:

- Audio-Visual Education
- Business Education
- College Student Personnel Work
- Curriculum
- Education Administration
- Elementary Education
- English Education
- Health and Physical Education
- Higher Education
- History and Philosophy of Education
- Industrial Arts Education
- Mathematics Education
- Mathematics
- Music Education
- Outdoor Education
- Psychology, Counseling and Guidance
- Reading
- Secondary Curriculum and Instruction
- Science
- Science Education
- Social Science
- Special Education
- Statistics and Measurement

Admission—1. An applicant will be admitted if his previous academic average is B or better, and if he has a combined minimum score of 840 on the quantitative and verbal parts of the Aptitude Test of the Graduate Record Examination. The College requires that the aptitude scores accompany the doctoral application. If a student scores below the minimum acceptable score he will be denied admission to the "formal" doctoral program.

2. Sixty-four quarter hours in professional education courses are prerequisites for admission to the doctoral program in Special Education,¹ forty quarter hours in English Education, and thirty-four quarter hours in Music Education.

Professional education courses necessary for a teacher to be certified to teach in his state are prerequisite for admission to Health and Physical Education, Mathematics Education, and Science Education.

3. Although it is advantageous for a candidate to have two years of successful teaching experience before inaugurating a doctoral degree program, it is not mandatory. The candidate must obtain the two years of successful teaching experience before the degree will be conferred.²

4. In addition to the admission requirements, the applicant is required to take the Graduate Record Examination Advanced Test in Education, and the Area Tests in Social Sciences, Natural Sciences and Humanities, as well as a standardized English usage examination during his first quarter in residence.

Continuation in Doctoral Program—1. All candidates must realize that the Graduate Council is directed to continuously provide realistic evaluation of student progress, and to discourage any student from continuing whenever it seems advisable. Multiple criteria (scores on the English usage examination, the Graduate Record Examination aptitude, area, and advanced tests; the faculty interview; the professional recommendations; and the grade point average earned) are used to determine whether the candidate is encouraged to continue in the degree program at the close of his first quarter of study.

Course Program—In the first quarter in residence, students in the doctoral program must enroll for the course ID 400, Introduction to Doctoral Research, or in a substitute course recommended by the major adviser.

Not later than the second quarter in residence, the candidate will work out a long range program of studies with his adviser. One copy of this proposed program will be placed in the student's folder in the Graduate Office; one copy will be presented to the adviser; one copy will be placed on file in the major division or department.

At least 36 hours of course work applicable to the doctor's degree must be in courses open only to graduate students (courses numbered 300 or above) and taken in residence at Greeley. Only courses taught by members of the faculty with an earned doctor's degree will apply to the Ed.D. or Ph.D. Exceptions are approved by the Graduate Council.

Candidates concentrating in Business Education, English Education, Health and Physical Education, Industrial Arts Education, or Music Education must complete the basic foundational courses which are: ED 461, Philosophical Foundations of Education; ED 462, Psychological Foundations of Education; ED 463, Sociological Foundations of Education.

Research—A dissertation is required for which the student receives 18 quarter hours of credit. The student will pay a research fee in lieu of the tuition and Student Services Fee.

The dissertation shall be under the supervision of the adviser and a research and examining committee. The committee will consist of four members representing the area of concentration, the supporting area, and one member representing faculty-at-large. The Committee will be appointed by the Dean of the Graduate Division.

A preliminary outline of the dissertation must be prepared by the student in consultation with his Committee. Six copies of this outline are required. The original copy must be on red-lined bond paper and is filed in the Graduate

¹Exception: Vocational Rehabilitation.

²Exception: Vocational Rehabilitation.

The Doctor's degree in Psychology, Counseling, and Guidance requires as a prerequisite two years of teaching or equivalent experience. One year of this experience must be obtained prior to admittance to the program.

Office. The five carbons may be on onion skin—one carbon goes to each member of the Committee and one copy is retained by the student. (See *Graduation Requirements* for filing of approved dissertation.)

Candidacy for the Degree—To be eligible for formal admission to candidacy for the degree of Doctor of Education or Doctor of Philosophy, the student shall have earned at least 36 hours beyond the master's degree (81 hours if the student enters the program with only a baccalaureate degree) with a 3.00 (B) or better grade average, shall have passed satisfactorily the written and oral comprehensive examinations, shall have presented an approved outline for the dissertation, shall have successfully completed the English usage and the Graduate Record Examination area test requirements, and shall have met the foreign language requirement in programs requiring language competency. No student will be graduated at the end of the quarter in which he is admitted to candidacy.

Residence and Time Requirements—Minimum residence for the doctorate is three consecutive quarters. This is comparable to one academic year. Candidates must satisfactorily complete a minimum of 10 quarter hours of valid graduate credit in the campus program each of three consecutive quarters in order to satisfy minimum residence requirements. All residence requirements must be completed after the candidate has been admitted to a degree program. Ten quarter hours credit equal two-thirds of a regular load, and by definition enable the candidate to be technically classified as a full-time student. The remaining requirements may be satisfied by regular full or part-time attendance, or by a combination of part-time attendance and transfer credit. (See conditions of transfer of credit.)

The maximum time limit for earning the doctor's degree is eight calendar years.

Transfer of Credit—A maximum of 12 quarter hours of graduate credit in which grades of A and B are recorded may be transferred from institutions approved by a recognized accrediting agency to offer a graduate program leading to a doctorate degree. No transfer credit shall be counted that was earned more than eight years prior to *completion* of the degree. This credit must be compatible with the student's area of concentration and can not be used to meet the requirement that 50 per cent of the course work must be in courses numbered 300 or above and taken in residence at Greeley. In some cases additional transfer credit may be recommended by the candidate's faculty committee after he has been encouraged to continue toward the doctoral objective by the Graduate Council Sub-Committee on Admission. He may apply for transfer up to a maximum of 35 quarter hours (including the original 12 quarter hours previously accepted). Student must complete a transfer of credit petition at the Graduate Office. Graduate credit is not transferable if earned in off-campus classes or in courses classified as "extension." Transferred credit may not be used to make up "D" or "F" grades received in required courses.

The Graduate Council reserves the right to send doctoral students to another accredited institution which offers the doctorate to earn a maximum of 15 quarter hours in specific courses.

Advisement—Upon receipt of a statement of the prospective student's field of interest, the Dean of the Graduate Division will request that the appropriate department or division assign him to a member of the faculty, who will act as the adviser for the first quarter and with whom the student will register. This assignment will become permanent automatically unless the adviser or the student can justify the need for a change of adviser to a committee appointed by the chairman of the department or division in which the student is majoring.

Research Adviser—At the request of the adviser a research adviser may be appointed to direct the dissertation.

Graduation—In addition to all the general requirements for a doctor's degree the student shall:

1. Be recommended for graduation by his committee.
2. Earn a minimum of 90 quarter hours of graduate credit beyond the master's degree (135 hours if the student enters the program with only a baccalaureate degree) and maintain a 3.00 (B) grade average.
3. Demonstrate that he has a knowledge and understanding in the three areas of Natural Sciences, Social Sciences, and Humanities. Candidates who fail to make satisfactory scores on the Graduate Record Examination Battery will

be held for deficiency courses. These requirements will be imposed in addition to the minimum requirements of 90 quarter hours.

4. Demonstrate competency in two foreign languages, or competency in statistics and one foreign language for the Doctor of Philosophy degree.

5. Pass satisfactorily the following examinations in addition to the usual course examinations. (No oral examination or dissertation defense will be scheduled during the last two weeks of each academic quarter.)

- (a) *Comprehensive written and oral examinations covering course work.* These examinations will take place after the student has successfully completed, with better than a 3.00 (B) grade average, 36 hours beyond the Master's degree (81 hours if the student enters the program with only a baccalaureate degree). The written examination will be given before the oral examination and will be available to all members of the research and examining committee prior to the oral examination and finally shall be filed in the student's folder in the Graduate Office. (The English usage requirement must be met before a student will be permitted to take the comprehensive examination.) The members of the research and examining committee will evaluate the written and oral examinations as follows:

- (1) Satisfactory.
 - (2) Unsatisfactory with the privilege of additional examinations for which a fee will be charged. One quarter must intervene before the examinations may be given again. A second retest will not be permitted.
 - (3) Failure. In case of failure the student will have eliminated himself from further work applicable to the doctorate and may not present himself for further examinations.
- (b) Oral examination in defense of the *dissertation*. Each doctoral candidate must present his dissertation in acceptable form (four copies) to the Graduate Office three weeks prior to the scheduling of the defense examination. The three week period will be used by the committee to read the study. The Graduate Office will arrange the time and place for the defense examination which must occur at least three weeks after the dissertation was presented. Moreover, this examination must occur at least 17 days before graduation. If it is impossible to meet this requirement, the examination date will be moved into the following quarter, subject to the same deadline conditions.

6. File in the Graduate Office at least 17 days before graduation the approved dissertation. A research fee is charged in lieu of the tuition and Student Services Fee. (See Financial Information Section for *Fees Added for Graduate Study*.)

7. Pay for the publication of the dissertation. The research study is micro-filmed and a 600 word abstract of the study is published in *Dissertation Abstracts*. For the purpose of publication the student files in the Graduate Office two extra copies of the abstract of each study. This abstract cannot be more than 600 words.

8. Pay for the binding and mailing of the dissertation. At least four copies of the study, including an abstract, are required to be bound. After being bound, the ribbon copy and the first carbon copy are filed in the college library, one copy is delivered to the student's adviser and one copy is sent to the student.

9. File a vita to be included in the permanent record.

10. Make formal application for graduation not later than 30 days prior to the quarter in which the candidate expects to graduate. A late fee will be charged for failure to apply on time.

INTERDIVISIONAL COURSES

All divisions use these numbers with the prefix ID.

0100. SPEED READING. *No hours credit. (Regular tuition for three hours.)*
A course designed for college students and mature readers to increase their rate of reading and to develop flexibility in reading rates through completion at various reading exercises.

0200. AMERICAN SPEECH FOR FOREIGN STUDENTS. *No hours credit. (\$10.00 fee required.)*

This course is designed for students who are using English as a secondary language. An evaluation will be made of each student's special needs. Emphasis will be centered on vocabulary, pronunciation, articulation, intonation, and rhythm of American speech.

151. JUNIOR HONORS PROJECT. *One hour credit.*

In the junior year, each honor student enrolls in a Junior Honors Project in his major. The aim of the course is to increase the student's familiarity with the literature of his field and/or the current issues in his field. The division concerned may assign the student to an individual professor or to a seminar group conducted by one or more professors. Each project is to be planned in three phases so that a grade can be given at the end of each quarter.

222. INDIVIDUAL STUDIES. *Maximum of four hours credit.*

Qualified undergraduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the chairman of the division.

251. SENIOR HONORS PROJECT. *One hour credit.*

In the senior year, each honor student enrolls in a Senior Honors Project under the direction of a professor of his own choosing. The professor is not responsible for more than one honor student at a time. The student and the professor will decide upon an individual subject or project for study, the result of which shall be an acceptable written report. Seniors shall be invited to read papers produced in the Senior Honors Project before meetings of students enrolled in Junior Honors Project. Each project is to be planned in three phases so that a grade can be given at the end of each quarter.

0300. WRITING LABORATORY FOR GRADUATE STUDENTS. *No credit. (\$10.00 fee required.)*

A required remedial writing laboratory for graduate students whose English usage ability is low.

300. INTRODUCTION TO GRADUATE STUDY. *Three hours credit.*

An orientation to graduate study in general and the nature and methods of research in particular. Required of all first-year graduate students. Should be taken during the first quarter of graduate work.

301. PRACTICUM. *Maximum of four hours credit.*

Open only by invitation to resident graduate students. Supervised professional activity in the student's major field, approximately two hours per day. A written report is required.

322. INDIVIDUAL STUDIES. *Maximum of four hours credit.*

Qualified graduate students outline and spend a minimum of 25 clock hours per quarter hour on a problem. Two copies of a well-written paper must be filed before credit is given, one with the instructor and one with the Dean of the Graduate Division.

336. PRACTICUM IN PROGRAMMED LEARNING AND OTHER RELATED NEW MEDIA. *Maximum of fifteen hours credit.*

Prerequisites, ED 295 or 395, PCG 340. Under supervision of professional programmers and psychologists, the students will learn to program materials. Task analysis, coordination with subject matter and curriculum experts, program validation and revision, techniques of frame writing, selection of student

samples, and technology of program construction will be emphasized in the programming experience.

399. THESIS. *Maximum of fifteen hours credit.*

400. INTRODUCTION TO DOCTORAL RESEARCH. *Three hours credit.* An introduction to research and advanced study. Required of all specialist and doctoral candidates.

401. SPECIALIST DEGREE PRACTICUM. *Maximum of eight hours credit.* Prerequisite, master's degree. Project or supervised professional activity, required of all candidates for the Specialist in Education degree. A written report of the project or activity must be submitted.

423. DOCTORAL DISSERTATION. *Maximum of eighteen hours credit.* Registration of hours will be during the quarter in which the research study is formally accepted.

451. SUPERVISED PRACTICUM IN COLLEGE TEACHING. *Maximum of nine hours credit.*

This course provides experiences in observation and supervised practice in college teaching for doctoral candidates planning to teach on the college or university level. Observations and the teaching experiences will be used as a basis for the analysis of learning experiences. Differential effects of neo-behavioristic and cognitive field approaches will be studied.

452. INTERNSHIP IN SUPERVISING COLLEGE TEACHING. *Three hours credit.*

This course is designed for doctoral candidates preparing for college teaching. It provides experiences in working with the regular staff members engaged in the supervision of college and university teaching experiences. Particular attention is centered on the various aspects of the teaching-learning process and on analyses of self growth.

SCHOOL OF ARTS AND SCIENCES

Dr. Forrest W. Frease, Dean

HUMANITIES

Department of English

Dr. Neal M. Cross, Chairman

Professors: Carriar, Cross, F. Frease, Gates, Hartman.

Associate Professors: Boyle, Freeman, Harrison, Starr.

Assistant Professors: C. Frease, Huff, Jones, Prinic, Zimmerman.

Instructors: Agan, Applegate, Bennett, Bratton, Brewer, D. Brown, Cleere, Finnegan, Howard, Kavanagh, E. Kearns, Luere, Marberry, Meyer, Peyton, Speckmann, Wilson, Witwer.

Description of Courses

COMMUNICATIONS

1. ELEMENTARY COMPOSITION I. *Three hours credit.*

The first of the two quarters of elementary expository writing, with introduction to functional grammar, sentence structure, punctuation, and paragraph organization.

2. ELEMENTARY COMPOSITION II. *Three hours credit.*

Prerequisite, COM 1. The second quarter of elementary expository writing, with instruction in diction, style, tone, logical thinking, the organization of well-developed reports, and a research paper.

(For course description of COM 3, Principles of Speech, see Department of Speech and Theatre Arts, page 123.)

ENGLISH

10. FRESHMAN LITERATURE. *Four hours credit.*

An introductory course in literature, designed to acquaint students with literary terminology and to introduce students to outstanding examples of various types of literature: poetry, short story, essay, novel, and drama. Emphasis will be placed on the technique of reading and explicating works of literature.

48. ENGLISH LITERATURE FROM THE BEGINNINGS TO 1500. *Three hours credit.*

A study of English poetry and prose of the Old English and Middle English periods. Emphasis is placed on *Beowulf*, *Sir Gawain and the Green Knight*, *The Canterbury Tales*, and *Le Morte Darthur*.

49. ENGLISH LITERATURE FROM 1500 TO 1660. *Three hours credit.*

A study of English poetry and prose of the Renaissance. Emphasis is placed on the work of Spenser, Jonson, Marlowe, Bacon, the Metaphysical poets, and Milton.

50. SHAKESPEARE. *Three hours credit.*

A basic Shakespeare course, with special stress on the types of plays: histories, comedies, tragedies.

51. THE RESTORATION AND EIGHTEENTH CENTURY. *Three hours credit.*

A study of major writers of the period with attention to their influence on subsequent ideas and literary forms.

52. THE ROMANTIC MOVEMENT. *Three hours credit.*

The development of English Romanticism; its social and philosophical backgrounds. Wordsworth, Coleridge, Byron, Shelley, and Keats; with some consideration of the essayists and minor poets.

53. VICTORIAN PROSE AND POETRY. *Three hours credit.*

A study of the poems and more important prose works of the major Victorian writers, and of their relation to the life of the times.

54. CONTEMPORARY ENGLISH AND AMERICAN LITERATURE. *Four hours credit.*

A study of the development of British and American poetry, fiction, and drama since 1920, showing the relationships between the two literatures in a period when the interaction becomes extensive.

57. SURVEY OF ENGLISH LITERATURE (700-1800). *Four hours credit.*
Comprehensive reading in English literature following its development from *Beowulf* to the Romantic Movement.**58. SURVEY OF ENGLISH LITERATURE (1800-the present).** *Four hours credit.*

Comprehensive readings in English literature following its development since the Romantic Movement.

59. SURVEY OF AMERICAN LITERATURE. *Four hours credit.*

Readings of major writers from the beginning to the present with particular attention to democratic values.

60. AMERICAN LITERATURE TO THE CIVIL WAR. *Four hours credit.*

A study of American literature during the formative years of the colonial period and during the early years of the republic, emphasizing the religious and political traditions from which the literature sprang. Emphasis is given to the works of Edwards, Franklin, Paine, Bryant, Emerson, Poe, Hawthorne, and Melville.

61. AMERICAN LITERATURE SINCE THE CIVIL WAR. *Four hours credit.*

A study of the literature of America since 1865, emphasizing in particular the development of modern American fiction and the late nineteenth century and twentieth century developments in American poetry. Particular attention is given to such writers as Whitman, James, Robinson, Frost, Sandburg, Faulkner, and Eliot.

109, 110, 111. CREATIVE WRITING I, II, III. *Two hours credit.*

Opportunity to write creatively under criticism with emphasis upon the individual's own purposes and experiences.

210. ADVANCED EXPOSITORY WRITING. *Three hours credit.*

Prerequisites, COM 1, 2. For upper division and graduate students with adequate preparation in grammar and composition. Application of the elements of style to the development of effective prose.

211. THE ENGLISH LANGUAGE. *Five hours credit.*

The course presents a history of the development of the English language; the historical basis of usage and grammar including grammatical analysis based upon traditional terminology as opposed to the new approaches, structural grammar, generative grammar, etc.; and the sources of the English vocabulary.

212. GENERATIVE-TRANSFORMATIONAL GRAMMAR. *Four hours credit.*

A study of the generation of English sentences: blocks, kernels (phrase-structure rules), transformations (single and double base); conceptual postulates, operations, and processes underlying a generative-transformational grammar.

230. GREEK AND COMPARATIVE MYTHOLOGY. *Four hours credit.*

A study of Greek myths as one of the important sources of literary allusion and imagery and a comparison of Greek myths with those of other cultures to show what is common to all mythologies.

231. THE SHORT STORY. *Three hours credit.*

The study of typical modern short stories to observe the methods of modern writers and the interpretation of our present-day life embodied in this form of literature.

232. TECHNIQUES OF THE NOVEL. *Five hours credit.*

A study of seven or eight important English and American novels to show different techniques which have been used to reveal the novelists' artistic insight.

235. CONTEMPORARY AMERICAN DRAMA. *Three hours credit.*

A comprehensive view of the best dramatic literature of the modern American theatre.

236. MODERN DRAMA SINCE IBSEN. *Three hours credit.*

A study of the developments in modern European and American drama since the time of Ibsen, emphasizing the works of such writers as Ibsen, Shaw, Synge, O'Casey, O'Neill, and such other European and American writers as have been significant in the development of the twentieth century drama.

239. THE FORMS AND MEANING OF POETRY. *Four hours credit.*

A study of some of the formal aspects of poetry (prosody, stanzaic and "named" forms, and the like), of types (lyric, narrative, dramatic), and of the poets' use of language.

255. ELIZABETHAN DRAMA EXCLUSIVE OF SHAKESPEARE. *Four hours credit.*

The drama from 1558 to 1642; the major dramatists, stage conditions, acting companies, and changes in dramatic form and subjects reflecting the life of the times.

257. HISTORY OF IDEAS IN LITERATURE. *Three hours credit.*

An intensive chronological study of various of the significant themes in literature.

258. READINGS IN ENGLISH LITERATURE FROM 700-1800. *Four hours credit.*

A survey of English literature from *Beowulf* to the Romantic Movement.

259. READINGS IN ENGLISH LITERATURE FROM 1800 TO THE PRESENT. *Four hours credit.*

A survey of English literature from the Romantic Movement to the present time.

260. READINGS IN AMERICAN LITERATURE TO 1865. *Four hours credit.*

A survey of the beginnings of American literature until the time of the Civil War.

261. READINGS IN AMERICAN LITERATURE SINCE 1865. *Four hours credit.*

A survey of modern American literature.

289. LITERATURE OF THE OLD TESTAMENT. *Three hours credit.*

A study of selected books of the Old Testament with emphasis on their literary qualities, and on the moral and religious progress they reveal. The historical and cultural background of these writings will be studied.

290. LITERATURE OF THE NEW TESTAMENT. *Three hours credit.*

A comparative study of the Gospels, followed by a study of other New Testament writings and of the historical and cultural background of the period in which they were written.

302. THE AMERICAN CRITICS. *Three hours credit.*

A seminar for graduate students in theory and practice of criticism of literature in America. The major critics and the recognizable "schools" are analyzed.

303. SEMINAR IN TWENTIETH CENTURY BRITISH AND AMERICAN POETRY. *Three hours credit.*

A history of recent poetry in English from the Imagists to the present.

304. THE GREEK DRAMA. *Four hours credit.*

A study of the dramas of Aeschylus, Sophocles, Euripides and Aristophanes to note the development of dramatic technique and the developing ideas from the beginnings of classicism, through the golden age, to decadence.

305. SEMINAR IN MAJOR AMERICAN WRITERS I. *Four hours credit.*

A study of selected American writers with special emphasis on their relation

to the currents of American thought. Reports by each member of the class will be determined by the interest of the student.

306. SEMINAR IN MAJOR AMERICAN WRITERS II. *Four hours credit.*
A study of selected later American writers with special emphasis on their relation to the currents of American thought. Reports by each member of the class will be determined by the interest of the student.

311. SEMINAR IN ENGLISH ROMANTIC MOVEMENT. *Four hours credit.*

The origin, purpose and nature of the Romantic Movement. A study of two or more of the following authors: Blake, Wordsworth, Coleridge, Shelley, Keats, Byron, Lamb, Hazlitt and DeQuincey.

312. OLD ENGLISH. *Four hours credit.*

Anglo-Saxon grammar and vocabulary. Reading of important documents from the period—Alfred's Translations, Charters and Historical Documents, Anglo-Saxon poetry, etc. Emphasis on background for contemporary language.

313. CHAUCER AND MIDDLE ENGLISH. *Five hours credit.*

Writings of Geoffrey Chaucer (especially *The Canterbury Tales* and *Troilus and Criseyde*) in Middle English; selected writings to illustrate both the literary qualities and linguistic aspects of Middle English.

314. SHAKESPEARE SEMINAR. *Four hours credit.*

Detailed study of three of the great plays, introduction to Shakespearean scholarship, and a review of Shakespearean criticism.

315. MILTON SEMINAR. *Four hours credit.*

A study of Milton's major prose and poetry.

316. SEMINAR IN TENNYSON AND BROWNING. *Four hours credit.*

A review of the shorter poems of both men and a special stress on some of the longer works (*Maud*, *Idylls of the King*, *The Ring and the Book*) and an introduction to the critical writings about Tennyson and Browning.

318. SEMINAR IN RESTORATION AND EIGHTEENTH CENTURY DRAMA. *Four hours credit.*

A study of the types of plays written between 1660 and 1800, with particular attention to heroic tragedy, comedy of manners, and sentimental drama, as represented by such writers as Dryden, Wycherley, Etherege, Otway, Congreve, Steele, Addison, Goldsmith, and Sheridan.

319. LITERATURE OF THE EIGHTEENTH CENTURY. *Four hours credit.*

A study of the leading writers of the eighteenth century, with emphasis being placed on the works of Pope, Swift, Boswell, and Johnson as major figures of the century. Major ideas emanating from the century will also be stressed.

320. SEMINAR IN VICTORIAN LITERATURE. *Five hours credit.*

A graduate course, for intensive individual research into the problems of the Victorian era that bear upon major British writers; the relations between the literature and developments in politics, philosophy, religion, art, science, publication and the like that give distinctive meaning to the term "Victorian."

321. SEMINAR IN THE TWENTIETH CENTURY BRITISH NOVEL. *Four hours credit.*

A survey of the historical and aesthetic development of the novel in Great Britain during the twentieth century.

323. MODERN ENGLISH PHILOLOGY AND USAGE. *Four hours credit.*

Prerequisite, ENG 211. An examination of the bases of current English usage, designed to acquaint the student with such matters as sound changes, theories of correctness in grammar and pronunciation, and current discoveries or tendencies in linguistic science.

325. SEMINAR IN WORLD LITERATURE. *Four hours credit.*

The study in translation of one great work of non-English or American literature or of a small group of such masterpieces which are closely related either in form or idea. The selections vary with the needs of the students and the interest of the instructor.

ENGLISH EDUCATION

200. WORKSHOP IN THE TEACHING OF ENGLISH. (ATE) *Maximum of nine hours credit.*

A series of workshops in special problems in the teaching of English, conducted by authorities in the field.

226. LITERATURE AND MATERIALS IN THE SECONDARY SCHOOL. (ATE) *Four hours credit.*

Materials for teaching English in secondary schools. Principles for the selection of literature for high school pupils. Critical study of selected readings.

227. LITERATURE AND MATERIALS IN THE JUNIOR HIGH SCHOOL. (ATE) *Four hours credit.*

Selection of literature and supplementary materials to fit the needs and interests of early adolescents. Methods of teaching literature in grades 7, 8, and 9.

228. THE TEACHING OF READING IN THE SECONDARY SCHOOL. (ATE) *Four hours credit.*

Methods and materials to be used in the teaching of reading, both developmental and remedial, in the secondary school.

230. THE TEACHING OF LANGUAGE. (ATE) *Four hours credit.*

A study of language learning and teaching, including the philosophy of English and the evaluation of inductive and deductive procedures. An analysis of some of the "new grammars" in current textbooks with implications for the secondary English curriculum.

302. THE TEACHING OF COMPOSITION. (ATE or certification at the undergraduate level) *Four hours credit.*

Methods of improving the composition of high school students. The organization of paragraph and theme. The improvement of sentence structure.

326. RECONSTRUCTING THE ENGLISH CURRICULUM. (ATE or certification at the undergraduate level) *Four hours credit.*

A study of the place of English in the curriculum of the secondary school, with a consideration of appropriate materials and their placement.

350. SEMINAR IN LITERATURE FOR ADOLESCENTS. (ATE or certification at the undergraduate level) *Four hours credit.*

A concentrated study of and first-hand acquaintance with books written for adolescents, with emphasis upon junior novels and junior biographies. Consideration of reading guidance based upon student interests and needs. Development of criteria for evaluating literature for adolescents.

HUMANITIES

1. INTRODUCTION. THE GREEK AND ROMAN PERIODS. *Three hours credit.*

The humanities course throughout the year is a systematic historical study of the great philosophic ideas from Greek times to the present. Humanities 1 offers an introduction to the various arts and considers the art and philosophy of the Greeks and Romans.

2. THE MIDDLE AGES AND THE RENAISSANCE. *Three hours credit.*

Following the same type of outline as Humanities 1, Humanities 2 is a study of the cultural background, the arts and the philosophy of the Middle Ages and Renaissance.

3. THE EIGHTEENTH TO THE TWENTIETH CENTURY. *Three hours credit.*

Following the sequence started in Humanities 1 and 2, this course makes an historical study of the cultural background, the arts and the philosophy of the modern world from the rationalism of the 18th century to the new ideas which seem to be forming 20th century art and thought.

4. CREATIVE EXPRESSION IN THE HUMANITIES I. *Two hours credit.*

This course divides itself into four or five sections. These are art, music, drama, creative writing and the dance. The student chooses one section and pursues creative activities in the medium which he has chosen.

5. CREATIVE EXPRESSION IN THE HUMANITIES II. *Two hours credit.*
This course divides itself into four or five sections. These are art, music, drama, creative writing and the dance. Each student chooses a section in which he has not had experience and continues in that group to the end of the quarter.

6. CREATIVE EXPRESSION IN THE HUMANITIES III. *Two hours credit.*
In this quarter of the course in creative expression the different art media are synthesized in a single artistic production. It is felt that the theatre offers the best possibility for such synthesis. The students in the course select an idea, turn it into dramatic form and produce it. This offers possibilities for creative work in each of the areas which have been studied previously.

220. GREEK CULTURE. *Fifteen hours credit.*
Five weeks' study of Greek art, mythology, and literature on the campus. This will be followed by four weeks in Athens, Delphi, the Peloponnesus and Crete with lectures by outstanding authorities in aspects of Greek culture at the appropriate sites.

240. ADVANCED COURSE IN THE HUMANITIES. *Four hours credit.*
Prerequisites, HUM 1, 2 and 3. The study of a specific great literary work in its setting of history, philosophic concepts, and contemporary arts.

330. GRADUATE READINGS COURSE IN THE HUMANITIES. *Three hours credit.*

This course is designed to acquaint graduate students with some of the major concepts, terms, and creative figures in the fields of literature, art, painting, and music. This course not applicable to a graduate degree in Humanities.

JOURNALISM

95. INTRODUCTION TO JOURNALISM. *Two hours credit.*
Emphasizes highlights of the history of American journalism, including newspapers, magazines, special types of publications, radio and television; analysis of commercial media, their functions and responsibilities in a democratic society.

96. NEWSWRITING. *Three hours credit.*
Principles of gathering and writing of news and feature stories, writing of editorials, editing and preparation of copy with emphasis upon educational news.

97. ADVANCED NEWSWRITING. *Three hours credit.*
Prerequisite, JOUR 96. Principles of gathering and writing of news and feature stories, writing of editorials, editing and preparation of copy with emphasis upon educational news.

106. JOURNALISM INTERNSHIP. *Maximum of six quarters, one hour credit per quarter.*

Students gain practical experience in editorial and production aspects of the student newspaper and annual by working on CSC student publications. Emphasis is on providing a complete practical background needed by the publications adviser.

197. FEATURE AND DEPTH WRITING FOR NEWSPAPERS. *Two hours credit.*

A study of the characteristics of feature and depth reporting and an analysis of this type of writing appearing in leading commercial and student publications. Evaluation of potential educational subjects. Researching and writing stories for local media.

198. ETHICS AND LIBEL. *Three hours credit.*
A study of the laws of libel, changing tendencies historically and their relevance for both practitioners and involved citizens, along with an examination of ethical problems confronting the mass media. A usable capability to detect libel or slander quickly is a prime objective.

199. THE PRESS AND CURRENT AFFAIRS. *Two hours credit.*
An examination in depth of the value positions and the views flowing from the various influential periodicals of news and opinion in the United States along with some English publications. The course aims at broadening student awareness and understanding of conflicting value positions on key news issues.

201. METHODS OF TEACHING JOURNALISM IN THE SECONDARY SCHOOL. (ATE) *Three hours credit.*

Instruction in all phases of preparation and publication of school newspapers and annuals.

205. WORKSHOP FOR SCHOOL PUBLICATION SPONSORS. (ATE) *One hour credit.*

Acquaint students with role of publications as media for internal and external publics; study and experience procedures of doing school newspapers, annuals, handbooks, and radio programs.

297. MASTER JOURNALISTS AND THEIR TIMES. *Three hours credit.*

A concentration on the great journalists of British and American culture, emphasizing the excellence of their writings and focusing upon the dramatic moments in history and their response to such moments.

PHILOSOPHY

210. ETHICS AND VALUE-THEORY. *Three hours credit.*

A consideration of the major philosophers' views on problems of ethics and of values, from early Greek to contemporary thought.

220. LOGIC IN PRACTICE. *Three hours credit.*

A practical study of the uses of deductive and inductive logic, including consideration of current uses of verbal and material logical-fallacies.

230. PROBLEMS IN PHILOSOPHY. *Three hours credit.*

A consideration of the major philosophers' views on problems in epistemology, metaphysics, and aesthetics, from early Greek to contemporary thought.

Department of Foreign Languages

Mr. Roger W. Miller, Chairman

Associate Professor: Graham.

Assistant Professors: Baer, Colby, Freyschlag, R. Miller.

Instructors: G. Brown, Keppeler, La Borne, Lopez.

Description of Courses

FRENCH

1. ELEMENTARY FRENCH I. *Five hours credit.*

Summer Quarter: Must enroll for FR 2 and 3. Credit is not given until three quarters are completed. Introduction to idiomatic spoken and written French by means of vocabulary learning and the study of the structure of French. Class activities regarding grammar and cultural readings are limited realistically to spoken and written French. Audio and phonetic laboratory aids will be used to the extent that they may benefit the student's pronunciation and accurate fluency.

2. ELEMENTARY FRENCH II. *Five hours credit.*

Summer Quarter: Must enroll for FR 1 and 3. Credit is not given until three quarters are completed. A continuation of FR 1.

3. ELEMENTARY FRENCH III. *Five hours credit.*

Summer Quarter: Must enroll for FR 1 and 2. Credit is not given until three quarters are completed. A continuation of FR 2.

5. INTERMEDIATE FRENCH I. *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. Grammar review, study of idioms, imitative composition. Drill in use of the phonetic alphabet.

6. INTERMEDIATE FRENCH II. *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. This course aims at developing the student's ability to express himself in correct and idiomatic French. (This course may be taken without having had FR 5.)

7. INTERMEDIATE FRENCH III. *Four hours credit.*

Prerequisite, two years of high school French or one year of college French. Reading of one play and several short stories, with exercises and discussion in French based on the reading. (This course may be taken without having had FR 5 or 6.)

105. SURVEY OF FRENCH LITERATURE I. *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology, with lectures and discussion in French. This course deals with medieval and Renaissance literature.

106. SURVEY OF FRENCH LITERATURE II. *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology with lectures and discussion in French. This course deals with the literature of the seventeenth and eighteenth centuries.

107. SURVEY OF FRENCH LITERATURE III. *Four hours credit.*

Prerequisite, two years of college French. Reading of an anthology, with lectures and discussion in French. This course deals with nineteenth and early twentieth century literature.

110. INTERMEDIATE FRENCH COMPOSITION. *Three hours credit.*

Prerequisite, two years of college French. A course designed to perfect the student's ability to express himself in French, through the use of translation passages and free compositions, and to provide an active review of certain grammatical problems. The class will be conducted in French.

111. INTERMEDIATE FRENCH CONVERSATION. *Three hours credit.*

Prerequisite, two years of college French. A course designed to increase the ability of each student to use spoken French in everyday situations. A study of some of the principles of French diction will be included. The course will be conducted in French.

112. INTERMEDIATE FRENCH SYNTAX AND STYLISTICS. *Three hours credit.*

Prerequisite, two years of college French. A study of the more complex elements of French syntax and the common difficulties incurred in sentence structure. A study of styles employed in French literature, and the methods of studying them. The class will be conducted in French.

125. PHONETICS OF THE FRENCH LANGUAGE. *Three hours credit.*

Prerequisite, two years of college French. The development of the sounds of the French language from earliest recorded times to the present day. The theories of sound change as applied to French. The influence of accent shift and the phenomenon of nasalization and denasalization as they apply to French. Present phonetic trends in the language as observed in our own century.

126. FRANCO-CANADIAN LITERATURE. *Three hours credit.*

Prerequisite, two years of college French. The study of the Franco-Canadian novel in the twentieth century, the historical and political background, and the place of Franco-Canadian literature in the world of French letters.

127. THE FRENCH THEATRE FROM 1918 TO 1950. *Three hours credit.*

Prerequisite, two years of college French. The main currents in the French theatre from 1918 to 1950, with main emphasis on Cocteau, Giraudoux, and Anouilh.

140. THE FRENCH NOVEL TO 1800. *Three hours credit.*

Prerequisite, two years of college French. The development of the novel in France from Mme de Lafayette (1634-1693) to Chateaubriand (1768-1848), with emphasis on l'Abbé Prévost, Jean-Jacques Rousseau, Benjamin Constant, and Mme de Staël. Six novels will be read during the course.

141. THE FRENCH NOVEL FROM 1800 TO 1850. *Three hours credit.*

Prerequisite, two years of college French. The development of the novel in

France during the first half of the nineteenth century, with emphasis on Balzac, Stendhal, Sand, and Mérimée. Four novels, one by each author named, will form the core of this course.

142. THE FRENCH NOVEL FROM 1850 TO 1900. *Three hours credit.*
Prerequisite, two years of college French. The development of the novel in France during the second half of the nineteenth century, with emphasis on Zola, Flaubert, Daudet, and the Goncourts. Four significant novels will form the basis of the course, all in the original.

250. FRENCH WRITERS FROM 1900 TO 1914. *Three hours credit.*
Prerequisite, two years of college French. The study of French writers—novelists and poets—from the beginning of the twentieth century until World War One, mainly Jules Romains, Gide, Proust, and Apollinaire.

251. FRENCH WRITERS FROM 1919 TO 1930. *Three hours credit.*
Prerequisite, two years of college French. The study of French writers—novelists and poets—during the post-war period. They are Jules Romains, Duhamel, Martin du Gard, Valéry, Colette, Claudel, and Mauriac.

252. FRENCH WRITERS FROM 1930 TO 1955. *Three hours credit.*
Prerequisite, two years of college French. The study of French novelists and poets during the period extending from 1930 to 1955. The emphasis will be on Malraux, Mauriac, Bernanos, Sartre, and Camus.

GERMAN

1. ELEMENTARY GERMAN I. *Five hours credit.*

Credit is not given until three quarters are completed. The course aims to develop an accurate pronunciation, a moderately large active vocabulary, a large passive vocabulary, and sufficient understanding of grammar and sentence structure to enable the student to read without mental translation. Stress is laid on the phonological and grammatical relation of German to English.

2. ELEMENTARY GERMAN II. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of GER 1.

3. ELEMENTARY GERMAN III. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of GER 2.

5. INTERMEDIATE GERMAN COMPOSITION. *Four hours credit.*

Prerequisite, two years of high school German or one year of college German. A review of grammar, with oral and written exercises based on the reading of an adapted novel.

6. INTERMEDIATE GERMAN READING AND CONVERSATION. *Four hours credit.*

Prerequisite, two years of high school German or one year of college German. A reader tracing the cultural history of Germany from the first century of our era to the present will be studied and used as a basis for discussion in German. (This course may be taken without having had GER 5.)

7. INTRODUCTION TO GERMAN CLASSICS. *Four hours credit.*

Prerequisite, at least one quarter of Intermediate German. The class will study one five-act play of the classical period, and an anthology of short poems, with questions and discussion in German.

105. SURVEY OF GERMAN LITERATURE I. *Three hours credit.*

Prerequisite, two years of college German. German literature from the earliest beginnings through the 17th century. Pagan and early Christian literature, and then emphasis on the folk epic, the courtly epic, the courtly lyric, and on the Reformation period, with readings from Martin Luther and the humanists.

106. SURVEY OF GERMAN LITERATURE II. *Three hours credit.*

Prerequisite, two years of college German. German literature of the 18th and 19th centuries. Emphasis on the six great classical writers, with more intense effort on Göthe and Schiller. The historical and social background of all six will be explored. The decline of Classicism and the flowering of Romanticism will be traced.

107. SURVEY OF GERMAN LITERATURE III. *Three hours credit.*

Prerequisite, two years of college German or equivalent. A survey of modern German literature—latter 19th and 20th century writing. Emphasis on development and importance of Naturalism, Impressionism and Expressionism. Importance of Rainer Maria Rilke. Prose writings of Thomas and Heinrich Mann, Kafka and Hesse.

135. GERMAN CONVERSATION. *Four hours credit.*

Prerequisite, two years of college German. A course designed to increase the ability of each student to use spoken German in practical, everyday situations. The class will be conducted in German.

136. ADVANCED GERMAN COMPOSITION. *Four hours credit.*

Prerequisite, two years of college German. The course aims at helping the student to become familiar with a large number of idioms and to acquire flexibility of expression in written composition.

137. ADVANCED GERMAN GRAMMAR. *Four hours credit.*

Prerequisite, two years of college German. The course is intended for students who have mastered the elements of German grammar and have gone through at least one full grammar review. A study of the more complex elements of German syntax and the common difficulties incurred in sentence structure.

141. GÖTHE. *Three hours credit.*

Prerequisite, two years of college German. This course is designed as an introduction to the life and work of Germany's greatest classic. Special emphasis is placed upon developing some understanding of Göthe's world-view (*Weltanschauung*) as expressed in *Faust*. The unique vocabulary will be studied intensively, as will Göthe's dramatic technique.

142. SCHILLER. *Three hours credit.*

Prerequisite, two years of college German. This course is designed as an introduction to the life and work of one of Germany's greatest classics. While stress will be placed upon an intensive study of one or two of Schiller's greatest dramas, Schiller's times and background will be discussed.

225. EIGHTEENTH CENTURY GERMAN LITERATURE. *Three hours credit.*

Prerequisite, two years of college German. The general trends of German literature in the eighteenth century. Emphasis will be placed on the Halle poets, Lessing, Wieland, Herder, and Göthe. Readings and lectures in German.

226. NINETEENTH CENTURY GERMAN LITERATURE. *Three hours credit.*

Prerequisite, two years of college German. The main trends of German literature of the nineteenth century, especially the Romantic Movement. Emphasis will be placed on the later work of Göthe and the writings of Schiller. Readings and lectures in German.

227. TWENTIETH CENTURY GERMAN LITERATURE. *Three hours credit.*

Prerequisite, two years of college German. The most important aspects of twentieth-century German literature: neo-romanticism, symbolism, expressionism, and other movements. Readings and lectures in German.

ITALIAN

1. ELEMENTARY ITALIAN I. *Five hours credit.*

Credit is not given until three quarters are completed. Introduction to idiomatic spoken and written Italian by means of vocabulary learning and the study of the structure of Italian. Class activities regarding grammar and cultural readings are limited realistically to spoken and written Italian. Audio and phonetic laboratory aids will be used to the extent that they may benefit the student's pronunciation and accurate fluency.

2. ELEMENTARY ITALIAN II. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of ITAL 1.

3. ELEMENTARY ITALIAN III. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of ITAL 2.

LATIN**1. ELEMENTARY LATIN I. *Five hours credit.***

Credit is not given until three quarters are completed. A foundation course for the further study of Latin literature with abundant drill in inflections and syntax and a terminal course for students who wish Latin as a background for the study of other languages or for the professions, with emphasis on vocabulary, word derivations and comparative grammar.

2. ELEMENTARY LATIN II. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of LAT 1.

3. ELEMENTARY LATIN III. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of LAT 2.

5. INTERMEDIATE LATIN I. *Four hours credit.*

Prerequisite, two years of high school Latin or one year of college Latin. Reading of Latin prose and poetry of intermediate difficulty, accompanied by a review of grammar, exercises in composition, and an introduction to the system of Latin versification. (Given when there is sufficient demand.)

6. INTERMEDIATE LATIN II. *Four hours credit.*

Prerequisite, two years of high school Latin or one year of college Latin. Reading of Latin prose and poetry of intermediate difficulty, accompanied by a review of grammar, exercises in composition, and an introduction to the system of Latin versification. (Given when there is sufficient demand.)

7. INTERMEDIATE LATIN III. *Four hours credit.*

Prerequisite, two years of high school Latin or one year of college Latin. Reading of Latin prose and poetry of intermediate difficulty, accompanied by a review of grammar, exercises in composition, and an introduction to the system of Latin versification.

RUSSIAN**1. ELEMENTARY RUSSIAN I. *Five hours credit.***

Credit is not given until three quarters are completed. An introduction to spoken and written Russian with a view toward giving the student a sound knowledge of the structure of the language and high-frequency vocabulary of approximately 1,100 words. Audio-visual aids will be used as needed.

2. ELEMENTARY RUSSIAN II. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of RUS 1.

3. ELEMENTARY RUSSIAN III. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of RUS 2.

5. INTERMEDIATE RUSSIAN. *Four hours credit.*

Prerequisite, RUS 3. Review of Russian grammar, imitative composition and the reading of intermediate Russian texts.

**6. INTERMEDIATE RUSSIAN COMPOSITION AND CONVERSATION
I. *Four hours credit.***

Prerequisite, RUS 5. A continuation of RUS 5 but emphasizing more intensive reading, oral reports, advanced composition and more extensive conversation.

**7. INTERMEDIATE RUSSIAN COMPOSITION AND CONVERSATION
II. *Four hours credit.***

Prerequisite, RUS 6. A continuation of RUS 6. A study of three Russian authors in their shorter works (Turgenev, Lermontov, Pushkin). Oral reports, advanced composition, and translation.

SPANISH

1. ELEMENTARY SPANISH I. *Five hours credit.*

Credit is not given until three quarters are completed. A three-quarter sequence in the basic elements of Spanish through the aural-oral conversational approach; intensive and extensive use of aural-oral materials: writing and reading exercises; the use of audio-visual aids and devices to provide practical materials for pronunciation comprehension, adequate construction, and fluency of expression in the language.

2. ELEMENTARY SPANISH II. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of SPAN 1.

3. ELEMENTARY SPANISH III. *Five hours credit.*

Credit is not given until three quarters are completed. A continuation of SPAN 2.

5. INTERMEDIATE SPANISH I. *Four hours credit.*

Prerequisite, two years of high school Spanish or one year of college Spanish. Review of the basic principles of the language. Aural-oral orientation through oral and written composition, conversation and audio-visual aids; stressing normal fluency and readiness in the use of Spanish in ordinary communication.

6. INTERMEDIATE SPANISH II. *Four hours credit.*

Prerequisite, two years of high school Spanish or one year of college Spanish. A continuation of SPAN 5 but emphasizing more intensive reading, oral reports, advanced composition and extensive conversation based on Spanish and Spanish-American culture.

7. INTERMEDIATE SPANISH III. *Four hours credit.*

Prerequisite, two years of high school Spanish or one year of college Spanish. A continuation of SPAN 6. Based on Spanish-American cultural materials, sources, films, audio-visual materials and a higher level of all-round comprehension and fluent functional use of the language and culture.

110. ADVANCED SPANISH GRAMMAR. *Four hours credit.*

Prerequisite, two years of college Spanish. A systematic study of the more complex theories and forms of Spanish grammar, with emphasis on mood, tense, and voice.

115. SURVEY OF SPANISH-AMERICAN LITERATURE I. *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the literature and civilization of Spanish America from the time of the earliest Spanish explorers until the nineteenth century.

116. SURVEY OF SPANISH-AMERICAN LITERATURE II. *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the literature of Spanish America between 1888 and 1910, the Modernist period.

117. SURVEY OF SPANISH-AMERICAN LITERATURE III. *Three hours credit.*

Prerequisite, two years of college Spanish. A study of the main works of the contemporary period of Spanish-American literature.

125. ADVANCED SPANISH COMPOSITION. *Three hours credit.*

Prerequisite, two years of college Spanish. A course designed to increase the students' fluency in the language through the use of original compositions, translations, and resumes.

135. SPANISH CONVERSATION. *Four hours credit.*

Prerequisite, two years of college Spanish. A course designed to increase the ability of each student to use spoken Spanish in practical, everyday situations. The class will be conducted in Spanish.

145. SPANISH PRONUNCIATION. *Four hours credit.*

Prerequisite, two years of Spanish. A study of the mechanics of Spanish pronunciation. Methods of recognizing and correcting pronunciation errors.

155. SURVEY OF SPANISH LITERATURE I. *Five hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization from the late medieval period to the Renaissance.

156. SURVEY OF SPANISH LITERATURE II. *Five hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization of the sixteenth, seventeenth, and eighteenth centuries. Emphasis is placed on Cervantes, Lope de Vega, and Fernando de Rojas.

157. SURVEY OF SPANISH LITERATURE III. *Five hours credit.*

Prerequisite, two years of college Spanish. A study of Spanish literature and civilization of the nineteenth and twentieth centuries, with greatest emphasis on the more recent periods.

175. SPANISH READING. *Maximum of four hours credit.*

Prerequisite, two years of college Spanish. Designed to fit the reading abilities and interests of various students. Class meets two days a week for intensive reading. Extensive outside reading is reported in conference.

FOREIGN LANGUAGES

210. LINGUISTICS. *Three hours credit.*

A brief survey of the world's chief languages, their geographical distribution, main cultural features and appearance. In more detail, classification of the Indo-European languages, with particular stress on historical development, basic grammatical structure, resemblances, differences and relationships of English, French, German and Spanish.

231. THE TEACHING OF FOREIGN LANGUAGES. *Four hours credit.*

Prerequisite, two years of foreign language. A study of problems in the teaching of foreign languages at the secondary and elementary school levels. Includes development of content for course of study, organization of learning materials, procedures in teaching, testing and evaluating.

232. TEACHING FOREIGN LANGUAGE IN THE ELEMENTARY SCHOOL. *Three hours credit.*

Especially for teachers of the elementary school level, but including all levels of instruction. A study of today's practical values, aims, methods, approaches, procedures, and means and materials for attaining success in teaching modern foreign languages.

Department of Speech and Theatre Arts

Dr. Sylvester Toussaint, Chairman

Professors: Ray DeBoer, Toussaint, W. Wolfe.

Associate Professors: Ahlberg, R. Crawford, Holley, Willcoxon.

Assistant Professors: Jamison, Longwell.

Instructors: J. Crawford, D'Angelo, Ruth DeBoer, Easley, Fewel, Girault, Norton, Warnemunde.

Description of Courses

COMMUNICATIONS

3. PRINCIPLES OF SPEECH. *Three hours credit.*

A lecture and performance course in fundamentals of voice production, oral reading and public speaking.

(For course descriptions of COM 1 and COM 2, Elementary Composition I and II, see Department of English, page 111.)

SPEECH AND THEATRE ARTS

13. INTRODUCTION TO STAGECRAFT. *Three hours credit.*

Emphasis is placed upon the background of the art of stagecraft, the vocabulary, and the materials of the scene. Opportunity is provided for the student to learn through direct experience, techniques of construction, assembly and painting.

16. VOICE AND DICTION. *Four hours credit.*

A study of the development and use of the speaking voice with particular attention to individual needs.

18. LABORATORY FORENSICS. *Maximum of three hours credit.*

Students registering for more than one hour of credit must have permission of director of forensics and must devote at least fifteen hours a week to the program. No student may earn more than a total of eight hours in Speech 18.

62. PUBLIC SPEAKING. *Four hours credit.*

Prerequisite, COM 3. A second course in speech. Emphasis is placed on the preparation, organization, and presentation of the various types of speeches.

63. FIRST COURSE IN DRAMA. *Four hours credit.*

An introduction to the basic principles of acting and dramatic production. A minimum of twenty clock hours of activity in theatre production is expected of the student.

65. BEGINNING SCENE DESIGN. *Three hours credit.*

Prerequisite, SP 13. An introductory course in the fundamentals of scene design. The study includes the basic principles of design and color and their application to scenic design.

108. PARLIAMENTARY PROCEDURE. *Two hours credit.*

A study of the rules which govern procedure in organized groups and practice in the application of those rules.

110. STAGE MAKE-UP. *Two hours credit. (One hour lecture, two hours laboratory.)*

A basic course designed to acquaint the student with the principles of the art of stage make-up.

112. CHILDREN'S THEATRE. *Three hours credit.*

A lecture and laboratory course in dramatics for elementary and secondary school teachers. Contribution of creative dramatics to education. Demonstration of procedure best adapted to work in children's dramatics.

113. STAGECRAFT. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite, SP 13 or 65. This course deals specifically with the problems and materials of play production. Materials and methods of staging, an introduction to lighting and lighting practices, and techniques of costuming the play receive the major emphasis in this course.

114. INTRODUCTION TO THE THEATRE. *Three hours credit.*

An introductory course to the theatre which gives a comprehensive outline of the living stage, its players and craftsmen and its place in society from primitive theatre to contemporary American and European theatres.

115. BEGINNING CHARACTERIZATION. *Three hours credit.*

Prerequisite, SP 63. A lecture and laboratory course in characterization in which the student participates in college theatre productions.

116. BEGINNING PLAY DIRECTION. *Four hours credit.*

Prerequisite, SP 63. A lecture and laboratory course in the principles of direction in which the student participates in college theatre productions.

117. ORAL INTERPRETATION. *Three hours credit.*

The student is given an opportunity to read aloud in all the forms of literature and is aided in gaining skill in an artistic presentation.

118. ARGUMENTATION AND DEBATE. *Four hours credit.*

A basic course designed to give the speaker experience and skill in debate.

123. BASIC SPEECH AND ORAL READING. *Five hours credit.*

A course for prospective junior high school teachers. It is designed to develop basic skills and to provide meaningful learning experiences in speaking and oral reading.

124. TEACHING SPEECH IN JUNIOR HIGH SCHOOL. (ATE) *Four hours credit.*

Introduction to the study of the teaching of speech with consideration of goals, source materials, and projects. The correcting of articulatory problems will be stressed.

145. SPEECH COMPOSITION. *Two hours credit.*

This course consists of the study of the techniques involved in the writing of speeches. Several speeches are studied analytically and speeches are then written to be memorized.

151. SPEECH FOR THE CLASSROOM TEACHER. (ATE) *Four hours credit.*

A course designed to increase the personal effectiveness of the teacher in the classroom with emphasis on the improvement of instructional speaking. Not for speech major or minors.

188. RADIO PRODUCTION AND PRACTICES. *Three hours credit. (Two hours lecture, two hours laboratory.)*

This course is designed to survey all basic radio production processes. Considerable practical laboratory experience in the studios of a broadcast station.

200. TECHNIQUES OF PLAY DIRECTION. *Three hours credit.*

Prerequisites, SP 63, 115, and 116. An advanced course in the direction of three-act and one-act plays for public presentation.

208. INTRODUCTION TO TELEVISION PRODUCTION. *Four hours credit. (Two hours lecture, four hours laboratory.)*

This course includes a brief history of oral mass media, a survey in the laymen's terms of the technical phenomena involved, a comparison of television to other mass media, and a study of television programs and production techniques.

210, 211, 212. SUMMER THEATRE WORKSHOP I, II, III. *Five hours credit each.*

Workshop in techniques of acting, directing and technical work as observed in the daily rehearsal periods of the Little Theatre of the Rockies. Students must spend six to eight hours per day in rehearsals, either as actor or technical assistant.

213. ADVANCED STAGING TECHNIQUES. *Four hours credit.*

Prerequisites, SP 65, 113. The study and practice of the latest trends and developments in scenic design, staging methods, and techniques. Special attention is directed toward stage management, care and maintenance of equipment and materials. Emphasis is upon stage mechanics and materials of the modern theatre.

214. STAGE LIGHTING. *Two hours credit. (One hour lecture, two hours laboratory.)*

An introduction to lighting theory and lighting design applicable to all staging practices.

216. SENIOR SEMINAR IN DRAMATIC PRODUCTION. *Two hours credit.*

Emphasis will be upon problems of major concern to the prospective teacher-director. Reports and discussions will focus upon specific areas related to the teaching of theatre.

217. ADVANCED ORAL INTERPRETATION. *Three hours credit.*

Prerequisite, SP 117. The development of greater artistic skill in reading various forms of literature.

218. GROUP DISCUSSION. *Four hours credit.*

Principles and practice in organizing, conducting, and participating in all forms of public discussion including round-tables, symposiums, debates, and forums.

219. SEMINAR IN THE DIRECTION OF FORENSICS. (ATE) *Two hours credit.*

A study of the principles, methods, and problems of directing a forensics program, particularly at the secondary school level.

220. STAGE COSTUMING. *Four hours credit.*

Prerequisites, SP 65, 113, 116. A study of the styles of costume used in the theatre from primitive times to the present. Practical experience is gained through actual work in costume construction required by the Little Theatre of the Rockies productions.

228. TELEVISION IN EDUCATION. (ATE) *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisite, SP 208. This course includes a brief study of the background of television in education, a survey of learning theory as it applies to television, a study of the research results available on televised education, and a study of the special problems of the teacher and television.

230. HISTORY OF THE THEATRE I. *Three hours credit.*

A seminar study of European theatre and its development from the beginnings until the end of the Middle Ages, including the primitive origins of theatre and the development of Oriental theatres.

231. HISTORY OF THE THEATRE II. *Three hours credit.*

A seminar study of European theatre and its development from the Italian Renaissance until the close of the 18th century.

232. HISTORY OF THE THEATRE III. *Three hours credit.*

A seminar study of American and European theatre and its development from the beginning of the 19th century to the present.

248. WORKSHOP IN SPEECH EDUCATION. (ATE) *Three hours credit.*

An opportunity to study cooperatively the problems involved in teaching speech. The area or areas to be covered in any one workshop will be determined by the interests and needs of the group or by previous announcement. These areas will include such matters as curriculum, class instructional projects, co-curricular speech activities, remedial techniques, development and use of instructional materials.

250. SPEECH EDUCATION. (ATE) *Four hours credit.*

A seminar study of speech education: history, practices, and trends.

252. BUSINESS AND PROFESSIONAL SPEAKING. *Four hours credit.*

Designed particularly to give school administrators instruction and practice in organizing and presenting speeches which they are called upon to make in connection with their professional positions.

260. INTRODUCTION TO GENERAL SEMANTICS. *Four hours credit.*

An analysis of the factors in communication that lead to misunderstandings and conflict, with suggestions for improving communication.

265. ADVANCED SCENE DESIGN. *Three hours credit.*

Prerequisite, SP 113. A study of the techniques and problems of scenic design. The esthetic as well as the practical problems of the designer are presented. Settings, properties, costuming, and lighting are practiced within the theatre laboratory.

270. THE PSYCHOLOGY OF SPEECH. *Four hours credit.*

A study of the nature and origin of speech; the relationship of speech to emotion, learning, meaning and thought; the development of speech in the child; speech and personality.

275. PHONETICS. *Three hours credit.*

The science of speech sounds with special application to the use of phonetics in speech instruction in elementary and secondary schools.

280. AMERICAN PUBLIC ADDRESS. *Four hours credit.*

An historical and critical study of representative American speakers and speeches.

290. PERSUASION. *Three hours credit.*

A study of advocacy with special emphasis on the techniques used in communication and the implications for the listener and reader.

294. CRITICAL THINKING. *Four hours credit.*

A study of inductive and deductive reasoning with special emphasis on the fallacies in reasoning.

315. THEATRE PRODUCTION IN THE HIGH SCHOOL. (ATE or certification at the undergraduate level) *Three hours credit.*

A basic production course for the English and/or speech teacher who is involved in the direction of high school plays.

316. SEMINAR IN THEATRE PRODUCTION. *Four hours credit.*

Prerequisite, SP 200. An analysis of the practical problems in theatre production, acting techniques, and the technical phases of setting and lighting the stage.

330. SEMINAR IN THEATRE HISTORY. *Three hours credit.*

Prerequisites, SP 230, 231, 232. A study of theatres, actors, and acting from primitive times to the present. Emphasis is placed upon special research projects dealing with the theatre as a social and cultural institution.

333. ADVANCED CHILDREN'S THEATRE PRODUCTION. *Four hours credit.*

Prerequisite, SP 112. An advanced course in the practical problems of production in a theatre for children. Emphasis is placed on the educational possibilities of this type of theatre and practical experience is gained through work with community groups and with junior high school students.

350. RHETORICAL THEORY. *Four hours credit.*

An analytical review of the major contributions of Greek, Roman, English and American rhetoricians from Corax to Winans.

360. GENERAL SEMANTICS. *Four hours credit.*

An analysis of language habits which lead to conflict, confusion, and prejudice, and the development of methods leading to greater accuracy and sanity in the use of language.

SCIENCES AND MATHEMATICS

Dr. Harley F. Glidden, Associate Dean

GENERAL SCIENCE

3. PHYSICAL SCIENCE. *Three hours credit.*

The study of physical science principles of atomic structure, nuclear energy, the source, relationship, and use of the electromagnetic radiations and their social implication in modern civilization.

4. BIOLOGICAL SCIENCE. *Three hours credit.*

This is a course designed to acquaint beginning students with the modern day concepts of the cell and protoplasm; animal and plant reproduction; and genetic transmission of hereditary traits.

5. EARTH SCIENCE. *Three hours credit.*

Units of study are organized to help students develop a better understanding and appreciation of their environment. Basic concepts are developed concerning the Universe, the Earth, its materials and landscapes, and the weather.

109. SCIENCE FOR ELEMENTARY TEACHERS. *Three hours credit.*

A subject matter course for elementary majors presenting science concepts and information for elementary teachers. Areas may include light, heat, sound, simple machines, and the interrelationships of things to the physical environment.

203. ELEMENTARY BIOLOGICAL SCIENCE. *Three hours credit.*

A content course that emphasizes basic understanding of animal and plant life. Films, laboratory experiences, field work, visual aids, museum study and reading materials are used to develop the concepts. This course not applicable to a graduate science major.

204. COMMON MINERALS AND ROCKS. *Three hours credit.*

A laboratory course in the recognition of common minerals and rocks. On an arranged field trip each student will collect a set of specimens. Some outside readings required. Not applicable to a science degree or as a substitute for a required science course. Offered summer quarter and occasional winter quarter as evening course.

205. PHYSICAL SCIENCE CONCEPTS. *Four hours credit.*

The fundamental concepts of physical science are presented to provide a background for elementary teachers. This course is not applicable to a graduate science major.

206. CONSERVATION OF NATURAL RESOURCES. *Four hours credit.*

A study of the relation of natural resources to the development of man and his culture. Units of study are organized on soil, water, forest and forest products. Range management, wildlife, and mineral resources are also covered. The emphasis throughout is on their relation to man.

207. AEROSPACE WORKSHOP. *Three hours credit.*

The purpose of this course is to provide the elementary and secondary teacher with a general background in aviation and an understanding of the air and space age. Subject matter will include the elementary concepts of aircraft, rocket and satellite development, weather, navigation, theory of flight, and aviation in education.

208. ELEMENTARY SCIENCE WORKSHOP. *Three hours credit.*

A subject matter course for the improvement of science background through experimentation and demonstration. Opportunity is provided for the solution of individual problems through the guidance of the instructors. Visual aids, laboratory materials, discussions, professional literature, and field trips are other resources.

209. AVIATION AND SPACE FLIGHT. *Four hours credit.*

A non-technical elementary course in the subject matter of aviation and space flight. Units may include maps and charts, theory of flight, navigation and problems of space flight. Some attention given to teaching materials. This course not applicable to a graduate degree in science. Field trips required.

290. PHYSICAL PROPERTIES OF MATTER. *Three hours credit. (1966-67 NSF In-Service Institute.)*

This course will deal with some of the basic physical properties of matter and their measurement. Properties studied include density, thermal expansion, elasticity, freezing point, melting point, and boiling point. The experimental approach to the study of these properties will be emphasized.

291. THE CHEMICAL NATURE OF MATTER. *Three hours credit. (1966-67 NSF In-Service Institute.)*

This course will review modern concepts of the structure of gases, liquids, and solids and the relationship between structure and properties. Study of phase changes and solutions will include the concept of equilibrium.

292. THE ATOMIC NUCLEUS. *Three hours credit. (1966-67 NSF In-Service Institute.)*

This course will deal with the atomic model of matter. Study includes radioactivity, both natural and artificially induced. The sizes and masses of atoms and molecules, and the methods of determination of molecular formulas will be considered.

330. GRADUATE READINGS COURSE IN SCIENCE. *Four hours credit.*

The required reading in several areas of science will consist of books written for the adult lay reader. Designated books will be required and a recommended supplementary reading list will be supplied. Each book will be the basis for class discussion and comment. This course not applicable to a graduate degree in science.

376. HISTORY OF SCIENCE. *Three hours credit.*

The fundamental purpose of the course is to show the evolution of scientific thought and how it has contributed to contemporary methods of research. Emphasis will be devoted to the origin of the underlying principles, theories, laws of science, and the techniques used by various scientists in formulating their conclusions.

379. PHILOSOPHY OF SCIENCE. *Three hours credit.*

Prerequisite, ED 295, or 395, or 461. A study of the interrelations between philosophy and science with an attempt through exposition, discussion, and reconciliation to provide a clearer understanding of vital issues. Topics include the nature and sources of knowledge, meaning, and validity; criteria of objectivity, reality; examination of concepts underlying scientific method and development of scientific theories.

Department of Biological Science

Dr. Maynard N. Stamper, Chairman

Professors: Moinat, Stamper, Winchester.

Associate Professor: Thomas.

Assistant Professors: Gapter, Plakke, Rich, G. Schmidt, Vest.

Description of Courses

BIOLOGY

53. HEREDITY AND YOUR LIFE. *Three hours credit.*

A course dealing with the principles of heredity as they apply to man, presented on an elementary level which requires no background in science. Topics included are superstitions and facts about human heredity, method of inheritance of common human traits, heredity and race, heredity and environment, effects of radiation on future generations, and eugenic and population problems. Especially appropriate for non-science majors. Credit not allowed toward major or minor in Biological Science.

151. CELLULAR BIOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, ZOO 11, 12, or BOT 22, 23, CHEM 40 or 44, 41 or 45, 42 or 141. A course in general biological principles relating cell structure to function. The topics discussed include genetic control of cell activity, the molecular basis of cell metabolism, energy transformations within the cell, cell division and homeostatic regulation of the cell environment.

152. GENETICS. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, BOT 23 or ZOO 12. A study of the fundamental laws of heredity and their application to plants and animals, with emphasis on the heredity of man.

251. EVOLUTION. *Three hours credit.*

This course is designed as a study of the processes of change of living organisms through time, and to show how genetic variations are related to natural selection and formation of species. Some time is devoted to consideration of the impact of the theory of evolution on the biological sciences since Darwin's time.

253. HUMAN GENETICS AND EUGENICS. *Three hours credit.*

Prerequisite, BIO 152. A survey of the principles of human heredity together with a consideration of their significance in the problems of the world today. The importance of human genetics in marriage counseling and in medical or legal practice is included.

254. AQUATIC BIOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23, ZOO 11, 12. A course in the study of fresh water plants and animals of the Rocky Mountains Region. Emphasis will be upon methods of collecting, classification, ecological relations, and economic importance of the fresh water biota. Field trips arranged.

296. ECOLOGICAL PRINCIPLES. *Five hours credit. (NSF Summer Institute)*

This course will arrange a laboratory situation similar to that recommended by BSCS for high school biology. Participants will set up experiments and demonstrations in the chronological sequence recommended by the ecological

(green) version. Greatest attention will be given to ecological principles that are most critical for the survival of plants and animals.

297. BASIC GENETICS. *Four hours credit. (Two hours lecture, four hours laboratory.) (NSF Summer Institute)*

Designed to give institute participants a basic background in genetics, this course will deal with basic genetics, genetics of speciation and population dynamics of both plants and animals. The genetics block of the BSCS will be used as laboratory guide.

298. SECOND LEVEL COURSE IN BIOLOGY. *Four hours credit. (Two hours lecture, four hours laboratory.) (NSF Summer Institute.)*

Designed for the second level course in high school biology. BSCS material will be used as the core of this course. Additional information will be given in statistics. Experimental design and supplementary information updating the participants.

299. SEMINAR IN SCIENCE INQUIRY. *Two hours credit. (NSF Summer Institute)*

This seminar will deal with the reasons for teaching science as inquiry and the practical consideration and applications in teaching biological science using the invitations to scientific inquiry established by the BSCS high school curriculum.

350. SEMINAR IN BIOLOGICAL SCIENCES. *One hour credit.*

A study of current research and literature in a field of biological interest. One quarter each will be devoted to botany, zoology, and biological science. The field will be selected by the biology department. Maximum three credit hours.

357. BIOLOGICAL RESEARCH. *Five hours credit. (Two hours lecture, six hours laboratory.)*

Designed to give the student actual practice in planning, executing, and presenting the results of a problem in the biological sciences. Each student selects a problem and carries it out through original research in the laboratory or field. He learns how to prepare and give reports of his results both in written and oral form. Required of all graduate students in biological science.

359. RADIATION BIOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

A course which deals with the basic physical, chemical and biological principles upon which the study of biological effects of radiation are based.

BOTANY

22. GENERAL BOTANY I. *Five hours credit. (Three hours lecture, four hours laboratory.)*

A study of seed plants, the conifers and flowering plants, their structure and functions, economic aspects and classification.

23. GENERAL BOTANY II. *Five hours credit. (Three hours lecture, four hours laboratory.)*

A survey of the plant kingdom including the life cycles, habitats, relationships and evolutionary aspects of the great groups of plants, the algae, fungi, mosses, liverworts, ferns, conifers and flowering plants. Economic relationships are also emphasized.

121. MORPHOLOGY OF THE LOWER PLANTS. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23. Morphology of the algae and bryophytes. Structure, development, and relationships of the algae and of the bryophytes.

122. GENERAL BACTERIOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, CHEM 42 or 141. The course emphasizes the basic information pertaining to morphology and growth characteristics and the control measures used for bacteria. The content is organized about important personal and community health problems.

220. ECONOMIC BOTANY. *Two hours credit.*

A study of the plants that directly affect the welfare of man including plants

that supply our food, drugs, fibers, naval stores, wood, dyes, insecticides and other useful products. Each plant source is briefly considered as to its classification, structure and ecological requirements.

221. PLANT ANATOMY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, BOT 22. A study of the anatomy of plants with emphasis on the seed plants. Careful consideration is given to the various tissues as to their origin, development, and structure as related to their function. Some consideration is given to the evolution of tissues in plants.

222. PLANT PHYSIOLOGY I. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, CHEM 42. A course dealing with the fundamental principles of absorption of water and minerals, transpiration, photosynthesis, translocation, and respiration of plants, including biochemical mechanisms.

224. MORPHOLOGY OF THE VASCULAR PLANTS. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23, 221. A comparative study of the structure, development and relationships of the vascular plants.

225. PLANT ECOLOGY I—PHYSIOLOGICAL PLANT ECOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23. A study of the interrelations between the individual plant and the environment including soil, climatic and biotic factors. The responses of plants to such factors are studied primarily under the controlled conditions of the greenhouse and the growth chamber.

226. BOTANICAL MICROTÉCHNIQUE. *Two hours credit. (Four hours laboratory.)*

Prerequisites, BOT 22, 23, 221. Study of plant tissues and the preparation of permanent slides of tissues and other plant materials.

227. IDENTIFICATION OF SEED PLANTS OF THE LOCAL FLORA. *Five hours credit. (Two hours lecture, six hours laboratory.)*

Prerequisites, BOT 22, 23. An introductory course concerned with recognition and identification of plants at the species and family levels. Use of keys, manuals, and collecting techniques.

228. MYCOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23. A survey of the fungi emphasizing how they live, grow, and reproduce. Isolation and cultural techniques of some of the common fungi will be demonstrated. Also, emphasis will be placed on terms and techniques needed to identify the common fleshy fungi found in this area.

229. PLANT DISEASES. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23. A study of the diseases of the higher plants caused by bacteria, fungi, and viruses. Emphasis is placed on disease cycles and control measures.

320. PLANT GROWTH AND DEVELOPMENT. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisites, BOT 22, 23. A study of the growth cycles of plants in the laboratory and field as the cycle may be affected by external and internal conditions. The effect of auxins is a principal feature of the laboratory work as these compounds condition general growth, curvatures and movements. Practical problems connected with fruit setting, defoliation, herbicides, and other physiological phenomena are considered.

322. PLANT PHYSIOLOGY II—METABOLISM. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, CHEM 147. An intensive study of the metabolic activities of the plant from those of the organelles of the individual cell to those of the integrated organs of the entire higher plant. Laboratory technique introduces the use of isotopic tracers and chromatography.

323. PLANT GEOGRAPHY. *Three hours credit.*

Prerequisite, BOT 227 or 325. A study of the floras of the past and present, and of the factors that have affected their distribution.

325. PLANT ECOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23. A study of plant ecosystems and the interrelationships of the organisms therein as they are affected by the factors of the environment. Field studies are made on the plains and in the mountains.

327. RESEARCH METHODS IN BOTANY. *Three hours credit. (One hour lecture, four hours laboratory.)*

Prerequisites, BOT 22, 23, 222. A study of the techniques of research in botany with application to a particular problem chosen by the student.

ZOOLOGY

11. GENERAL ZOOLOGY—INVERTEBRATE. *Five hours credit. (Three hours lecture, four hours laboratory.)*

The principles of animal biology are considered as they apply to the invertebrate phyla. In the laboratory a series of animals from protozoa through arthropods are used to illustrate the concepts developed in the classroom.

12. GENERAL ZOOLOGY—VERTEBRATE. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 11. The principles of animal biology are considered as they apply to the vertebrates. Anatomy and physiology of typical vertebrates are studied in the laboratory using representative specimens from each vertebrate class. The principles of ecology and evolution of vertebrates are considered.

112. MAMMALIAN ANATOMY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12. A study of injected laboratory mammals in which techniques of dissection and laboratory procedures are emphasized. Skeletal structure, musculature, and the morphology of organs of respiration, circulation and digestion are considered.

114. ORNITHOLOGY. *Three hours credit.*

In this course classroom, museum, and field projects are concerned with the habits, habitats, life histories, migration activities, behavior patterns, and economic importance of birds. Students will have an opportunity to learn to identify birds in the field. Field work required.

117. HUMAN PHYSIOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, ZOO 12, 112. CHEM 42, 142 or 147 recommended. A detailed presentation of the functions of the organ systems of the human body. Emphasis is placed on the mechanisms involved with the maintenance of normal function.

210. ENTOMOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, ZOO 11, 12. The study of the principal orders of insects. Specimens are collected locally and prepared by the student for classification and study. The role of insects as vectors in transmission of diseases and some control measures are considered in the latter parts of the course.

211. COMPARATIVE ANATOMY OF THE VERTEBRATES. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12. A detailed study of the systems of the vertebrates. The student is expected to make careful dissections of selected types. Sharks through mammals are used for laboratory study.

213. ANIMAL PARASITOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12. A study of the symbiotic relationships of parasitism as exemplified by typical parasites of man, domesticated and wild animals. In the laboratory methods of clearing, staining, and mounting are practiced.

214. FAUNISTICS. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12. An advanced taxonomy and ecological survey of the local fauna of Colorado with special emphasis on aquatic invertebrates, amphibians, reptiles, fishes, and mammals. This will include field trips, collection, and classification of the local fauna, and a study of the habits, habitats, and life histories of the local species under the ecological conditions that govern their distribution.

215. VERTEBRATE EMBRYOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12. A study of biological processes and fundamental principles of embryology. In the laboratory embryos of the frog, chick, and pig are used to illustrate concepts developed in lecture sessions.

218. ANIMAL MICROSCOPIC TECHNIQUES. *Three hours credit. (Six hours laboratory.)*

Prerequisite, ZOO 12. The skills of killing, staining, and preparing animal tissues for study. Collections prepared by students are assumed to have value for future reference.

219. ANIMAL ECOLOGY. *Five hours credit. (Two hours lecture, six hours laboratory.)*

Prerequisite, BOT 23, ZOO 12. The principles governing animal relationship with their environment. Distribution, food supply, migratory movements, and territorial requirements will be emphasized. Field work required.

221. MAMMALIAN PHYSIOLOGY I. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 12, 112 or 211. CHEM 142 or 147 recommended. A detailed and comprehensive coverage of the major organ systems of the mammal. Major emphasis is placed on the integrative functions of the nervous and endocrine systems in the maintenance of homeostasis. This course is the first of a two-quarter sequence and includes a study of the body fluids, cardiovascular, respiratory and gastrointestinal systems.

222. MAMMALIAN PHYSIOLOGY II. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisite, ZOO 221. This course is a continuation of ZOO 221. The course includes consideration of digestion and absorption, intermediary metabolism, the excretory, muscular and nervous systems and the special senses. Major emphasis is placed on the integrative functions of the nervous and endocrine systems in the maintenance of homeostasis.

310. CYTOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Study of cells with special reference to morphology, cytochemistry and physiology. This study will include the cytoplasmic organelles and the nucleus.

311. ADVANCED INVERTEBRATE ZOOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

Prerequisites, ZOO 11, 12. A comparative study of the classification, anatomy, physiology and natural history of the invertebrates, exclusive of insects and most parasitic forms.

315. VERTEBRATE ORGANOGENY. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisite, ZOO 215. A study of the origin and development of the organ systems of vertebrates from the triploblastic embryo through organ formation. In the laboratory serial sections of frog, chick, and pig are used to illustrate processes discussed in lecture.

318. VERTEBRATE HISTOLOGY. *Five hours credit. (Three hours lecture, four hours laboratory.)*

An intensive study of normal tissues and organs of vertebrates, with emphasis on mammals.

Department of Chemistry

Dr. John A. Beel, Chairman

Professors: Beel, Koch, Woerner.

Associate Professor: Tomasi.

Assistant Professors: Fields, James, Schreck.

Description of Courses

40. PRINCIPLES OF CHEMISTRY I. *Five hours credit. (Four hours lecture, three hours laboratory.)*

This course introduces the student to the principles of chemistry together with some descriptive chemistry to illustrate these principles. It is designed for science majors and minors, as well as for pre-medical, pre-dental, pre-veterinary, pre-engineering, nursing, and home economics students.

41. PRINCIPLES OF CHEMISTRY II. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 40 or 44. This course is a continuation of the principles of chemistry together with the descriptive chemistry necessary to illustrate these principles. It is designed for the same group of students as CHEM 40 and is necessary to provide a reasonably complete understanding of the basic concepts of chemistry.

42. INTRODUCTORY ORGANIC CHEMISTRY. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 41 or 45. This course provides an elementary introduction to organic chemistry, including some of the many applications in such fields as food, drug, plastic, dye, and vitamin chemistry.

44. PRINCIPLES OF CHEMISTRY IA. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, one year high school chemistry, three years high school mathematics or MATH 23. The course presents the principles of chemistry rigorously to those students who have a strong background in high school chemistry and mathematics. Descriptive chemistry will be used to illustrate the theoretical basis of modern chemistry. Laboratory work will emphasize quantitative aspects of chemistry.

45. PRINCIPLES OF CHEMISTRY IIA. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 40 or 44. This course is a continuation of the principles of chemistry together with the descriptive chemistry necessary to illustrate these principles. It is designed for the same group of students as CHEM 44 and is necessary to provide a reasonably complete understanding of the basic concepts of chemistry. Laboratory work will emphasize the quantitative aspects of chemistry.

46. QUALITATIVE ANALYSIS. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, CHEM 41 or 45 and MATH 23. In this course, the student is introduced to analytical theory and the methods of detection of common ions. The laboratory work illustrates the class discussion.

141. ORGANIC CHEMISTRY I. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 41 or 45. This course is the first of a series of three courses which cover the nomenclature and reactions of the various classes of organic compounds, together with basic electronic aspects of these compounds. The aliphatic and aromatic compounds are integrated in this series. Chemistry majors (Arts and Sciences) may also register for CHEM 244 (one hour) concurrently.

142. ORGANIC CHEMISTRY II. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 141. This course is the second of the series which covers

the nomenclature, reactions and electronic theory of the various classes of organic compounds. Aliphatic and aromatic compounds are integrated in this series. Chemistry majors (Arts and Sciences) may also register for CHEM 244 (one hour) concurrently.

145. QUANTITATIVE ANALYSIS I. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 46. This course provides a discussion of quantitative procedures as well as continued emphasis on analytical theory. The methods of volumetric and gravimetric analysis are applied to common substances in the laboratory.

147. GENERAL BIOCHEMISTRY. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 42 or 142. An introduction to the chemistry of foods, nutrition, and body processes is given.

148. FOOD ANALYSIS. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 42. This course deals with some of the techniques of qualitative and quantitative analysis of foods for certain inorganic and organic constituents.

241. ELEMENTS OF GLASS BLOWING. *One hour credit. (Three hours laboratory.)*

Demonstrations and practice in the elementary operations of glass blowing; the construction and repair of borosilicate glass laboratory equipment.

242. ORGANIC CHEMISTRY. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 40 or 44. A beginning course in organic chemistry for students with no previous background in organic chemistry. Some of the fundamental types of aliphatic and aromatic organic compounds are treated with regard to theory and application.

243. ORGANIC CHEMISTRY III. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 142. This course is the last of the series which covers the nomenclature, reactions and electronic theory of the various classes of organic compounds. Aliphatic and aromatic compounds are integrated in this series. Chemistry majors (Arts and Sciences) may also register for CHEM 244 (one hour) concurrently.

244. LABORATORY IN ORGANIC CHEMISTRY. *One hour credit. (Three hours laboratory.) (Maximum three hours credit.)*

Organic preparations and qualitative organic analysis constitute the laboratory work.

245. QUANTITATIVE ANALYSIS. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisites, MATH 23 and CHEM 41 or 45. Lectures treat the equilibria existing in solutions of acids, bases, and slightly soluble salts, and the application of such equilibria to gravimetric and acid-base and volumetric precipitation analysis. Laboratory work consists of illustrating these three types of analysis. Students having credit in any quantitative analysis course must obtain permission of instructor before enrolling in this course.

246. QUANTITATIVE ANALYSIS II. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, CHEM 145. Corequisite, CHEM 282. Special attention is given to the analysis of complex mixtures, and the use of certain analytical instruments.

248. INORGANIC CHEMISTRY I. *Three hours credit.*

Prerequisite, CHEM 145. This course is an introduction to inorganic chemistry. Literature, atomic structure and chemical bonding will be presented.

249. INORGANIC CHEMISTRY II. *Three hours credit.*

Prerequisites, CHEM 248, 281, corequisite, CHEM 282. The chemistry of typical inorganic compounds will be presented. Emphasis will be placed on the relationship of bonding and structure to chemical properties.

280. ORGANIC QUALITATIVE ANALYSIS. *Three hours credit. (Nine hours laboratory.)*

Prerequisite, CHEM 243. This course is an advanced laboratory course in organic chemistry. The identification of organic compounds constitutes the laboratory work. No classwork is required but a paper on some phase of organic chemistry is required.

281. PHYSICAL CHEMISTRY I. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, CHEM 142, 145, MATH 33, PHYS 67. This course is an advanced study of the theoretical principles upon which chemistry is based. The properties of the gaseous, liquid, and solid states, the principles of thermodynamics and thermochemistry and the theories of atomic and molecular structure are considered. The laboratory demonstrates the principles developed in the lecture.

282. PHYSICAL CHEMISTRY II. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 281. This course is a continuation of CHEM 281. The following topics are considered: solutions, homogenous and heterogenous chemical equilibria, and chemical kinetics.

283. PHYSICAL CHEMISTRY III. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, CHEM 282. This course is a continuation of CHEM 282. Electrochemistry, ionic equilibria, and colloids are considered.

284. INSTRUMENTAL METHODS OF ANALYSIS. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, CHEM 145, 282. Lectures will consider the theory and techniques of the analysis of chemical systems by various optical, X-ray and electrical methods of analysis. In the laboratory the student will perform analyses using the colorimeter, spectrophotometer, flame photometer, fluorimeter, infrared spectrophotometer and polarograph.

285. CHEMICAL LITERATURE. *One hour credit.*

Prerequisite, CHEM 243. This course covers the use of the library and the function of chemical literature. Problems in the use of the library are assigned.

287. PHYSICAL BIOCHEMISTRY. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, CHEM 243, 283 (or taken concurrently.) The physical and organic bases of modern biochemistry will be studied. Enzyme chemistry, the physical chemistry of macromolecules, and the molecular organization of the cell will be emphasized.

289. SENIOR RESEARCH. *Two hours credit. (Minimum four hours credit, maximum six hours credit.)*

Prerequisites, CHEM 243, 283. An introduction to research in chemistry. The student will initiate and pursue an independent original investigation. A paper and oral presentation of his work are required. Weekly conferences with instructor are required. The student may earn a maximum of six hours credit.

291. STRUCTURE OF MATTER. *Five hours credit. (NSF Summer Institute.)*

This course is designed to review and expand the modern concepts of the structure of matter emphasizing the use of the Periodic Table in correlating and predicting properties of matter. The electron orbitals of atoms will be discussed in connection with electrovalent, covalent, and metallic bond formation. The effect of bond types on the physical and chemical properties of matter will be discussed.

292. FUNDAMENTALS OF ORGANIC CHEMISTRY. *Four hours credit. (Four hours lecture, three hours laboratory.) (NSF Summer Institute)*

This course is introductory to the chemistry of carbon. The nomenclature of carbon compounds, the common functional groupings, the chemical characteristics of these groupings together with modern theoretical aspects will be studied.

293. INTRODUCTORY QUANTITATIVE ANALYSIS. *Four hours credit. (Four hours lecture, three hours laboratory.) (NSF Summer Institute)*

This basic course will present the fundamentals of analysis emphasizing the important role of analysis in chemistry. Modern instruments will be used whenever possible.

343. STEREOCHEMISTRY OF ORGANIC COMPOUNDS. *Three hours credit.*

Prerequisite, CHEM 243, 282. An advanced study of the structure of organic compounds and the influence of structure on organic reactions.

344. THEORETICAL ORGANIC CHEMISTRY. *Three hours credit.*

Prerequisite, CHEM 243, 282. An advanced study of the electronic theories pertaining to organic molecules.

345. REACTIONS AND REACTION MECHANISMS IN ORGANIC CHEMISTRY. *Three hours credit.*

Prerequisite, CHEM 243, 282. An intensive study of the reactions of organic compounds and the mechanisms of these reactions.

346. SEMINAR IN CHEMISTRY. *One hour credit. (Maximum six hours credit.)*

This course gives the graduate student an opportunity to report on some topic of interest treated in recent literature, as well as profit by the reports of others.

348. SPECIAL TOPICS IN INORGANIC CHEMISTRY. *Four hours credit. (Maximum eight hours.)*

Prerequisite, CHEM 248. This course provides a critical review of current topics in inorganic chemistry.

349. ADVANCED INORGANIC CHEMISTRY. *Three hours credit.*

Prerequisite, CHEM 249. Presented in this course is the descriptive chemistry of typical inorganic elements and compounds. Relationships within the periodic classification will be stressed and correlation of the chemistry of the various substances will be related to theoretical concepts treated in CHEM 249.

381. CHEMICAL THERMODYNAMICS. *Three hours credit.*

Prerequisite, one year of Physical Chemistry. An advanced study of the fundamental laws of thermodynamics and calculation of thermodynamic quantities. Mathematical treatment is stressed.

382. STATISTICAL THERMODYNAMICS. *Three hours credit.*

Prerequisite, CHEM 381. A course which deals with mathematical probability, fundamentals of statistical mechanics, Boltzmann statistics, partition functions, equilibrium constants in terms of partition functions, heat capacities of gases and solids, and Bose-Einstein and Fermi-Dirac statistics.

384. CHEMICAL SPECTROSCOPY. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, CHEM 284, 381. Designed to amplify the spectroscopy portion of CHEM 284, this course deals primarily with the application and theory of this important tool in chemical analysis. Emission and absorption spectroscopy are considered but the primary emphasis is on infrared methods. A short section on nuclear magnetic resonance is included.

385. ADVANCED PHYSICAL CHEMISTRY. *Three hours credit.*

Prerequisite, CHEM 283. Special topics in physical chemistry are discussed including chemical kinetics, chemistry of macromolecules, heterogeneous catalysis, electrochemistry and experimental study of molecular structure.

Department of Earth Science

Dr. Oscar W. Tollefson, Chairman

Professor: Tollefson.

Assistant Professor: Shropshire.

Instructor: Lilliequist.

Description of Courses

130. GENERAL METEOROLOGY. *Four hours credit. (Three hours lecture, two hours laboratory.)*

A study of the weather factors of temperature, pressure, humidity, and air movements at the surface and aloft. There will be discussion of traditional and

modern meteorological instruments and the principles of their operation. Attention will be given to the formation of air masses and fronts, their movements, and associated clouds and storms. There will be two hours per week laboratory for work with meteorological instruments, plotting and interpretation of various weather charts and maps.

131. INTRODUCTION TO ASTRONOMY. *Four hours credit. (Three hours lecture, two hours laboratory.)*

This course will present the fascinating subject of astronomy to all students who desire a basic understanding of their astronomical environment, the solar system and the universe. A strong background in mathematics is not required. Not open to earth science majors.

132. PHYSICAL GEOLOGY. *Five hours credit. (Four hours lecture, three hours laboratory.)*

A study of the minerals and rocks that make up the Earth's crust, the building-up processes of vulcanism and diastrophism, and the counter-processes of weathering and erosion. Two Saturday field trips required. This course or an equivalent is required of all earth science majors and minors. Students cannot receive credit for both ESCI 132 and ESCI 136.

133. HISTORICAL GEOLOGY. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisite, ESCI 132. The course stresses methods of reading Earth history from rocks and fossils. Then follows a survey of changes the Earth has undergone by action of the various geologic processes through geologic time. Fossil study is emphasized, including suites of fossils for each of the geologic systems.

134. INTRODUCTION TO OCEANOGRAPHY. *Three hours credit.*

This course will be concerned in an elementary way with the biological, chemical, physical, and geological aspects of the oceans and the ocean basins.

136. GENERAL GEOLOGY. *Four hours credit.*

This course stresses the recognition of common minerals and rocks and the processes at work wearing down or building up the Earth's crust. The geologic history of the Earth is reviewed briefly. The course is arranged primarily for teachers (non-science majors) who will take no additional work in geology. Two Saturday field trips required.

221. GENERAL ASTRONOMY I: SOLAR SYSTEM. *Four hours credit. (Three hours lecture, two hours laboratory.)*

A study of the evolution of the science of astronomy, Newton's Laws and gravitation, the research tools of astronomy, and the observed characteristics of the various members of our solar system. This course and ESCI 222 are required of earth science majors. Students cannot receive credit for both ESCI 131 and 221.

222. GENERAL ASTRONOMY II: STELLAR. *Three hours credit.*

Prerequisite, ESCI 221. A continuation of general astronomy as begun in ESCI 221. The subjects of stellar distances, brightnesses, spectra, sizes, populations, evolution, energy, the interstellar medium, and cosmology will be investigated. Further attention will also be devoted to our nearest star, the Sun.

229. SEMINAR IN EARTH SCIENCE. *One hour credit.*

Prerequisite, consent of instructor. The subject matter for this seminar will be selected from a field of earth science to be announced in advance of the class schedule. It will provide earth science majors with an opportunity to investigate and discuss current literature, research, and topics of special interest beyond the scope of existing course offerings in astronomy, geology, meteorology, or oceanography.

230. PRINCIPLES OF METEOROLOGY. *Four hours credit. (Three hours lecture, two hours laboratory.)*

This course will consider the basic principles of atmospheric science with a non-mathematical approach. Topics of weather observation and prediction, physical basis for cloud formation, radiational heating and cooling, wind circulation, condensation and precipitation processes will be considered. A laboratory of two hours per week will be required for work with meteorological instruments, maps, and charts. Projects will be required. Arranged primarily for graduate students. Offered summers only.

231. MINERALOGY. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, ESCI 132. This course includes introductory work in crystallography, optical crystallography, descriptive and determinative mineralogy, and the study of mineral occurrences and associations. The laboratory stresses identification of minerals by means of physical and chemical techniques. One Saturday field trip required.

232. PRINCIPLES OF STRATIGRAPHY AND PALEONTOLOGY. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, ESCI 133. This course will investigate the methods of studying the sedimentary rocks and their contained fossils, and also methods of correlation and interpreting the stratigraphic record to build a picture of the geologic past. There will be an introduction to the regional stratigraphy of this area.

233. GEOLOGIC FIELD METHODS. *Four hours credit. (Two hours lecture, six hours laboratory.)*

Prerequisite, MATH 25. This course will give the student some appreciation of how geologic information is obtained in the field and recorded on maps. By use of Brunton compass and alidade, each student will prepare several maps of areas near the campus, plus one map of an area of moderately complex structure.

234. GEOMORPHOLOGY. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, ESCI 133. This course consists of a detailed study of land forms and their evolution—the geologic interpretation of landscapes. Special emphasis is given to examples located in the United States. Interpretation of photos and topographic maps is stressed.

235. ROCKY MOUNTAIN GEOLOGY. *Three hours credit.*

Prerequisite, ESCI 234. This course seeks to apply the student's geologic knowledge to a study of the extensive current literature in geology, especially that dealing with the Rocky Mountain area. A brief overview of the development of geology introduces the course. Two-day field trips required. Open only to earth science majors.

236. PETROGRAPHY AND PETROLOGY. *Five hours credit. (Three hours lecture, six hours laboratory.)*

Prerequisite, ESCI 231. The origins of the various rocks, their compositions, and the bases for their classification will be investigated in the classroom. Also, the basic theories and methods of optical crystallography will be studied. In the laboratory various petrographic techniques will be learned and practiced, including use of the petrographic microscope for identifying mineral grains and minerals in rock thin sections.

237. PRINCIPLES OF GEOLOGY. *Six hours credit. (Four hours lecture, six hours laboratory.)*

This course is designed primarily for graduate students who have a good background in science, but no credit in geology. Earth materials, aggradational and degradational processes, and Earth history will be investigated at depth and at an accelerated rate. Offered summers only.

238. ELEMENTARY PHYSICAL METEOROLOGY. *Three hours credit.*

Prerequisite, ESCI 130. A study of radiation processes, the thermodynamics of moist air, condensation, and precipitation. Attention given to severe weather phenomena associated with precipitation processes. Study of adiabatic diagrams and other pressure-height-temperature charts. Discussion of air masses, cyclones and anticyclones, fronts and frontogenesis.

239. CLIMATOLOGY. *Three hours credit.*

Prerequisite, ESCI 130. A study of the meteorological basis of climate, nature and origin of the atmosphere, and classifications of world climates. Specific attention will be given to climates of Colorado and surrounding western states. Relationships of climate to water resources, agriculture, housing, transportation, and other human activities will be studied.

Department of Mathematics

Mr. Forest N. Fisch, Chairman

Associate Professors: Fisch, Popejoy, D. Schmidt, Woods.

Assistant Professors: Anders, Cavanagh, Eggert, Elliott, R. Johnson, Raghunandan-an, Rumford, Schweers.

Instructors: B. Heimerl, Johnston, Tolar.

Description of Courses

1. BASIC MATHEMATICS I. *Three hours credit.*

The first of a two-course sequence presenting arithmetic and algebra from a modern approach. Topics include the natural numbers, integers, rational numbers, real numbers, relations, functions, and equations. Emphasis will be placed upon understanding mathematical structures and in solving problems. This course cannot be applied on a major or minor in mathematics.

2. BASIC MATHEMATICS II. *Three hours credit.*

Prerequisite, MATH 1. A continuation of MATH 1. This course cannot be applied on a major or minor in mathematics.

3. INTRODUCTION TO MODERN MATHEMATICS. *Three hours credit.*

Set language and symbolism, operations on sets, relations, functions, and simple logic. This course cannot be applied on a major or minor in mathematics.

10. ELEMENTARY SLIDE RULE. *One hour credit.*

Principles of operation of the slide rule and illustrations of its application to problem solving in the physical sciences are covered.

23. INTERMEDIATE ALGEBRA. *Five hours credit.*

Prerequisite, one year of high school algebra and one year of high school geometry. This is a course in algebra covering the elementary concepts of algebra through quadratic equations. Emphasis is placed on the function concept. Systems of linear equations are considered. This course cannot be applied on a major or a minor in mathematics.

24. COLLEGE ALGEBRA. *Five hours credit.*

Prerequisite, MATH 23 or a full year of modern, second-year high school algebra. This course is basically a treatment of quadratic, exponential, and logarithmic functions. The systems of integers, rational numbers, real numbers, and complex numbers are included. Some topics from matrices and the theory of equations are included. This course cannot be applied on a major or an arts and sciences minor in mathematics.

25. PLANE TRIGONOMETRY. *Five hours credit.*

Prerequisite, MATH 24. This is a course in modern plane trigonometry which emphasizes the circular functions and their applications. The inverse trigonometric functions and trigonometric identities are emphasized. Complex numbers are covered through DeMoivre's theorem. This course cannot be applied on a major or an arts and sciences minor in mathematics.

31. CALCULUS WITH ANALYTIC GEOMETRY I. *Five hours credit.*

Prerequisites, MATH 24 and 25. A combined course in analytic geometry and calculus. Fundamental principles of beginning analytic geometry including different forms of the equations of a straight line are developed. Elementary phases of both differential and integral calculus, along with various applications of these subjects are considered.

32. CALCULUS WITH ANALYTIC GEOMETRY II. *Five hours credit.*

Prerequisite, MATH 31. A continuation of MATH 31 of differential and integral calculus combined with analytic geometry, together with applications from all three fields. Special emphasis in calculus on transcendental functions and an analytic geometry of conic sections.

33. CALCULUS WITH ANALYTIC GEOMETRY III. *Five hours credit.*

Prerequisite, MATH 32. The last course in the sequence of courses in analytic geometry and calculus. Vectors in a plane, formulas and methods of integration and applications of integration are the main topics covered.

101. BASIC MATHEMATICAL LOGIC. *Three hours credit.*

Prerequisite, MATH 32. A course designed to introduce the student to those tools and techniques of logic as applied to mathematics. Introduces terminology and basic form of logic along with concepts of truth value. Statement calculus and treatment of proof discussed. The restricted predicate calculus is analyzed and applications to mathematics are discussed.

102. THEORY OF SETS. *Three hours credit.*

Prerequisite, MATH 32. An introduction to the theory of sets from an axiomatic point of view. Topics included are properties of sets, relations, functions, finite and infinite sets, cardinal and ordinal numbers.

122. INTRODUCTION TO MODERN ALGEBRA I. *Four hours credit.*

Prerequisite, MATH 32. An introduction to basic topics in modern algebra including vector spaces, matrices, polynomials and general algebraic structures. Stress is placed on the characteristics of algebraic systems.

123. INTRODUCTION TO MODERN ALGEBRA II. *Four hours credit.*

Prerequisite, MATH 122. A continuation of MATH 122.

131. INTRODUCTION TO MATHEMATICAL ANALYSIS I. *Four hours credit.*

Prerequisite, MATH 33. An introductory course in the calculus of functions of several variables. Topics covered are vectors in three dimensions, infinite series, partial differentiation and multiple integration.

132. INTRODUCTION TO MATHEMATICAL ANALYSIS II. *Four hours credit.*

Prerequisite, MATH 131. The study of vector spaces and linear transformations is undertaken in this course and is followed by a study of eigenvalues of matrices. A more advanced study of infinite series is included and the results applied to a study of Fourier Series.

133. INTRODUCTION TO MATHEMATICAL ANALYSIS III. *Four hours credit.*

Prerequisite, MATH 132. Proofs of the elementary implicit function theorems are given and transformations, Jacobians and change of variable in a multiple integral are studied. The previous study of vectors in two and three dimensions is put to good use in a development of vector field theory which includes proofs of Green's and Stokes' theorems.

141. INTRODUCTION TO MODERN GEOMETRY I. *Four hours credit.*

Prerequisite, MATH 32. A course designed to prepare the prospective teacher of high school geometry in the way the subject matter will be covered in a modern course. The structure of geometry will be emphasized through the axiomatic approach. The basic ideas of points, lines and planes will be given along with primitive concepts and axioms needed to structure the geometry rigorously. Topics such as separation on curves and surfaces, congruence, measure, and parallelism will be covered.

142. INTRODUCTION TO MODERN GEOMETRY II. *Four hours credit.*

Prerequisite, MATH 32. A course which will give the prospective teacher of high school geometry an extension into the field of geometry beyond high school scope. Areas covered include constructions, use of loci in plane geometry and the theorems of Ceva, Menelaus, Stewart, Euler, and Ptolemy.

203. STRUCTURE OF NUMBERS. *Three hours credit.*

Prerequisite, MATH 32. A rigorous development of the real and complex numbers. Beginning with Peano's axioms for natural numbers, the integers are developed by extension. The rational and real number systems are then obtained as successive extensions. Complex numbers are structured from pairs of real numbers. The nature of isomorphism is stressed.

205. MATHEMATICS OF FINANCE. *Five hours credit.*

Prerequisite, MATH 23. This course offers the student an opportunity to apply his elementary mathematics of arithmetic and algebra to problems of business. Such topics as simple and compound interest, annuities, installment buying, and life insurance are considered.

222. BASIC MATRIX ALGEBRA. *Five hours credit.*

Prerequisite, MATH 32. An introduction to the theory of determinants and matrices. The development of the algebra of matrices is followed by a consideration of the inverse of a matrix, rank of matrices, equivalence of matrices, and the relation of these concepts to systems of linear equations.

225. LINEAR ALGEBRA. *Four hours credit.*

Prerequisite, MATH 122. A further treatment of linear algebra based on the first work of modern algebra. The course will complement the study of matrices in MATH 222, Matrix Algebra. The content includes a study of vector spaces, linear transformations, and characteristic roots.

230. DIFFERENTIAL EQUATIONS I. *Five hours credit.*

Prerequisite, MATH 133 or taken concurrently. A study of the theory and solution of different equations. Ordinary and partial differential equations are treated along with numerous applications.

231. DIFFERENTIAL EQUATIONS II. *Five hours credit.*

Prerequisite, MATH 230. A continuation of MATH 230. Topics to be covered include series solutions of differential equations, systems of equations, partial differential equations, Fourier series and boundary value problems.

232. ADVANCED CALCULUS I. *Four hours credit.*

Prerequisite, MATH 133. The first course of a sequence of three courses which will extend the student of calculus and analysis into the mathematical rigor and logic of analysis. This course will cover the following topics: real numbers developed through the Dedekind cut definition some introductory topological topics, limits, continuity, differentiability, and Riemann integral.

233. ADVANCED CALCULUS II. *Four hours credit.*

Prerequisite, MATH 232. A second course in a sequence of three courses. The topics to be covered in this course will be as follows: sequences and series, functions of several real variables and integrals of functions of several variables.

234. ADVANCED CALCULUS III. *Four hours credit.*

Prerequisite, MATH 233. The third course in a sequence of three courses. From the background built up in the first two courses, this course will consider certain special topics of application. Some of the topics to be considered will be chosen from the following: implicit functions; applications to geometry; the gamma and beta functions; line, surface, and space integrals; vector notation; Bessel functions; elliptic integrals.

281. INTRODUCTION TO COMPUTER MATHEMATICS. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MATH 131. An introduction to basic computer mathematics, including computer arithmetic, Boolean equations, arithmetic design criteria and programming routines. Stress will be placed on teaching computer methods for use in the junior and senior high schools. Laboratory work will consist of Fortran programming with application to computers.

282. COMPUTER MATHEMATICS I. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MATH 281. This is the first course in a two-term course designed to give mathematics majors or others interested in computers a solid background in programming fundamentals, numerical analysis, computer arithmetic design and the application of Boolean Algebra, matrices and modern algebra to practical computer design. Two hours laboratory per week will be directed toward programming local computers.

283. COMPUTER MATHEMATICS II. *Four hours credit. (Three hours lecture, two hours laboratory.)*

A continuation of MATH 282.

290. FOUNDATIONS OF ARITHMETIC. *Three hours credit.*

Designed to provide opportunity for elementary and junior high teachers and supervisors to acquire the understandings of arithmetic essential for effective teaching. Areas to be covered include the structure of our number system and operations in it, special numbers.

291. THEORY OF NUMBERS. *Five hours credit.*

Prerequisite, MATH 122. Foundations of arithmetic and algebra, including the fundamental laws, the linear Diophantine equation, properties of integers and the properties of linear and quadratic congruences.

310. SEMINAR IN MATHEMATICS. *One hour credit. (Maximum six hours credit.)*

Study and discussion of topics from mathematics.

323. MODERN ALGEBRA I. *Five hours credit.*

Prerequisite, MATH 122. A study of modern abstract algebra including integral domains, fields, polynomials, rings, groups, isomorphisms, automorphisms, homomorphisms.

324. MODERN ALGEBRA II. *Five hours credit.*

Prerequisite, MATH 323. A continuation of MATH 323 with emphasis on linear algebra including vectors and vector spaces, matrix algebra, linear groups, algebra of classes.

326. THEORY OF RINGS. *Four hours credit.*

Prerequisite, MATH 122. A graduate course designed to complement graduate courses in modern algebra and extend the development of ring theory in ideals, endomorphisms, the Jacobson radical, and other topics.

328. THEORY OF GROUPS. *Four hours credit.*

Prerequisite, MATH 323. This is an extension of the study of group theory begun in modern algebra into selected elementary areas including permutation groups, abelian groups and Sylow's theorems.

332. COMPLEX VARIABLE I. *Three hours credit.*

Prerequisite, MATH 233. The first course of a sequence of three courses which will cover the basic theory of functions of a complex variable. The course will cover the following topics: complex numbers and their algebra, analytic functions, Cauchy Riemann conditions, and differential calculus of analytic functions.

333. COMPLEX VARIABLE II. *Three hours credit.*

Prerequisite, MATH 332. A second course in a sequence of three courses. The topics to be considered in this course are elementary functions of a complex variable and their inverses, residues and poles of a function of a complex variable and their application to evaluating real integrals.

334. COMPLEX VARIABLE III. *Three hours credit.*

Prerequisite, MATH 333. The third course in a sequence of three courses. From the background established in the first two courses several advanced topics and applications will be considered. These will include conformal mapping and applications (to solutions of differential equations) and the concept of analytic continuation.

335. REAL ANALYSIS I. *Three hours credit.*

Prerequisite, MATH 233. Elements of set theory and its application to classical integration theory and classical Banach spaces.

336. REAL ANALYSIS II. *Three hours credit.*

Prerequisite, MATH 335. An introduction to general topology and to the theory of general Banach spaces.

337. REAL ANALYSIS III. *Three hours credit.*

Prerequisite, MATH 336. A treatment of general measure and integration theory.

340. INTRODUCTION TO TOPOLOGY. *Four hours credit.*

A first course at the graduate level in topology. The approach will be mainly from the viewpoint of the use of topology as a tool for courses in analysis. Topics to be covered will be basic and special topological spaces, continuous

functions and metric spaces. The course is strongly recommended to any prospective college teacher of mathematics.

343. MODERN GEOMETRY I. *Five hours credit.*

Prerequisite, MATH 141. A first course in a two-course sequence which will emphasize new topics in present-day geometry. This emphasis will be partly Euclidean in nature and partly non-Euclidean. Special emphasis will be placed upon the foundations of geometry along with the different geometries which can be developed from this foundation. Topics to be covered are foundations of geometry, transformations, types of geometry, selected Euclidean topics.

344. MODERN GEOMETRY II. *Five hours credit.*

Prerequisite, MATH 343. A continuation of MATH 343. This course will continue to emphasize types of geometry with special emphasis being placed on non-Euclidean topics. Special types to be covered include absolute geometry, parabolic geometry, elliptic geometry and differential geometry.

MATHEMATICS EDUCATION

170. MATHEMATICAL INSTRUMENTS AND SURVEYING. *Four hours credit.*

Prerequisite, MATH 25. A course designed to show the teacher of mathematics some of the techniques and instruments used in many of the practical problems of measurement. Instruments studied are the slide rule, the sextant, and various instruments used in land surveying.

264. HISTORY OF MATHEMATICS I. *Three hours credit.*

Prerequisite, MATH 122 or 141. A general view of the development of mathematics through the 18th century. Particular attention is given to the history of arithmetic, algebra, geometry, and mathematical symbolism.

271. INSTRUCTIONAL MATERIALS IN SECONDARY SCHOOL MATHEMATICS. *Three hours credit.*

Prerequisite, MATH 31. This course introduces the student into the rich areas of possible sources of instructional materials which can be used for instructional purposes in the secondary school. Areas studied will include aesthetic values of mathematics, instructional models, historical materials, classroom equipment, recreational materials, and calculating devices.

277, 278, 279. MATHEMATICS TEACHERS' WORKSHOP I, II, III. *Three hours credit each.*

Provision is made for students to work on individual problems related to arithmetic and mathematics.

364. HISTORY OF MATHEMATICS II. *Three hours credit.*

Prerequisite, MATH 132. A deeper study of the development of elementary mathematics which is begun in MED 264 as well as a study of the development of calculus, statistics, and recent advances in the field of mathematics.

372. CURRICULUM IN SECONDARY SCHOOL MATHEMATICS. *Five hours credit.*

A study of the mathematics curriculum in grades 7-14 with emphasis on committee and commission reports, changes in textbooks, and modern curricular programs in both large and small secondary schools.

373. PROBLEMS IN THE TEACHING OF SECONDARY MATHEMATICS. *Four hours credit.*

Prerequisites, MATH 122, MED 372. Content, special problems, and modern trends in algebra will be studied. Emphasis will be placed upon new approaches and content.

374. SEMINAR IN TEACHING SECONDARY MATHEMATICS. *Four hours credit.*

Prerequisites, MATH 141, MED 372. Content, special problems, and modern trends in geometry and trigonometry will be studied. Emphasis will be placed upon new approaches and content.

472. THEORY AND PRACTICE OF TEACHING MATHEMATICS. *Three hours credit.*

Prerequisites, MED 372, PCG 340. Current practices used in the classroom will be related to the various theories of learning. Emphasis will be placed upon recent developments.

473. SEMINAR IN MATHEMATICS EDUCATION. *Three hours credit.*

Prerequisites, MED 472, APST 475. The first of two courses which will examine the completed research in mathematics education and the various recommendations for improving the teaching of mathematics. Needed research will be identified.

474. ADVANCED SEMINAR IN MATHEMATICS EDUCATION. *Three hours credit.*

Prerequisite, MED 473. A continuation of MED 473.

STATISTICS

150. ELEMENTARY PROBABILITY THEORY. *Four hours credit.*

Prerequisites, MATH 102, 132. Discrete and continuous probability, conditional probability, Bayes theorem; one dimensional random variables and expected values of random variables; Bernoulli, binomial, Poisson, geometric, hypergeometric and multinomial probability laws; probability distributions of uniform, normal, exponential, Gamma and Chi-squared type random variables.

251. INTRODUCTION TO MATHEMATICAL STATISTICS I. *Four hours credit.*

Prerequisite, STAT 150. Distributions of discrete and continuous random variables; moments and moment generating functions; marginal and conditional distributions; distributions of functions of random variables; t, F, and Chi-square distributions.

252. INTRODUCTION TO MATHEMATICAL STATISTICS II. *Four hours credit.*

Prerequisite, STAT 251. Interval estimation; point estimation and maximum likelihood procedures; distributions of order statistics, stochastic convergence, central limit theorem and limiting distribution theory; sufficient statistics and completeness property.

253. INTRODUCTION TO MATHEMATICAL STATISTICS III. *Four hours credit.*

Prerequisite, STAT 252. Tests of hypotheses, analysis of variance, non-central t, F, and Chi-square distributions, multivariate normal distribution.

255. PROBABILITY THEORY. *Four hours credit.*

Prerequisite, STAT 150. Chebyshev's inequality, laws of large numbers, sums of independent random variables, central limit theorem, sequence of random variables, different modes of convergence, and probability generating functions.

256. AN INTRODUCTION TO STOCHASTIC PROCESSES. *Four hours credit.*

Prerequisite, MATH 255. Definition of stochastic processes, probability laws of stochastic processes, Wiener process, Poisson process, covariance stationary process and Markov chain.

APPLIED STATISTICS

275. DESCRIPTIVE STATISTICS. *Five hours credit. (Four hours lecture, two hours laboratory.)*

Compilation, summarization and presentation of statistical data. A study of the problems of gathering and recording data, preparing basic descriptive measures, and meaningful presentation of the results. Four class meetings per week plus two hours laboratory work on calculating machines.

376. STATISTICAL INFERENCE. *Five hours credit.*

Prerequisite, APST 275. An introduction to sampling error theory is presented, along with some elements of testing hypotheses, interval estimation, and distribution models. Emphasis is upon inferences from parametric data. Theoretical distribution models are set forth in their relationship to research problems. The task of making inferences from research data is explored and analyzed.

377. NONPARAMETRIC STATISTICS IN BEHAVIORAL RESEARCH.*Three hours credit.*

Prerequisite, APST 376. Selected nonparametric tests of research hypotheses are discussed in the light of: (1) the data to which the test is applicable, (2) the rationale underlying the test, (3) examples of application of the test in behavioral research, (4) comparison of the test with its parametric equivalent.

440. RESEARCH PRACTICUM. *Four hours credit. (Maximum of twenty-four hours credit.)*

Six quarters must be taken with four quarter hours credit given for each quarter successfully completed. Student applies advanced statistical techniques and electronic data processing equipment to the solution of approved educational measurement and research problems.

475. DESIGN AND ANALYSIS OF EXPERIMENTS. *Five hours credit.*

Prerequisite, APST 376. Presents a sequence designed to help students and research workers learn how to select or devise appropriate designs for the experiments they may have occasion to perform, and to analyze and interpret properly the results obtained through the use of those designs.

476. PREDICTION ANALYSIS IN BEHAVIORAL RESEARCH. *Three hours credit.*

Prerequisite, APST 376. Methods of prediction analysis discussed include multiple regression, biserial and tetrachoric correlation, and discriminant analysis. Sampling error theory is applied to each method of analysis.

477. THE SCIENCE OF RESEARCH IN EDUCATION. *Three hours credit.*

Prerequisite, APST 475. Techniques and design procedures are applied to the problem of organizing and conducting research in education. The applications of measurement techniques and of electronic computers are integrated into the framework for research.

MEDICAL TECHNOLOGY

Staff at Weld County General Hospital: Kidder, Mills, Weil.

Description of Courses

These courses are open only to majors in Medical Technology.

250. URINALYSIS AND CLINICAL MICROSCOPY. *Four hours credit.*

This is a fundamental course in urinalysis covering the characteristics of urine, qualitative tests for sugars, ketone (or acetone) bodies, and protein, quantitative tests for sugars and protein, and microscopic examination of urine. Kidney function tests, other chemical tests, pregnancy tests and tests on gastric and duodenal contents are included.

251. BASAL METABOLISM AND ELECTROCARDIOGRAPHY. *One hour credit.*

This course covers the principles and techniques of determining the basal metabolic rate and the theory and technique of electrocardiography.

252. HEMATOLOGY. *Eight hours credit.*

This course covers the methods of obtaining blood, determination of hemoglobin, red and white blood cell counts, hematocrit, study of blood smears, platelet count, reticulocyte count, coagulation, clot retraction, bleeding and prothrombin time, direct eosinophile count, fragility of erythrocytes, sedimentation rate of erythrocytes and bone marrow smears preparation and study.

253. PRETRANSFUSION TESTS AND BLOOD BANK PROCEDURES. *Three hours credit.*

This course covers selection and pretesting of donors, copper sulphate method of determining minimum hemoglobin, bleeding of donors, basic theory of blood factors, ABO grouping tests, Rh factor and Rho, (D) typing, cross-matching tests, subgroups A, irregular agglutinins, cold agglutinins, transfusion reactions, emergency transfusions, Rh antibody tests, and Coombs' test.

254. CLINICAL CHEMISTRY. *Twelve hours credit.*

Urine, cerebrospinal fluid, feces and other biologic materials are examined. Preparation of reagents and protein-free filtrates are studied. Colorimetry and

photometry chemical tests include blood-sugar, nonprotein nitrogen, urea nitrogen, creatinine, creatine, uric acid, albumin, globulin, acid-base balance, carbon dioxide capacity, chloride, phosphorus, phosphatases, calcium, sodium, potassium, liver function.

255. SEROLOGY. *Four hours credit.*

Principles of serology and immunology, the Kahn test, other flocculation and precipitation tests, colloidal gold and mastic tests, the complement fixation reaction, agglutination and opsonocytophagic tests, cold agglutinins are studied.

256. MEDICAL MICROBIOLOGY. *Twelve hours credit.*

Culture mediums, sterilization and disinfection, morphology and physiology of bacteria, stains, classification, relation of parasites to disease, techniques for parasitologic examinations, vaccines and filtrates, filtrable viruses, mycology techniques, the superficial fungi, and the deep mycotic infections are studied.

257. HISTOLOGIC TECHNIQUE. *Three hours credit.*

Fixation and hardening of tissue, clearing of tissues, paraffin, infiltration and blocking of tissue, sharpening of microtome knife, sectioning of tissue and preparation of sections for staining, routine staining technique, decalcification, frozen sections, special or differential staining methods, histochemistry, technique of exfoliative cytology are studied.

Department of Physics

Mr. Wallace Aas, Chairman

Associate Professor: Aas.

Assistant Professors: Fiel, Fry, Hamerly.

Description of Courses

60. INTRODUCTORY PHYSICS—MECHANICS. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, MATH 23 or consent of instructor. The first quarter of the introductory course treats classical and modern mechanics in a manner which requires a minimum of mathematical skills.

61. INTRODUCTORY PHYSICS—HEAT, SOUND, AND LIGHT. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, PHYS 60. The second quarter of the introductory course treats classical and modern heat, sound, and light in a manner which requires a minimum of mathematical skills.

62. INTRODUCTORY PHYSICS—ELECTRICITY AND MAGNETISM. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, PHYS 60. The third quarter of the introductory course treats classical and modern electricity and magnetism in a manner which requires a minimum of mathematical skills.

63. RADIATION PHYSICS. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite, PHYS 62. A course in the detection and evaluation of the various atomic and nuclear radiations. Topics to be covered include elementary atomic and nuclear theory, types of radiation, detectors, error analysis, and detection systems.

65. GENERAL PHYSICS—MECHANICS. *Five hours credit. (Four hours lecture, two hours laboratory.)*

Prerequisite, MATH 32 or taken concurrently. The first quarter of the general course in physics treats of the laws, principles, and generalizations of mechanics.

66. GENERAL PHYSICS—ELECTRICITY. *Five hours credit. (Four hours lecture, two hours laboratory.)*

Prerequisites, PHYS 65, MATH 33 or taken concurrently. The second quarter of the general course in physics treats of the principles, laws, and generalizations in electricity.

67. GENERAL PHYSICS—SOUND, LIGHT, AND HEAT. *Five hours credit. (Four hours lecture, two hours laboratory.)*

Prerequisites, PHYS 65, MATH 33. The third quarter of the general course in physics treats of the laws, principles, and generalizations concerning sound, light, and heat.

68. MODERN PHYSICS. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisite, PHYS 67. A general course of the concepts in physics formulated since 1900 including an elementary presentation of atomic and nuclear physics.

161. ELEMENTARY PHOTOGRAPHY. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisite, PHYS 62. An introductory course covering the basic elements of photography. Topics include developing, printing and enlarging, and the use of photography in the teaching of physics.

162. ELECTRICAL MEASUREMENTS. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 67 and MATH 33. A study of Kirchhoff's Laws and their application, components of AC circuits, and the solution of AC circuits by use of the vector method and complex number method.

165. MECHANICS I. *Four hours credit.*

Prerequisites, PHYS 67 and MATH 33. First course of a sequence of two courses. Topics covered include Newton's Laws, statics of particles and rigid bodies, work and energy, particle motion in a constant field and one dimensional oscillatory motion.

166. ELECTRICITY AND MAGNETISM I. *Four hours credit.*

Prerequisites, PHYS 67 and MATH 33. First course of a sequence of two courses. An advanced study in electric fields, electric potential, magnetic fields and induced electromotive force.

167. OPTICS I. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, PHYS 67, MATH 33. A study of geometric optics including the theory of thin lenses, thick lenses, spherical mirrors, lens aberrations, and a survey of optical instruments.

260. PHYSICS OF SOUND. *Three hours credit.*

A study of sound waves, their nature, propagation, and modes of combination. Includes supporting mathematical instruction and demonstration of basic instrumental measurements. Not open to physics majors or minors.

261. INTRODUCTION TO RESEARCH IN PHYSICS. *Two hours credit. (Maximum six hours credit.)*

Prerequisites, PHYS 165, 266. A course to introduce the various aspects of research in physics. Emphasis will be placed on laboratory techniques used in obtaining data. Informal student seminars will be held and at termination of course, the student will submit a written report on this research involved.

262. ELECTRONICS I. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisite, PHYS 162. A continuation of PHYS 162. Topics to be covered include simple diodes, triodes, power supplies, simple amplifiers, simple detectors, types of amplifiers, R. F. circuitry and an introduction to transistor theory.

264. THERMODYNAMICS. *Four hours credit.*

Prerequisites, PHYS 67, MATH 34. An introduction to heat and thermodynamics. This course covers thermodynamic systems, equations of state, the first and second laws of thermodynamics and an introduction to kinetic theory.

265. MECHANICS II. *Three hours credit.*

Prerequisites, PHYS 165, MATH 131. Second course of a sequence of two courses. Topics covered include motion of systems of particles, rigid body motion in a plane and in three dimensions, central field motion, accelerated reference systems.

266. ELECTRICITY AND MAGNETISM II. *Three hours credit.*

Prerequisites, PHYS 166, MATH 131. Second course in a sequence of two courses. A course which deals with the theory of dielectrics, the magnetic properties of matter and an introduction to electromagnetic theory.

267. OPTICS II. *Four hours credit. (Three hours lecture, three hours laboratory.)*

Prerequisites, PHYS 67 and MATH 34. This course is an introduction to the advanced study of light. Topics to be studied in this course include geometrical optics, reflections, thin and thick lenses, optical instruments, wave theory of light, interference, diffraction and the electromagnetic nature of light.

268. ATOMIC PHYSICS. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 68, 165, MATH 34. A study of modern physics concepts including the electron and its properties, energy levels, quantum numbers, X-rays, and elementary aspects of relativity and quantum physics.

269. NUCLEAR PHYSICS I. *Five hours credit. (Four hours lecture, three hours laboratory.)*

Prerequisites, PHYS 68, 165, MATH 34. A study of the nucleus of the atom including nuclear processes, decay schemes, sub-atomic particles and high energy reactions.

272. ELECTRONICS II. *Three hours credit. (Two hours lecture, three hours laboratory.)*

Prerequisite, PHYS 262. A study of electronic theory and application to include multistage and power amplifiers, methods of pulse and wave shaping, and electronic switching and timing systems. Transistor theory as well as tube theory will be emphasized.

275. MECHANICS III. *Three hours credit.*

Prerequisites, PHYS 265, MATH 132. First course in a sequence of three courses. Particle and rigid body motion are treated by the methods of vector calculus, calculus of variations, and matrix algebra. Included are the Lagrangian and Hamiltonian formulations, small oscillations, rigid body motion, and relativistic mechanics.

276. ELECTRICITY AND MAGNETISM III. *Three hours credit.*

Prerequisites, PHYS 266, MATH 132. Second course in a sequence of three courses. Static charge distributions in space, upon conductors, or in dielectrics, motion of charges and the magnetic field arising from such motion, electromagnetic induction, electromagnetic radiation, and magnetic properties of matter are examined by advanced mathematical techniques.

363. NUCLEAR MEASUREMENTS. *Two hours credit.*

Prerequisite, PHYS 269. This is a laboratory course in which various nuclear phenomena are studied in the laboratory. Some of the experiments to be performed include G-M measurement techniques, gamma ray spectrum, absorption of alpha, beta, and gamma rays, half-life measurements.

367. INTRODUCTION TO THEORETICAL PHYSICS. *Four hours credit.*

Prerequisites, PHYS 275, 276, 267. Mathematical formalism and electromagnetic theory are utilized to analyze and connect the topics of Fresnel diffraction, dispersion, reflection, ordinary and double refraction, polarization, absorption, and scattering.

368. WAVE MECHANICS I. *Four hours credit.*

Prerequisites, PHYS 265, 268, and MATH 230. This course is an introduction to quantum mechanics and the quantum theory. Some of the topics to be covered include Planck's radiation theory, the Bohr postulates, the correspondence principle, de Broglie waves, the Schrodinger wave equation, and the uncertainty principle.

369. NUCLEAR PHYSICS II. *Three hours credit.*

Prerequisite, PHYS 269. A graduate course in theoretical nuclear physics. Topics include elementary quantum theory, particle and photon interactions, theory of alpha, beta, and gamma decay, the shell and liquid drop models of the nuclear atom.

468. WAVE MECHANICS II. *Three hours credit.*

Prerequisite, PHYS 368. A continuation of Wave Mechanics I. Topics to be covered include the three dimensional wave equation, eigenvalues and eigenfunctions, operators and expectation values, time dependent and time independent perturbation theory.

Department of Science Education

Dr. Leslie Trowbridge, Chairman

Professors: Decker, Glidden, Neal, Shoemaker.

Associate Professors: K. Olson, Sund, Trowbridge.

Assistant Professors: Crockett, Lindauer.

Description of Courses

150. OBSERVATION AND PARTICIPATION IN ELEMENTARY SCHOOL SCIENCE. *Three hours credit.*

A concentrated experience in elementary science. The student actively participates in the classes in which he observes, and studies classroom teaching procedures and methods. One hour of conference required.

270. TEACHING SCIENCE IN THE ELEMENTARY SCHOOL. (ATE)
Three hours credit. (Two hours lecture, two hours laboratory.)

The purpose of this course is to develop a knowledge of objectives, methods, and materials which the teacher will need for providing learning activities, and for teaching a functional elementary science program. Laboratory activities are included.

273. PROBLEMS IN TEACHING PHYSICS. *Four hours credit.*

A study of current trends in the teaching of high school physics and the various problems which confront the teacher.

274. PROBLEMS IN TEACHING BIOLOGY. *Four hours credit.*

The course deals with the organization of biological units, teaching procedures, and evaluation of learning. Preparation of teaching materials and organization of lessons are included. Evaluation of present practices will be accomplished in terms of criteria that foster general education in a secondary school program.

275. PROBLEMS IN TEACHING CHEMISTRY. *Four hours credit.*

This course is designed to deal with special problems in the teaching of chemistry. This includes elementary concepts, laboratory and stockroom problems, and demonstrations.

277. TEST CONSTRUCTION IN SCIENCE. *Three hours credit.*

A study of test construction and use by the science teacher. Topics include the philosophy, purpose and values of classroom tests. Kinds of tests, test length and time limits, the administration, marking, scoring, and physical form. Elementary statistical techniques applicable in daily classroom use will be presented. Tests of various kinds will be constructed.

278. INSTRUCTIONAL MATERIALS IN THE TEACHING OF SCIENCE.
Four hours credit. (Three hours lecture, two hours laboratory.)

A course designed for the study and development of teaching materials for the science teacher. Particular emphasis will be placed on the materials associated with the new curriculum projects in science. Opportunities will be provided for the design and construction of suitable demonstration and laboratory aids. Commercial science teaching aids will be demonstrated, studied, and evaluated.

371. SCIENCE CURRICULUM IN THE ELEMENTARY SCHOOL. *Three hours credit.*

Elementary science programs organized by science educators are evaluated in terms of basic criteria. From the above analysis and a review of research, curricula are planned to satisfy certain requirements. This includes a statement of the student's philosophy, objectives, types of learning activities and generalizations which coordinate elementary science with secondary.

372. SCIENCE CURRICULUM IN THE SECONDARY SCHOOL. *Three hours credit.*

Secondary science programs organized by science educators are evaluated in terms of basic criteria. From the above analysis and review of research, K-12 curricula with emphasis on the secondary program are planned to satisfy certain requirements. This includes a statement of the student's philosophy, ob-

jectives, types of learning activities and generalizations which coordinate secondary science with elementary.

373. RESEARCH IN SCIENCE EDUCATION. *Three hours credit.*

This course is designed to develop an acquaintance with research in science education. The types of problems, quality and areas explored are a major function of this course. Some time is devoted to acquainting the student with library resources available, and a review of English Style Form used in preparation of research reports. Science teachers at all levels may explore research to help determine a problem for their own work and/or to become familiar with research that has been done. Open only to science education majors and minors.

374. INSTRUCTIONAL PROBLEMS IN TEACHING SCIENCE. *Three hours credit.*

The study of instructional problems in teaching science in the elementary and secondary schools. The instructional problems may include problems relating to the pupils' ability in mathematics, reading and problem solving ability, to problems in laboratory, evaluation, demonstration, vocabulary, and provision for the better students.

375. DEVELOPMENT OF SCIENTIFIC INQUIRY ABILITIES OF CHILDREN THROUGH SCIENCE. *Four hours credit.*

The course emphasizes a need for the knowledge of the research in the field of scientific inquiry, the psychological elements involved in problem solving, the procedures incident to the organization of classroom techniques which will develop critical thinking and the scientific abilities of the student. Procedures for evaluation are considered fundamental.

377. MODERN DEVELOPMENT OF SCHOOL SCIENCE. *Three hours credit.*

The course shall show modern science curriculum developments and the psychological and philosophical bases for their development. Emphasis shall be on cognitive learning, creativity, and techniques of developing inquiry. Non-science majors only.

378. SCIENCE EDUCATION SEMINAR. *One hour credit. (Maximum six hours credit.)*

This course gives the graduate student an opportunity to discuss current research in science education, to report on some topic of interest treated in recent literature, to discuss his own research problem, and to profit by the reports of others in the group.

379. SCIENCE CURRICULUM IN THE JUNIOR HIGH SCHOOL. *Three hours credit.*

A course designed to acquaint students with the science curriculum in the junior high school. Existing curricula and "new" curricula will be discussed and evaluated.

477. EVALUATION AND TESTING IN SCIENCE. *Four hours credit.*

Prerequisite, APST 275. This course involves the construction, administration and analysis of various kinds of tests used by classroom science teachers. The application of statistical techniques to classroom testing and some work in planning and developing of testing programs in science will be studied.

SOCIAL SCIENCES

Mr. Lee West, Coordinator of Social Sciences

GENERAL SOCIAL SCIENCE

Description of Courses

81. THE INDIVIDUAL AND HIS SOCIAL RELATIONS. *Three hours credit.*

The importance of general education and of general education in the social sciences; critical thinking and scientific method in relation to the alleviation of

insistent social problems; analysis of the social behavior of the individual based upon data from all fields in the social sciences; intergroup relations; and major social institutions, in relation to their provisions for freedom and security for individuals and groups.

82. AMERICAN LIFE AND INSTITUTIONS. *Three hours credit.*

Major problems in the life of the citizens of the United States in the contemporary period; problems connected with the maintenance of the family, relationships between man and government, man's organization for production, the role of labor in an industrial society, the position of agriculture.

83. CONTEMPORARY WORLD CULTURES. *Three hours credit.*

The geographic framework of contemporary world cultures; some world cultures, the interdependent and interrelated nature of world cultures, and the problem of the maintenance of world peace; the search for freedom and security in the contemporary world situation.

200. SOCIAL PHILOSOPHY. *Three hours credit.*

The meaning of the experiences of mankind; a study of progress toward more adequate conceptions of relationship among men and peoples.

220. EUROPEAN CONTRIBUTIONS TO AMERICAN CULTURE. *Fifteen hours credit.*

The major contributions of European civilization to American culture are studied for five weeks on campus and then one month in Europe. Contemporary influences and relationships are included as well as origins of social, economic and political institutions. The background of art and architecture will also be covered.

221. CULTURAL BACKGROUND OF WESTERN-SOVIET RUSSIAN RELATIONS. *Fifteen hours credit.*

The background of Soviet Russia's conflict with Western Europe is studied on campus for five weeks and then in Europe for one month. International agencies such as the European Economic Community are visited as well as national government offices in London, Amsterdam, Brussels, Paris, Berlin, Warsaw, Moscow, and Leningrad.

250. NEW VIEWPOINTS IN THE SOCIAL SCIENCES. *Three hours credit.*

A survey of recent findings and new interpretations in the various social science fields. Recent literature in the fields will be studied and discussed. Specialists will be invited to contribute to discussions. Teaching experience is a course prerequisite. Credit is not applicable to graduate programs in History or the Social Sciences.

330. GRADUATE READINGS COURSE IN THE SOCIAL SCIENCES. *Four hours credit.*

This course is designed to give doctoral candidates who are deficient in the social sciences an opportunity to acquire a basic amount of knowledge and understanding of our cultural heritage and of the political, social, and economic problems that confront America and the rest of the world. Possible solutions of contemporary problems are examined. This course not applicable to a graduate degree in History or the Social Sciences.

SOCIAL STUDIES EDUCATION

231. INSTRUCTIONAL MATERIALS FOR THE SOCIAL STUDIES IN THE JUNIOR HIGH SCHOOL. (ATE) *Two hours credit.*

Study of instructional materials for junior high school social studies. Attention will be given to collateral, supplementary, and source materials, historical literature, audio-visual aids, graphic materials, community resources, current news media, music, creative activities, and techniques of evaluation.

245. SECONDARY SCHOOL SOCIAL STUDIES CURRICULUM WORKSHOP. (ATE) *Two hours credit.*

A workshop designed for secondary school teachers of the social studies who desire a knowledge of social studies curriculum research, theory and practice.

305. IMPROVEMENT OF INSTRUCTION IN SOCIAL STUDIES IN THE SECONDARY SCHOOL. (ATE or certification at the undergraduate level) *Three hours credit.*

Consideration of recent trends in the organization and teaching of social studies courses in the secondary school. Teachers will be given opportunity to evaluate new courses of study, new materials and new equipment.

402. CONCEPTS IN THE SOCIAL SCIENCES. (ATE or certification at the undergraduate level) *Five hours credit.*

Students will be exposed to the basic concept incorporated in theory relative to each social science discipline. Students will also be expected to develop annotated bibliographies relevant to each concept and to participate in regularly scheduled classroom discussions.

403. SEMINAR IN PROBLEMS OF TEACHING. (ATE or certification at undergraduate level) *Five hours credit.*

Doctoral candidates will utilize understandings in the areas of (1) social analysis, (2) objectives, (3) curricular content, (4) the learning process, and (5) evaluation, in resolving problems anticipated in the light of doctoral and post-doctoral plans.

Department of Anthropology-Sociology

Mr. John R. Mickey, Chairman

Associate Professor: Quammen.

Assistant Professors: Fay, B. Mickey, J. Mickey, Rubenstein, Willoughby.

Instructors: Barasch, Haug, Khleif, Shay.

Description of Courses

ANTHROPOLOGY

20. GENERAL ANTHROPOLOGY. *Five hours credit.*

The nature and scope of anthropology, organic man, the problems of race, the nature of culture, the gathering and production of food, economic organization, social organization, political organization, religion, language, education and the formation of personality, problems of culture change, acculturation and applied anthropology. Emphasis upon cultural anthropology.

200. GREAT IDEAS SEMINAR: ANTHROPOLOGY. *Three hours credit.*

The Great Ideas Seminars are conducted by authorities nationally known in their fields of specialization. The purpose of the seminar is to provide information about current important ideas in each field of knowledge.

220. WORLD ETHNOLOGY. *Three hours credit.*

Analysis of cultures different from our own in Asia, Africa, the Americas, Polynesia, Micronesia and adjacent areas, cultural and linguistic areas of the world.

221. INDIANS OF THE AMERICAS. *Three hours credit.*

Nonliterate cultures of the Americas. Emphasis on the Indian cultures of North America.

224. INDIANS OF THE SOUTHWEST. *Three hours credit.*

Study of archaeology and ethnology of the American Southwest. Anasazi cultures of Mesa Verde, Chaco Canyon, Kayenta; Hohokam; Mogollon. Ethnology of Pueblo, Navajo, Apache, the Supai tribes, Pima-Papago farming groups.

225. CULTURES OF AFRICA; SOUTH OF THE SAHARA. *Five hours credit.*

This course is designed to acquaint the student with the cultural background of the modern African states. The emphasis will be placed on the tribal backgrounds of modern Africa and the acculturation that is taking place between European economic, political and social systems and the equivalent African systems. The African nativistic movements such as the Mau Mau and the secret societies and the growing number of peoples who are de-tribalized are considered.

- 226. CULTURES OF SOUTHEAST ASIA AND INDONESIA.** *Five hours credit.*
Study of a selected number of ethnic groups inhabiting Southern China, Eastern India, Burma, Thailand, Laos, Cambodia, North and South Vietnam, Malaysia and Indonesia. Emphasis on the variety of cultural adaptations to a number of geographic environments.
- 227. SOUTH AMERICAN INDIANS.** *Three hours credit.*
Nonliterate cultures of South America. Emphasis on representative samples of the Marginal tribes, Tropical forest and Savannas tribes, and the Circum-Caribbean cultures. Special emphasis on the Inca Empire.
- 228. OCEANIA.** *Five hours credit.*
Peoples of the oceanic area: Polynesia, Micronesia, Melanesia. Selected cultures to show the pattern prior to 1940. The study of the changes brought about in social and political organizations since that time.
- 229. THE MUSLEM WORLD.** *Three hours credit.*
The culture complexes of the Mid-East, North Africa, and Indonesia. The background of peasant and feudal city societies which have helped to produce the present society.
- 250. ANTHROPOLOGICAL LINGUISTICS.** *Five hours credit.*
Prerequisite, ANT 20 or permission of the instructor. The study of speech and language within the context of anthropology. Cognitive categories formed through language, the nature of language, cultural focus in language, linguistic change, structural linguistics—phonetics—phonemics and transfer grammars.
- 280. ENCULTURATION.** *Five hours credit.*
A study of the patterned interactions by which an individual becomes oriented to his culture, and through which he is prepared to perform adequately as an adult member of his society. Comparison of the enculturation process in selected nonliterate societies.
- 281. ACCULTURATION.** *Five hours credit.*
The study of cultures in contact and the influences they have one upon the other.
- 282. FOLK CULTURES OF MIDDLE AND SOUTH AMERICA.** *Five hours credit.*
Concentration upon the rural communities of peasant farmer, and rural wage labor in Middle and South America. Communities analyzed from point of view of the social, religious, economic and political organization as well as value orientation. Special emphasis on the relationship of these communities to the nations of which they form a part.
- 283. PRIMITIVE RELIGIONS.** *Three hours credit.*
The religions of the peoples not involved in the Indic complex of Hindu-Buddhist or the Judaic tradition of the Mid-East.
- 284. ANTHROPOLOGICAL THEORY I.** *Three hours credit.*
Course goals: (1) Examination of theories of cultural analysis, (2) Development of skills for gathering culture data. Examination of observational and analytical procedures. Application of these to cross-cultural autobiographical accounts. Direct observation, recording and analysis of formal and informal behavioral sequences. Formulation of problems of relationships between culture patterns.
- 323. SPANISH-AMERICAN CULTURE.** *Three hours credit.*
A survey of the cultures in the new world in the pre-hispanic era. The Spanish culture as it was brought to the Americas and a study of the resulting amalgamation that produced the Spanish-American cultures of today.

SOCIOLOGY

- 50. PRINCIPLES OF SOCIOLOGY.** *Five hours credit.*
A study of social organization, culture, socialization, social stratification, as-sociations, collective behavior, population and ecology with detailed applications to the functioning of society in the United States today.

*All of the following Sociology courses have as a prerequisite
SOC 50 or equivalent.*

100. SOCIAL PROBLEMS. *Three hours credit.*

Designed to help the student understand some of the complex problems of our society from a sociological frame of reference. The student will look at such things as poverty, slums, wars, alcoholism, mental illness, drug addiction and prostitution, in the context of American society.

102. CRIMINOLOGY. *Four hours credit.*

A general survey of criminal behavior including theories of causation, types of crime, extent of crime, law enforcement, criminal justice, punishment and treatment.

104. MARRIAGE AND THE FAMILY. *Three hours credit.*

A functional approach to education for marriage and family life, including anticipating marriage, what it means to be married, the making of a family and the nature of family life yesterday, today and tomorrow.

154. SOCIAL STRATIFICATION. *Three hours credit.*

Presentation of a unified portrait of the class system of present-day America. Course seeks a description of the realities of the American class system, an analysis of the verified knowledge based on systematic research, and treatment of the topic of mobility central to the American open-class system.

190. SOCIO-CULTURAL CHANGE. *Three hours credit.*

Presentation of theories of change. Analysis of change as the product of interaction of several factors. Discussion of the effects of technology on change and problems of measurement of change. The processes of change in the underdeveloped countries will be introduced and comparisons with the developed nations will be made.

192. PROBLEMS OF INTERGROUP RELATIONS. *Four hours credit.*

A course dealing with the evidence as to all types of intergroup relations; race, nationality, minority groups, income groups, urban and rural groups, and with methods of teaching and measuring intergroup relations.

201. DELINQUENCY. *Four hours credit.*

The problem of delinquency is approached from the sociological, psychological, and legal point of view. Several sociological theories are proposed as possible causes of delinquency. The various methods by which the delinquent is rehabilitated in correctional institutions are discussed.

202. CRIMINOLOGICAL THEORIES. *Three hours credit.*

Prerequisite, SOC 102 or equivalent. Analysis and evaluation of the major historical and contemporary theories of criminal behavior.

203. WORLD'S GREAT RELIGIONS. *Three hours credit.*

A comparative study of the world's major religions, their origins and historical development, their doctrines, literature, customs, and relations to society.

205. SOVIET SOCIETY TODAY. *Three hours credit.*

A sociological analysis of the Soviet Union's social institutions, social problems, and value systems specifically considering the Communist ideology in theory and practice as revealed in examining the structure, function, and problems of the family, social stratification, nationalities, education, science, the arts, and social welfare programs.

207. COLLECTIVE BEHAVIOR. *Three hours credit.*

Relevant and appropriate sociological theory is directed to the subdiscipline of collective behavior. Mobs, riots, crowds, crazes, mass behavior, revolutions and reforms are unified through certain theoretical developments that permit the systematic examination of the social strains underlying collective effort and behavior.

209. SOCIAL MOVEMENTS. *Three hours credit.*

A study of the nature of those deviant groups concerned with major social problems. Explores the reasons for people joining, remaining in, and defecting from various unconventional political, economic, religious, and cultist organizations and the effect of these movements on society's processes, goals, and values.

211. HISTORY OF SOCIAL THOUGHT. *Five hours credit.*

A systematic and historical development of social thought from primitive folk thinking to contemporary theories of society and social relations.

222. THE SOCIOLOGY OF CHILD DEVELOPMENT. *Three hours credit.*

A sociological approach to the field of child development. The primary emphasis is upon the social situation and how the child grows and develops within its context from birth to maturity.

231. FORMAL ORGANIZATIONS. *Three hours credit.*

A sociological approach to the study of formal organizations. Course includes the theories of formal organizations, nature and types of organizations, the social structure of work groups, and the processes of communication within organizations.

271. SOCIAL RESEARCH. *Four hours credit.*

The course focuses upon the scientific method as it applies to sociology and the social sciences. Methods and techniques of research, as well as study designs relevant to sociology, are examined.

281. SOCIOLOGY OF MEDICINE. *Three hours credit.*

A systematic attempt to relate sociological concepts to the fields of physical health and illness. An overview of socio-cultural aspects of the institution we know as "Medicine." The community and medical care, which will include medical education, the hospital as a social institution, concepts of medical practice.

291. SOCIAL PSYCHOLOGY. *Three hours credit.*

A study of social communication in human groups, the identification of mutually dependent elements in the human group and the study of the human group as an organic whole. The case study approach is used. Emphasis is given to leadership.

293. THE COMMUNITY. *Three hours credit.*

Common features of all communities and differences among communities due to size, ecology, occupation, distinctive history and cultural heritage are examined. The community is seen as a network of interacting social systems comprised of meaningful social groupings, family, religion, economy, local government, health, welfare services, and recreation.

294. WORLD POPULATION PROBLEMS. *Four hours credit.*

Various theories of population are examined. Methods of discovery are investigated and critical variables including fertility, mortality, and migration are analyzed. The general problem of population is related to major sociological variables to indicate the web of interdependency.

295. THE AMERICAN WOMAN. *Three hours credit.*

This course is designed to focus on the changing status of the American woman and its effects on our society. Will study the woman as a daughter, wife, mother, career girl and explore the varieties of roles and effects upon the matrix of our society.

302. AMERICAN SOCIETY TODAY. *Three hours credit.*

An advanced study of the main cultural and social structures of American society, the social relations, beliefs and values which characterize the people of the United States.

304. SEMINAR—MARRIAGE. *Three hours credit.*

A graduate seminar devoted to the exploration of marriage in depth, with a primary focus on American marriage. A secondary emphasis will be that of contrasting the American system with that of other societies.

305. SEMINAR IN THE FAMILY. *Three hours credit.*

A thorough evaluation of research trends and theory in the study of the American family.

306. SEMINAR IN HUMAN SEX AND REPRODUCTION. *Three hours credit.*

The last course in the sequence of Marriage and the Family. The course will essentially have three foci: (1) The physiology of sex, (2) The ethical use of sex, and (3) Reproduction.

310. COMPARATIVE SOCIAL INSTITUTIONS. *Five hours credit.*

The course will discuss social transition from the stateless society of the pre-historic period to the contemporary nation-states. It will illustrate the change from small isolated units of social interchange to the interdependent and interrelated world-centered units of today. The course will conclude with an analysis of the recent trends toward universalism and the one-world concept.

311. SOCIOLOGICAL THEORY. *Three hours credit.*

The development of sociological theory from Comte to the present is analyzed with special emphasis on various European and American "schools." The principal aim is to acquaint the student, systematically, with the concepts of sociological theory in order to orient him to various frames of reference for viewing human interaction.

312. CRIME RESEARCH: SEMINAR. *Three hours credit.*

Selected problems in areas of criminal behavior, criminological theories, crime control or treatment of criminals. Student reports and critiques.

323. THE SOCIOLOGY OF MENTAL HEALTH AND ILLNESS. *Three hours credit.*

A study of the history of mental health and illness in America. Following study of the history, the student will focus on what we mean by mental health and illness, current conceptions related to social psychiatry and the role of the social scientist. Problems related to the school system and disturbed children will be discussed at some length.

331. SEMINAR IN SOCIAL COMMUNICATION. *Three hours credit.*

An explorative, yet penetrating, overview of theories, substantive problems and methods in interpersonal and public communication. Emphasis is placed on processes of communication common to animal behavior, human interpersonal relations, mass communication, and machine behavior.

371. ADVANCED SOCIAL RESEARCH. *Four hours credit.*

The course will include an examination of the scientific method, as it applies to sociology, advanced research designs and techniques used in sociological research, developing and testing of hypotheses, and basic statistical tools used in research.

Department of Economics

Dr. Orvel L. Trainer, Chairman

Professor: Turner.

Associate Professor: Trainer.

Assistant Professor: Ozawa.

Instructor: Griffiths.

Description of Courses

30. INTRODUCTORY ECONOMICS. *Five hours credit.*

An introductory analysis of the American economic system as it affects the average citizen. Considers resources, the market, business organization, labor, money and public finance.

102. CONTEMPORARY ECONOMIC PROBLEMS. *Three hours credit.*

Prerequisite, ECON 30. An examination into critical economic problems facing modern society, most of which are in sharp focus within the decade. Particular attention is given to agricultural adjustment, high-level employment maintenance, federal taxation influences, monetary controls, stabilization of prices, obstructions to foreign trade.

200. LABOR-MANAGEMENT RELATIONS. *Five hours credit.*

A study into the origins of the labor movement and an examination of the impact of trade unionism on contemporary industrial organization.

202. MONEY AND BANKING. *Five hours credit.*

Prerequisite, ECON 30. A study of the origins and present roles of our monetary system, commercial banking and Federal Reserve System.

205. RUSSIA'S SOVIET ECONOMY. *Three hours credit.*

A synthesis of available knowledge regarding all major sectors of the Soviet economy, particularly as regards their organization and operation.

209. ECONOMIC HISTORY OF THE UNITED STATES. *Four hours credit.*

A review of the historical changes in the major American economic institutions with emphasis on the post-Civil War period.

210. HISTORY OF ECONOMIC SYSTEMS: SOCIALISM, COMMUNISM, CAPITALISM, FASCISM. *Five hours credit.*

A survey of social economic reform movements, including Utopian schemes, mercantilism, monopolistic capitalism, socialism, communism, fascism and modified capitalism.

212. INTERNATIONAL ECONOMICS. *Three hours credit.*

Prerequisite, ECON 30. Consideration of the theories, policies and practices related to international economics. The course seeks an understanding of the fundamental causal relationships, basic institutions, and unifying concepts which are found in the world economy.

220. INTERMEDIATE ECONOMIC THEORY. *Three hours credit.*

The purpose of this course is to provide a summary exposition of contemporary economic theory for those students intending to undertake graduate course in economics. Emphasis is upon value and distribution theory. It is assumed that students will have had an introductory course in economics.

231. EUROPEAN ECONOMIC HISTORY. *Three hours credit.*

Prerequisite, ECON 30. A study of the historical origins of the economic institutions of Europe as related to the development of present European economic life.

241. PUBLIC FINANCE. *Five hours credit.*

Prerequisite, ECON 30. A study of government financing on the federal, state, and local level as it is reflected in expenditures, revenue sources such as taxes, and the problems and solutions of public debt.

246. INDUSTRY STUDIES. *Three hours credit.*

Prerequisite, ECON 30. This will be a course in the application of basic economic principles. Students should be prepared to do an extensive case study of an industry.

248. THE ECONOMICS OF PUBLIC UTILITIES. *Three hours credit.*

Prerequisite, ECON 30. A study of public-utility concepts in the American business system and the problems relative to effective regulation and growth of these industries.

250. NATIONAL INCOME ANALYSIS. *Three hours credit.*

Prerequisite, ECON 30. This course will incorporate major areas of modern aggregate economics analysis. Income measurement and determination of the level of income will be combined with problems of growth and fluctuations.

251. INTRODUCTION TO QUANTITATIVE ECONOMICS. *Five hours credit.*

Prerequisite, ECON 220 or the consent of the instructor. An introductory course in the use of mathematical techniques in economics. High school algebra and a good background in economic theory would be sufficient preparation.

252. EMPIRICAL METHODS IN ECONOMICS. *Three hours credit.*

Prerequisite, ECON 30 or consent of the instructor. The course will present an examination of national income accounting practices, compilation of economic statistics, index number computation and related topics. Only elementary statistical background will be needed.

253. ANALYSIS OF BUSINESS CYCLES. *Three hours credit.*

Prerequisites, ECON 220, 250 or the consent of the instructor. The course will present a theoretical and empirical investigation of economic fluctuations.

254. DEVELOPMENTAL ECONOMICS. *Three hours credit.*

Prerequisites, ECON 30, 220, or the consent of the instructor. A study of the economic factors which aid or impair economic development with primary emphasis placed on evolving national economies and regional economic problems of advanced economies.

266. STATE AND LOCAL FINANCE. *Three hours credit.*

The purpose of this course will be to focus attention upon the mechanisms and the goals of public finance as employment by governments on the state and local level in the U. S. economy.

270. AGRICULTURAL ECONOMICS. *Three hours credit.*

Prerequisite, ECON 30. A study of the economics of agriculture and the relation of agricultural economic factors to the total modern economy.

277. GOVERNMENT AND BUSINESS. *Three hours credit.*

Prerequisite, ECON 30. A study of the relation of American public policy to the challenge of industry, labor, agriculture and inflation-depression periods.

286. INTERNATIONAL FINANCE. *Three hours credit.*

Prerequisites, ECON 30, 212, or the consent of the instructor. A study of the financial instruments, institutions and organizations which comprise international finance and which assist international trade.

288. ECONOMIC COLONIALISM AND IMPERIALISM. *Three hours credit.*

Prerequisites, ECON 30, 231, or the consent of the instructor. A study of the part played by economic doctrines, theories and practices in the expansionary drives to colonialism and imperialism, with primary emphasis given to modern history.

290. HISTORY OF ECONOMIC THOUGHT. *Three hours credit.*

Prerequisite, ECON 30. This course will trace the evolution of economic thinking from the period of the Old Testament up to the present day. Particular attention will be given the roles played by particular "schools" of economic thinkers, the genesis of their ideas and their contributions.

302. ADVANCED ECONOMICS. *Five hours credit.*

Prerequisite, ECON 30. The purpose of this course is to provide a summary exposition of contemporary economic theory for those students intending to undertake other graduate courses in economics. Emphasis is upon value and distribution theory. It is assumed that students will have had an introductory course in economics.

310. ECONOMETRICS. *Five hours credit.*

Prerequisite, ECON 30. This is a course characterized by two essential qualities: (1) economic relationships are expressed in mathematical form, (2) numerical estimates are made making use of techniques based upon the theory of probability; the course shall be concerned with econometric models requiring specification, estimation, verification, and prediction.

321. SEMINAR IN ECONOMIC THOUGHT. *Three hours credit.*

Prerequisites, ECON 30, 220, 290, or the consent of the instructor. This course is primarily concerned with independent study and limited guided research in the development of economic thought. The group will meet for regular discussions and criticism of their work.

322. SEMINAR IN MODERN MICROECONOMIC THEORY. *Three hours credit.*

Prerequisites, ECON 220, 290, or the consent of the instructor. This course will cover some aspects of modern economic theory including old and new welfare economics, linear programming, game theory, theories of imperfect competition.

324. SEMINAR IN INTERNATIONAL ECONOMICS. *Three hours credit.*

Prerequisite, ECON 30. This course will be primarily concerned with current issues facing nations engaged in international trade. Specific interest will be directed toward problems facing the United States in the world economy.

330. SEMINAR IN ECONOMIC HISTORY. *Three hours credit.*

Prerequisites, ECON 30, 220, 209 or 231, or the consent of the instructor. This course is primarily concerned with the study of economic history by the application of modern analytical tools of economic research. Methodology of historical analysis will be coupled with limited and guided research. Regular meetings will be held for purposes of criticism and guidance.

340. SEMINAR IN LABOR ECONOMICS. *Three hours credit.*

Prerequisites, ECON 30, 200, 220, or consent of the instructor. The purpose of this course is to pursue guided research in the areas of labor economics and labor-management problem areas. Selected readings are considered along with critical discussions and research papers in the growing body of data relative to this area of economics.

344. SEMINAR IN GOVERNMENT AND BUSINESS. *Three hours credit.*

Prerequisites, ECON 30, 220, 277, or the consent of the instructor. This course is aimed at aiding the student in research in the area of government regulation of business in the modern economy of the United States. Regular meetings will be held to evaluate progress in research work and to discuss points of interest in the related readings.

350. SEMINAR IN NATIONAL INCOME ANALYSIS. *Three hours credit.*

Prerequisites, ECON 220, 250, or consent of the instructor. This course will be an examination of modern macroeconomic theories. Some of the topics will be general equilibrium analysis, modern quantity theory, and post-Keynesian theory.

353. SEMINAR IN BUSINESS CYCLE THEORIES AND GROWTH THEORIES. *Three hours credit.*

Prerequisites, ECON 220, 253, or consent of the instructor. This course should follow ECON 350 in a student's program. Topics will include multiplier-accelerator models, Harrod-Domar models, Golden Age growth models, and some classical models.

354. SEMINAR IN DEVELOPMENTAL ECONOMICS. *Three hours credit.*

Prerequisites, ECON 30, 230, or consent of the instructor. The purpose of this course is to pursue limited research in the areas of developmental economics and regional economics. Both evolving national economies and regional economic data of advanced economies are considered. Regular meetings are held to outline and present papers for discussion and criticism.

360. SEMINAR IN MONEY AND BANKING. *Three hours credit.*

Prerequisites, ECON 202, 220, 250, or consent of the instructor. An examination of the possibilities of monetary regulation of an economy. Emphasis will be on modern controversy.

363. SEMINAR IN PUBLIC FINANCE. *Three hours credit.*

Prerequisites, ECON 220, 241, or consent of the instructor. The course will examine the role of government in the determination of the allocation of resources, distribution of income, and the level of employment in a modern economy.

370. SEMINAR IN AGRICULTURAL ECONOMICS. *Three hours credit.*

Prerequisites, ECON 30, 220, 270, or the consent of the instructor. This course is concerned with directed research and use of empirical data in the area of the economics of agriculture and land economics. Regular meetings will be held for purposes of criticism and guidance in readings and research.

Department of Geography

Mr. Lee R. West, Chairman

Professor: West.

Associate Professor: Lehrer.

Assistant Professor: K. Kearns.

Instructors: Boswell, Farren.

Description of Courses

10. WORLD GEOGRAPHY. *Five hours credit.*

World survey of the interrelationships of man and his culture to the climates, animal life, minerals, soils and surface features of the earth.

48. ANGLO-AMERICA. *Five hours credit.*

A study of regions and their interdependence. Land use, social and economic problems emphasized.

64. MAPS AND THEIR USES. *Two hours credit.*

The course presents the basis for an effective use of maps and globes in the classroom. It is designed to develop the skill of map reading and map interpretation.

112. ECONOMIC GEOGRAPHY. *Five hours credit.*

Geographic and economic conditions affecting the products, industries, commerce and resources of the world. Special emphasis on the United States.

203. WORLD RESOURCES AND INDUSTRIES. *Three hours credit.*

A functional appraisal of the resources and industries of the world, including a consideration of their geographical, historical, sociological, technological, and political aspects.

218. AUSTRALIA AND THE PACIFIC. *Two hours credit.*

A regional consideration of the advantages and limitations of the physical and cultural environment, population distribution, and economic development of Australia, New Zealand, Melanesia, Micronesia, and Polynesia.

221. PHYSICAL GEOGRAPHY. *Five hours credit.*

The earth as a globe; the meteorological basis of climate; climates of the world; soils and their distribution; maps as tools; land forms, their recognition, causes and patterns.

226. AFRICA. *Five hours credit.*

Relationships between the physical and cultural patterns. Land use, resource development, social and political problems.

237. MIDDLE AMERICA. *Three hours credit.*

Emphasis is placed upon the heterogeneity of physical conditions, people, historical development, natural resources and economic activities. Particular attention is given to the problems and prospects of the Middle American countries in their efforts toward improved economic conditions and political stability.

238. SOUTH AMERICA. *Three hours credit.*

An analysis of the geographic characteristics of those Western Hemisphere nations lying south of the equator. Attention is focused upon the significant differences from place to place in physical conditions, racial and cultural heritage, and stage of economic development. Particular attention is given to the impact of the Industrial and Democratic Revolutions upon a previously pre-industrial society.

243. EUROPE. *Three hours credit.*

Physical and cultural patterns. The nations of Europe, their regions, cultures, social and economic organizations with resulting conflicts.

244. ASIA. *Five hours credit.*

The countries of Asia in terms of their physiography, climates, regions, cultural landscapes, social organizations and economic activities.

250. GEOGRAPHY OF COLORADO. *Two hours credit.*

A study of the geographical and human resources of Colorado. The course is concerned with the physical features, climate, land form regions and natural resources of the state and their utilization and conservation; agricultural, mining, manufacturing, water supply, transportation and commerce and industry; population problems, state government and current problems in the growth and development of Colorado.

260. POLITICAL GEOGRAPHY. *Five hours credit.*

A study of the principles of political geography as developed through a systematic and regional analysis of political phenomena and their relation to geographic conditions. Historical and current problems in local, national, and international affairs will be considered from the aspect of the geographic factors involved.

265. THE SOVIET UNION. *Five hours credit.*

A regional analysis of the geographic conditions, their historical importance, and their relation to economic, social, and political problems in the Soviet Union and to its position in world affairs.

370. URBAN GEOGRAPHY. *Five hours credit.*

A study of the urban community as a geographical phenomenon. Opportunity is provided for students to obtain practical field experience within the local area. Attention is also given to the development of cartographic skills as an aid to meaningful organization and presentation of data.

380. SEMINAR IN REGIONAL GEOGRAPHY. *Maximum of nine hours credit.*

This is a problems course in which the student will organize, conduct, present and defend research of a regional nature and will participate in the critical evaluation of similar progress reports and completed works as presented by others.

385. SEMINAR IN TOPICAL GEOGRAPHY. *Maximum of nine hours credit.*

This is a problems course in which the student will organize, conduct, present and defend research of a topical nature and will participate in the critical evaluation of similar progress reports and completed works as presented by others.

392. SYRACUSE UNIVERSITY SUMMER FIELD COURSE IN GEOGRAPHY. *Eight hours credit.*

Most of each day is spent in the field. Evening seminars offer an opportunity to discuss ways and means of proceeding in field investigation. Practice is provided in the various map-making, recording and interviewing techniques. The final weeks will be devoted to group field projects.

Department of History

Miss Pauline C. Pogue, Chairman

Professors: Arnold, Boeck, Reynolds.

Associate Professors: Byerly, Larson, Pogue.

Assistant Professors: Powers, Rothaus.

Description of Courses

United States History

70. UNITED STATES HISTORY I. *Three hours credit.*

United States history to 1848, European background of American history, the age of discovery and colonization, the imperial rivalries, the revolution and the new nation, nationalism and sectionalism.

71. UNITED STATES HISTORY II. *Three hours credit.*

United States history, 1848-1912. The War Between the States, reconstruction, the emergence of modern America, the United States as a world power, the new nationalism.

72. UNITED STATES HISTORY III. *Three hours credit.*

United States history, 1912 to the present. The New Freedom, World War I, prosperity and depression, the New Deal, the long armistice, World War II, post-war problems and adjustment.

75. UNIT SURVEY OF UNITED STATES HISTORY. *Five hours credit.*

Detailed consideration of specific units in American history with emphasis upon the content and materials for use in elementary schools. Should not be taken by majors or minors in history.

176. AMERICAN SOCIAL AND INDUSTRIAL HISTORY. *Four hours credit.*

A study of the major social, industrial and cultural forces which have shaped American life, the growth of cities, education and culture, the impact of the frontier, immigration, scientific and industrial progress, and the correlation between these forces in the development of present-day America.

246. GEOGRAPHIC INFLUENCES IN UNITED STATES HISTORY. *Two hours credit.*

Relationships of geography to the discovery, exploration, settlement, and development of the United States.

250. HISTORY OF COLORADO. *Three hours credit.*

A study of the growth and development of Colorado: Indian influence; Spanish, French, and American explorations; historical development; early settlements; gold and silver rushes; pioneer life; territorial problems; the growth of agriculture, industry, livestock production; economic, social and cultural progress; political progress; governmental organization; problems of recent and present day.

251. COLONIAL AMERICA: 1607-1763. *Three hours credit.*

Political, economic, and social aspects of the transplanting of European civilization to North America, with the beginnings of the rise of a distinctive American civilization.

252. HISTORY OF THE WEST. *Three hours credit.*

Western movement beginning with 1607. The colonial west, organization of Northwest Territory. Indian wars, Cumberland Road, coming of steamboat, canal era, frontier monetary problems, relation of Mormons to westward movement, pre-emption and homestead acts, forty-niners and fifty-niners, transcontinental railroads, range cattle industry.

253. GREAT MEN IN AMERICAN HISTORY. *Three hours credit.*

A biographical approach to American history focusing on the lives and contributions of such great Americans as Franklin, Washington, Hamilton, Jefferson, Marshall, Jackson, Lincoln, Holmes, Theodore Roosevelt, Wilson, and Franklin Roosevelt.

263. EMERGENCE OF A NEW NATION: 1763-1815. *Five hours credit.*

Background of Revolution, the conflict between the Colonies and Great Britain, Declaration of Independence, Treaty of Paris 1783, Articles of Confederation, U. S. Constitution, administrations of Washington, Adams, Jefferson and Madison.

265. CONTEMPORARY UNITED STATES HISTORY. *Three hours credit.* Brief summary of the great trends in the United States in the period following 1865. World War I, League of Nations, normalcy and reaction, the great depression, New Deal, World War II, United Nations, Korean "Police Action," contemporary problems.

272. CONTEMPORARY AMERICAN FOREIGN POLICY. *Three hours credit.*

The course examines American foreign policy by visiting Washington, D. C., and the United Nations in New York City. In Washington the class hears lectures at the State Department and observes the foreign relations committees of both Houses of Congress. At the United Nations headquarters in New York the class is briefed on America's role in the world organization. May count toward a major or minor in history or the social sciences.

273. DIPLOMATIC HISTORY OF THE UNITED STATES. *Five hours credit.*

Survey of the diplomacy which has affected the United States during its entire history. Supplementary readings required in the original and secondary sources.

274. AMERICA COMES OF AGE: 1877-1916. *Three hours credit.*

The course will examine the events, trends, and movements in the United States from 1877 to 1916. Major themes are political developments, the rise of Big Business and Big Labor, the settlement of the last frontier, America's emergence as a world power, and social and intellectual movements. Political developments to be studied include growth of congressional government, Populism and Free Silver, Progressivism, and Wilson's New Freedom.

290. INSTITUTE IN CHANGE IN UNITED STATES HISTORY. *Twelve hours credit.*

An analysis and study of the social, political, economic, and diplomatic forces that have shaped major developments in U. S. history from 1776 to the present. A course for high school history teachers who have not majored in history. Special attention will be paid to the methods and materials of teaching history.

356. TOPICS IN AMERICAN HISTORY. *Two hours credit.*

Stated in general terms, the objective of the course is to allow the student who has become familiar with the chronological sequence of events in American history to examine in depth the most significant topics, issues, and trends in the evolution of the American society.

357. ISSUES IN UNITED STATES DIPLOMATIC HISTORY. *Five hours credit.*

The course will examine in depth important issues in American foreign policy from the founding of the nation to the present day.

361. THE AMERICAN REVOLUTION. *Five hours credit.*

The course will examine the origins of the American Revolution, the Revolution in its political, social and military phases, and the events and attitudes which led to the ratification of the Federal Constitution.

362. THE EARLY NATIONAL PERIOD: 1790-1815. *Three hours credit.*

The course will cover the launching of the federal government under the Constitution, Federalist domestic and foreign policy, and the policies of the Jeffersonian Republicans from their origin through 1815.

364. CIVIL WAR AND RECONSTRUCTION. *Three hours credit.*

Slavery in America, the crises of the 1850's and the election of 1860, secession, conflict between the states, the Emancipation Proclamation, the reconstruction of the defeated South.

365. READINGS IN AMERICAN HISTORY: THE MIDDLE PERIOD. *Five hours credit.*

Prerequisite, USH 364 or 366. An analysis of selected works from the bibliography of the Middle Period of American history.

366. THE ERA OF JACKSONIAN DEMOCRACY: 1815-1850. *Five hours credit.*

An intensive survey of the social, economic, and political developments of the Middle Period of American history. Major themes are the advent of industrialism, democracy, Manifest Destiny, and the genesis of a bitter sectional controversy.

367. INTELLECTUAL HISTORY OF THE UNITED STATES. *Five hours credit.*

A study of the intellectual aspects of characteristic institutions and the changing modes of thought in American life from the Colonial period to the present day. The relationship of intellectual life to social and economic conditions is stressed.

368. THE POPULIST-PROGRESSIVE AGE: 1887,1920. *Five hours credit.*

A study of the Populist and Progressive periods in America with particular attention given to developments in the Rocky Mountain West. Research in primary sources located in nearby libraries and archives will be stressed as well as familiarization with the secondary sources in the college library.

369. HISTORY OF THE SOUTHWEST. *Three hours credit.*

Prerequisite, USH 252 or general course on westward movement. In this course Spanish and Anglo historical developments in Texas, New Mexico, Arizona, Southern California and Southern Colorado will be traced from the Coronado expedition in the sixteenth century to the present. Although the settlement period will be stressed, the political, social and economic developments since 1890 also will be analyzed.

378. THE EMERGENCE OF INDUSTRIAL AMERICA. *Five hours credit.*

A study of the emergence of industrialism in America during the latter part of the nineteenth century and the first decade of the twentieth century with emphasis on the technology and entrepreneurial methods of the new industrial order and the political and social problems created by the industrial transformation.

380. FRANKLIN D. ROOSEVELT AND THE NEW DEAL. *Five hours credit.*

A study of the political, social, economic and diplomatic history of the 1932-1945 era.

World History

25. WESTERN CIVILIZATION I. *Three hours credit.*

The course will cover the most significant aspects of European history from about 1492 to 1815. Emphasis will be on the cultural, intellectual and religious developments which have had an enduring value. Not open to history majors or minors.

26. WESTERN CIVILIZATION II. *Three hours credit.*

The emphasis of this course will be on the principal developments of European history between 1815 and 1914, the rise of nationalism, liberalism, constitutionalism and industrialism, and the impact of these on life and culture in the nineteenth century. Not open to history majors or minors.

27. WESTERN CIVILIZATION III. *Three hours credit.*

The course will cover the period from 1914 to the present. The emphasis will be on the two great wars, the rise of dictatorships, and the quest for peace and security. Not open to history majors or minors.

30. WORLD HISTORY I. *Four hours credit.*

World history—early times to 800. Major civilizations.

31. WORLD HISTORY II. *Four hours credit.*

Prerequisite, WHS 30. World history—800-1800. Major civilizations.

32. WORLD HISTORY III. *Four hours credit.*

Prerequisite, WHS 30 and 31. World history—1800 to the present. Major civilizations.

*All of the following World History courses have as prerequisites
WHS 30, 31, 32 or equivalent.*

169. THE FAR EAST. *Five hours credit.*

A study of the historical background of the economic, social, educational, philosophical and political life of the major nations and regions of the Far East.

171. ENGLISH HISTORY. *Five hours credit.*

The emphasis of the course will be on the economic, political and social transitions since the defeat of the Spanish Armada but it will contain a brief survey of the background of English history.

200. INTRODUCTION TO HISTORICAL RESEARCH. *Three hours credit.*

An introduction to the nature of history; what is history; why study history; how to study history. Pursuit of evidence; familiarization with library catalogs; bibliographies and indexes. Selection of topic for research by student. Note taking; criticism; construction of research papers; elements of good English usage.

233. COLONIAL LATIN AMERICAN HISTORY. *Five hours credit.*

A history of the discovery and colonization of Latin America with particular emphasis on the Spanish and Portuguese institutions, and the events leading up to the wars for independence.

234. HISTORY OF LATIN AMERICA. *Five hours credit.*

A study of the development of the economic, educational, political, religious, and social institutions of Latin America. Consideration will be given to United States relations with Latin America, and to the status of and prospects for democracy in Latin American nations.

235. HISTORY OF AFRICA. *Five hours credit.*

A general history of Africa from the early civilization throughout the early European explorations and settlements to European colonizing activities of the nineteenth century and the African nationalism of the post-World War II era.

260. ANCIENT HISTORY. *Five hours credit.*

The life and institutions of the Ancient Near East, Greece, and Rome; cultural development, living conditions, and recent archaeological discoveries.

261. THE MIDDLE AGES. *Five hours credit.*

An advanced coverage of history from the end of ancient times to the beginnings of modern Europe.

263. RENAISSANCE AND REFORMATION. *Five hours credit.*

A study of political, social, economic, religious and cultural development from 1300 to 1600.

264. THE OLD REGIME: 1600-1789. *Five hours credit.*

A study of the political, social, economic, intellectual, and cultural development from the end of the Reformation period to the French Revolution.

266. EUROPE: 1815-1870. *Five hours credit.*

A study of the period from the Congress of Vienna through the unification of Germany. Includes the history of ideas, development of political history, and social-economic changes.

267. EUROPE: 1870-1914. *Five hours credit.*

A study of the political, social, economic, intellectual, and diplomatic developments from the Franco-Prussian War to the beginning of World War I.

268. CONTEMPORARY WORLD HISTORY. *Five hours credit.*

An advanced study of world developments in recent times which will investigate the period from 1900 to the present. The course will discuss the ideologies of communism, socialism, fascism, and democracy in their world setting.

280. HISTORY OF RUSSIA TO 1917. *Four hours credit.*

Surveys the political, social, economic, and cultural history of Russia from Kievan Rus up to the Bolshevik Revolution of 1917. Emphasis is placed on those Russian traits that have continued into the Soviet period. This course is a prerequisite for WHS 281, History of the Soviet Union.

281. HISTORY OF THE SOVIET UNION. *Four hours credit.*

Prerequisite, WHS 280. Surveys the political, social, economic, and cultural history of the Soviet Union from 1917 to the present. Continuity with pre-Soviet Russia is emphasized as well as change.

282. RUSSIAN HISTORY SEMINAR. *Four hours credit.*

Prerequisite, WHS 280. The class will consider pre-Soviet history, or if the student has also taken WHS 281, the Soviet period. Students will research, write and present a paper, which may be taken from either period. Lectures will cover Russian historiography and bibliography.

294. HISTORY OF CHINA TO 1840. *Five hours credit.*

The history of China to 1840 will be considered from the point of view of political and cultural development.

295. HISTORY OF JAPAN TO 1868. *Five hours credit.*

The history of Japan up to 1868 will be considered from a cultural and political aspect. Emphasis will also be placed upon social development.

296. THE FAR EAST SINCE 1840. *Five hours credit.*

An advanced study of the Far East in modern times, beginning with the impact of western powers in the mid-nineteenth century to the present day. Emphasis will be on internal changes in political, social, economic and cultural aspects of the nations studied.

298. HISTORY OF INDIA AND PAKISTAN. *Five hours credit.*

A brief history of the peoples of the Indian subcontinent from early times to the present. Emphasis will be placed on the rise and decline of various cultures, Indo-Islamic culture, the advent of the English and their contribution to the birth of nationalism and the organization of India and Pakistan as independent states.

330. HISTORY OF NATIONALISM. *Five hours credit.*

Deals mainly with the rise of nationalism in the 18th century, its spread over Europe in the 19th century, and its world-wide expansion in the 20th century. Examines the interaction of nationalism, industrialism, revolution and democracy. Compares different manifestations of nationalism in Russia, Japan and other non-Western nations as well as European nations.

332. INTERRELATIONSHIP OF WESTERN AND EASTERN CIVILIZATIONS. *Three hours credit.*

Traces the historical origins of the division between Western democracies and communistic Russia; the impact of Western civilization upon India, China, Japan, and Southeastern Asia; and the more recent counterimpact of the non-Western civilizations. Explores the possibility of reconciling the conflicting ideologies through a more inclusive cultural ideal.

333. REVOLUTIONS IN MODERN TIMES. *Five hours credit.*

The four great revolutions of the Western world, namely, the English, American, French, and Russian revolutions, are compared in a search for causes and possible patterns of revolution. Post-World War II revolutions are analyzed to find economic, social, and intellectual causes of the revolutionary period of today.

334. EUROPEAN IDEOLOGIES. *Four hours credit.*

Traces the history of three European ideologies, namely, socialism, communism, and fascism, from the beginning of the 19th century to the present. These will be related to their interaction with liberalism, nationalism and democracy.

335. MODERN EUROPEAN INTELLECTUAL HISTORY. *Four hours credit.*

An intellectual history of modern Europe tracing the ideas of man from the age of the Enlightenment through the main currents of thought in the contemporary world, with emphasis on the transmission of the ideas of the great social thinkers.

365. FRENCH REVOLUTION AND NAPOLEON. *Five hours credit.*

A study of the causes of the revolution, its classical pattern, the rise of nationalism, and the significance of Napoleon in France and abroad.

372. CONSTITUTIONAL HISTORY OF MEDIEVAL ENGLAND. *Three hours credit.*

The development of English legal, constitutional and administrative institutions from their Anglo-Saxon origins to 1485. Stress will be placed on the medieval antecedents of the modern English governmental departments as well as on the development of the common law, the jury system, and the rise of representative government. Emphasis will also be placed on the role of these institutions in the transition from a feudal to a national monarchy.

373. CONTEMPORARY GERMANY. *Four hours credit.*

A survey of German history from World War I to the Cold War, including analysis of events from the outbreak of World War I to the present, through the reading of original sources and documents.

385. CONTEMPORARY MEXICO AND THE CARIBBEAN. *Three hours credit.*

A study of the developments and problems of contemporary Mexico and the republics of Central America and the Caribbean.

399. HISTORIOGRAPHY. *Three hours credit.*

Required of all graduate students majoring in history. An examination of the great historians and the major schools of historical interpretation from classical Greece to the twentieth century.

Department of Political Science

Dr. Richard Perchlik, Chairman

Professor: Christensen.

Associate Professor: Perchlik.

Assistant Professors: Ahn, Bookman, Knapp.

Description of Courses

40. NATIONAL GOVERNMENT OF THE UNITED STATES. *Five hours credit.*

Origin and adoption of the Constitution, basic principles of the American constitutional system, the machinery of popular control, and the structure of the national government.

160. CLASSICAL POLITICAL THEORY. *Three hours credit.*

A study of the successive influence upon political theory of Greek thought, the Old and New Testaments, the Roman doctrine of natural law, church and state in the Middle Ages, the emergence of the modern state, and the age of enlightenment.

161. MODERN POLITICAL THEORY. *Three hours credit.*

Prerequisite, PSCI 160. A study of the dominant movements and trends in nineteenth and twentieth century political and social thought. A study of the development of liberal doctrine, as well as an analysis of conservative, socialist, elitist, and fascist theories.

171. STATE AND LOCAL GOVERNMENT. *Five hours credit.*

Prerequisite, PSCI 40. The organization of state, county, and municipal governments.

172. PROBLEMS IN UNITED STATES GOVERNMENT. *Three hours credit.*

Prerequisites, PSCI 40 and 171. The constitutional and extra-constitutional factors affecting the legislative process, the conduct of administration, the budgetary and fiscal policies of the government, and the control of foreign relations.

173. EUROPEAN POLITICAL SYSTEMS. *Four hours credit.*

A comparative functional analysis of the political systems of selected European nations, including Great Britain, France, West Germany, and the Union of Soviet Socialist Republics.

176. INTERNATIONAL RELATIONS. *Four hours credit.*

A study of the power relationships existing in a world of sovereign nation states.

180. PUBLIC OPINION AND PRESSURE GROUPS. *Four hours credit.*

A study and analysis of the nature and role of public opinion and pressure groups in American politics. This course analyzes the techniques used in forming, manipulating, and measuring public opinion, and studies the process by which pressure groups use and compete with public opinion in the formation of public policy.

200. RESEARCH AND INQUIRY IN POLITICAL SCIENCE. *Three hours credit.*

Prerequisite, PSCI 40. A study in the use of the scientific method in political science. Special attention will be focused on research methods and materials and the use of library facilities and bibliographies.

210. GOVERNMENT AND POLITICS OF ASIA. *Four hours credit.*

Prerequisite, PSCI 40. A comparative study of major political systems of Asia, including China, Japan, India and Indonesia.

211. GOVERNMENT AND POLITICS OF LATIN AMERICA. *Four hours credit.*

Prerequisite, PSCI 40. A comparative study of the political systems of Latin America.

212. THE POLITICS OF THE DEVELOPING AREAS. *Four hours credit.*

Prerequisite, PSCI 40. A study of the politics of developing areas, with particular emphasis on Africa, Asia and the Middle East; concepts of development, modernization and nation-building.

218. RUSSIAN-AMERICAN RELATIONS. *Three hours credit.*

An analysis of the contemporary political and economic relations between the United States and the Soviet Union; of zones of tension and conflict, areas of agreement and possible solutions to the controversies which currently make for strained relations between these world powers.

261. SEMINAR IN CONTEMPORARY POLITICAL THEORY. *Three hours credit.*

Prerequisite, PSCI 161 or equivalent, by permission of instructor. Research and discussion in special problems and aspects of political theory in the nineteenth and twentieth centuries.

275. THE UNITED NATIONS. *Three hours credit.*

The background and organization of the United Nations. Includes a detailed study of the six organic bodies of the United Nations and its subsidiary agencies.

279. POLITICAL PARTIES. *Three hours credit.*

Prerequisites, PSCI 40 and 171. The organization and techniques of political parties in the United States, the voting behavior of the electorate and the problems relating to the machinery of representative democracy.

280. REGIONAL AND SUPRANATIONAL POLITICAL ORGANIZATIONS. *Four hours credit.*

Prerequisite, PSCI 176. An analysis of some regional and supranational political organizations, such as the North Atlantic Treaty Organization and the European Economic Community, and an evaluation of the role and significance of these organizations in international politics.

377. CONSTITUTIONAL LAW. *Five hours credit.*

Prerequisite, PSCI 40. The major sections and clauses of the Constitution as developed and interpreted by the courts and by leading writers in the field of constitutional law.

379. SEMINAR IN INTERNATIONAL POLITICS. *Three hours credit.*

Research and reports on selected topics.

SCHOOL OF EDUCATION

Dr. Edward J. Kelly, Dean

Department of History and Philosophy of Education

Dr. John E. Bothell, Chairman

Professor: Bothell.

Assistant Professor: D. Turner.

Description of Courses

296. HISTORY OF EDUCATION IN THE UNITED STATES. *Three hours credit.*

This course is based on material in the most recent texts on the history of education in the United States.

337. COMPARATIVE EDUCATION. *Three hours credit.*

The philosophy and practices of education in foreign countries, usually including education in Germany, France, Russia, Norway, Great Britain, China, Australia, Canada, Mexico and certain South American countries.

395. PHILOSOPHY OF EDUCATION. *Three hours credit.*

Educational aims, values and criteria, democracy and education, different systems of educational philosophy, the nature of thinking, method and subject matter are considered.

396. HISTORICAL FOUNDATIONS OF EDUCATION. *Three hours credit.*

This course is designed to study important historical and philosophical backgrounds for the integration of present day educational issues.

Professional Education Core

Professors: Bothell, Chaloupka, Hillway, Nimmicht.

Associate Professors: Dunwell, Hogan, Sanderson.

Assistant Professors: Stoffer, D. Turner.

101. BASIC CONCEPTS OF EDUCATION. (ATE) *Five hours credit.*

A unified course designed to familiarize students with the fundamentals of the history of American education, educational sociology, the professional role of the teacher, school administration as it pertains directly to the classroom teacher, and key knowledge unique to the elementary school, the junior high or senior high schools.

295. PHILOSOPHY OF EDUCATION. (ATE) *Three hours credit.*

Prerequisite, ED 101. An introductory course in which the student considers the basic problems of knowledge, truth, reality, and value as perceived by the various schools of philosophic thought. The traditional philosophic positions are translated into educational schools of thought and application is made to the specific problems of education.

420. SEMINAR IN RESEARCH. *No credit. (\$25.00 fee required.)*

Designed for doctoral candidates who are in the process of planning their research. Individuals will present their tentative research proposals and receive criticism from the class and the staff.

461. PHILOSOPHICAL FOUNDATIONS OF EDUCATION. *Three hours credit.*

A study of the educational aims and values of various cultures which have given direction to peoples in different societies. An integration of classical philosophies with educational philosophies culminating in a statement of practical educational aims and objectives.

462. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION. *Three hours credit.*

The psychological foundations of education are concerned with basic concepts pertinent to understanding human behavior. Cognition, perception, maturation, motivation, learning, emotions, personal and social adjustment areas are emphasized.

463. SOCIOLOGICAL FOUNDATIONS OF EDUCATION. *Three hours credit.*

A study of education in relation to the sociological realities of American and world societies, contemporary and primitive.

Audio-Visual Education

Associate Professor: Bowman.

Assistant Professor: Wood.

Instructor: Donald Seager.

206. AUDIO-VISUAL MATERIALS IN EDUCATION. *Four hours credit. (One hour laboratory per week.)*

Introduces students to most audio-visual materials and devices available for improving instruction; each type is demonstrated, and psychological basis for use is discussed as well as its characteristics, advantages and disadvantages; designed to be of value to all interested in education.

207. AUDIO-VISUAL ADMINISTRATION WORKSHOP. *Three hours credit.*

Prerequisite, ED 206. A workshop for administrators and teachers on administration and use of audio-visual devices. Classroom layout, budgeting, purchasing, evaluation and distribution of materials are treated as well as personnel and training problems. Research methods and application of materials are also covered.

208. LOCAL PRODUCTION OF AUDIO-VISUAL INSTRUCTIONAL MATERIALS. *Three hours credit.*

Prerequisite, ED 206. Provides experience in the production of audio-visual teaching materials using equipment and facilities available to most teachers. Includes preparation and mounting of pictures and the production of graphic materials, slides and recordings.

308. PRODUCTION OF PHOTOGRAPHIC TEACHING MATERIALS. *Three hours credit.*

Prerequisite, ED 208. Provides experience in the more complex production techniques. The course will emphasize three major aspects of production: (1) scripting a production, (2) filmstrip and slide set techniques, and (3) motion picture production techniques. Actual production experience will be gained through laboratory experiences and required individual projects.

Higher Education

Professors: Hillway, Holmes.

Associate Professor: Hogan.

Assistant Professor: Leach.

391. HIGHER EDUCATION IN THE UNITED STATES. *Three hours credit.*

An overview of the history, philosophies, curricula, organization and administration of American colleges and universities with emphasis on their present status and problems.

393. THE JUNIOR AND COMMUNITY COLLEGE. *Three hours credit.*
The history, functions, present status, and problems of the junior college and the community college.

492. THE COLLEGE TEACHER. *Three hours credit.*

Presents college teaching as a profession including selection and preparation of instructors and the status, services and rewards of the profession. Also concerned with the application of psychology to college teaching, problems in improving college instruction, and the research function of the college instructor.

493. THE COLLEGE AND UNIVERSITY CURRICULUM. *Three hours credit.*

Outlines the major curricular offerings of American colleges and universities including general education, liberal arts education, vocational and professional education including teacher preparation and the academic administration involved in building and improving a curriculum.

494. COLLEGE ADMINISTRATION. *Three hours credit.*

Describes the organization and administration of American higher education. Includes administrative problems concerned with faculty policy, finance, student personnel, publications, and instruction. Takes up government and administration at all levels from the departmental offices to the board of trustees.

OUTDOOR EDUCATION

80. INTRODUCTION TO OUTDOOR EDUCATION. *Three hours credit.*

Introductory course to orient students with the basic concepts of outdoor education. Natural and community resources are utilized in providing direct learning experiences. Short field trips and participation in outdoor laboratory school programs are provided. The interdisciplinary approach, involving instructors from academic divisions and the Laboratory School, will be followed.

380. PHILOSOPHY AND PRINCIPLES OF OUTDOOR EDUCATION.
Three hours credit.

Designed to acquaint teachers and administrators with the breadth, depth, and scope of outdoor education. The interdisciplinary approach, involving instructors from the Laboratory School and academic divisions of the college, will be followed. Direct experiences are provided through observation and participation in day-long and week-long outdoor school programs.

Student Teaching and Supervision

Professor: Findley.

Associate Professors: Ninemires, Van Maanen.

Assistant Professors: Broderius, Moss, Nichols.

Instructor: J. M. Johnson.

251. STUDENT TEACHING. (ATE) *Sixteen hours credit.*

A course which provides a practical application of the principles of learning and the techniques of instruction in the classroom. Opportunity is provided for the student to progressively assume the responsibilities related to teaching. Twelve weeks of full-time activity is normally required.

252. INTERNSHIP IN ADVANCED STUDENT TEACHING. (ATE) *Eight hours credit.*

Prerequisite, ED 251. An invitational program for individuals showing professional promise. Provides advanced laboratory experience in teaching and dealing with educational problems.

351. SUPERVISION OF STUDENT TEACHERS. *Three hours credit.*

Problems considered are (1) introduction to and basic philosophy of student teaching; (2) varying state college and university practices and policies; (3) the role of the cooperating teacher, principal, and college supervisor in student teaching, and (4) selection, induction, ratings, evaluation and compensations.

352. ORGANIZATION OF STUDENT TEACHING PROGRAMS. *Maximum of eight hours credit.*

A laboratory course designed for persons who are interested in the supervision, organization, and functions of the student teaching program.

Library Science

Associate Professors: Costello, Daniel, Seager.

Assistant Professors: Brown, Greer, J. Hall, Rider, Tilden.

Instructors: Bachenberg, Elkins, Hofer, Koehmstedt, Kovacs, Mueller, Richardson.

Description of Courses

280. ORGANIZATION AND ADMINISTRATION OF THE SCHOOL LIBRARY. *Five hours credit.*

This course includes a consideration of order and circulation procedures, supervising student personnel, the role of the librarian in the development of curriculum and guidance programs, the relationships of the librarian with teachers and administrators and with other local and state agencies.

281. CLASSIFICATION AND CATALOGING. *Five hours credit.*

In this course the student learns the fundamentals of classification according to the Dewey System and the construction of a dictionary catalog for the school library. It will include all necessary processes from the time books are acquired until they are ready for circulation. Attention is also given to the library care of pamphlets and audio-visual materials.

282. REFERENCE MATERIALS FOR SCHOOL LIBRARIES. *Five hours credit.*

A discussion of suitable reference materials for elementary and secondary school libraries. Covers selection principles and use of reference materials.

283. BOOK SELECTION FOR SCHOOL LIBRARIES. *Five hours credit.*

Discussion of book selection principles and book selection aids for school libraries. Covers reading levels and interests of children and young people. Course discusses suitable trade book materials for both elementary and high school libraries.

284. THE LIBRARIAN AND READING GUIDANCE FOR YOUTH. *Five hours credit.*

Acquaintance with and appreciation of books on various reading levels. The use of non-book materials and aids to stimulate and guide young people's reading. Deals with techniques to aid the individual student in selecting material at his level and to meet his needs.

285. JUNIOR HIGH SCHOOL LIBRARY WORKSHOP. *Three hours credit.*

Prerequisite, LS 280. Study of various problems involved in the administration of the junior high school library. Stresses the selection of appropriate materials and the problems involved in dealing with students of that age level. Study of recent approaches to teacher-student-library relationships.

WORKSHOPS

200. EDUCATION WORKSHOP. *One to three hours credit.*

This course is concerned with the instructional problems of the participants; however, the problems attacked would vary from time to time according to the experts conducting the workshop. The nature of the workshop might cover such areas as Administration, Reading, Kindergarten, Curriculum, etc. Each workshop will have a sub-title and no sub-title may be repeated.

Department of Educational Administration

Dr. Arthur R. Partridge, Chairman

Associate Professor: Barnhart, Jardine, Partridge.

Assistant Professor: Luketich.

Description of Courses

243. SCHOOL LAW I. *Three hours credit.*

An examination of the legal responsibilities, rights, and liabilities of classroom teachers and the legal relationships of teachers to students, administrators, school boards, and the public.

244. SCHOOL AND COMMUNITY RELATIONS. *Three hours credit.*

This course considers the problems of human and professional relationships for teachers. It examines the factors which create and influence public and personal opinion. It shows how skills and techniques may be developed and utilized in a sound school community relations program.

341. PHILOSOPHY AND TECHNIQUES OF PUBLIC RELATIONS. *Three hours credit.*

This course is designed primarily for central office personnel to help them: (a) develop a philosophy of public relations, (b) learn how to establish a functional program involving citizens and educators, and (c) become acquainted with skills and techniques essential to school and community understanding.

342. SCHOOL ADMINISTRATION—FEDERAL, STATE, LOCAL. *Three hours credit.*

Introduces the student to administrative problems and provides an overview of our educational system at federal, state and local levels. The purpose of the course is to relate the key issues at each level to the role of the superintendent.

343. SCHOOL FINANCE. *Three hours credit.*

This course deals with the financial implications of the educational program. Budgeting, management of funds, fiscal policies, and the business management function in the school are included in this course.

344. SCHOOL PLANT PLANNING. *Three hours credit.*

Covers preliminary studies, or surveys, on population, population projections, and location of school sites. A thorough study of the approaches and procedures in relating the instructional program to proposed buildings—developing educational specifications—is a major task of this course. Financial aspects of planning will also be discussed.

345. PRACTICE IN SCHOOL ADMINISTRATION. *Maximum of six hours credit.*

Selected graduate students may study in a public school system under the joint supervision of the college and the superintendent of the school. Written reports of experiences are required.

346. SCHOOL BUDGETING. *Two hours credit.*

Prerequisite, ED 343. Emphasis will be placed on budgetary knowledge necessary for the school business manager. Although attention will be given to theoretical concepts in budgeting, this course will focus on the mechanical procedures of planning, preparing, presenting, and evaluating the budget.

347. SCHOOL PURCHASING AND WAREHOUSING. *Four hours credit.*

This course covers the techniques of specification writing, purchasing, receiving, storing, distributing, and accounting of supplies and equipment used in the operation and maintenance of schools.

348. SCHOOL LAW II. *Three hours credit.*

This course stresses the principles of common law which underlie the relationship of the courts to the schools and focuses on legal problems in education.

In addition, the course affords students the opportunity to study intensively the school laws of their respective states.

349. AUXILIARY MANAGEMENT SERVICES. *Two hours credit.*

Prerequisite, ED 343. This course covers the problems and procedures of school transportation, school lunch programs, and other auxiliary services.

355. ORGANIZATION, ADMINISTRATION, AND SUPERVISION OF THE ELEMENTARY SCHOOL. *Four hours credit.*

Designed to meet the needs of those who desire acquaintance with major responsibilities of leadership in the elementary school. The areas of elementary school organization and administrative relationships, supervision skills and techniques, administering pupil personnel, administering special services, and the management of school building supplies and equipment.

365. SECONDARY SCHOOL ORGANIZATION, ADMINISTRATION, AND SUPERVISION. *Four hours credit.*

Designed to assist secondary school administrators and supervisors to acquire information about acceptable solutions to some of the major problems in the secondary school. Consideration is given to the duties and responsibilities of the principal, the nature and role of supervision in the educational program and other pertinent topics.

430. EXPERIMENTAL PROGRAM IN SCHOOL ADMINISTRATION. *Maximum of twenty-four hours credit.*

Areas of concern will include communications, curriculum, finance, organization and staffing, role perception and role expectation, problem solving, and decision making. Seminars will include extended readings, class sessions, and field investigations. A series of six seminars designated as I, II, III, IV, V, and VI, will be offered for four hours credit each.

443. SEMINAR IN ADMINISTRATION. *Maximum of nine hours credit.*

This is a three-quarter sequence required for doctoral majors in educational administration and elective for other doctoral students. It deals systematically with the following: (1) Decision-making in small groups; (2) Communication theory; (3) Administrative theory and research design.

444. ADVANCED SEMINAR IN ADMINISTRATION. *Maximum of nine hours credit.*

This is a three-quarter sequence required for advanced doctoral students in educational administration and elective for other doctoral students. It deals systematically with the following: (1) Leadership in the instructional program; (2) Organizational management systems and operations analysis; (3) Cases in educational administration.

Department of Elementary Education

Dr. Alvin O. Mosbo, Chairman

Professors: Harkness, Kelly, Mosbo.

Associate Professors: C. Clark, Claybaugh, Gagon, Lewis, Lowry.

Assistant Professor: Hunn.

Instructors: Benson, Bruce, Gunning, Henry, Huffman, Trigg, Williams.

Description of Courses

109. TEACHING HANDWRITING AND SPELLING IN THE ELEMENTARY SCHOOL. (ATE) *Two hours credit.*

A detailed consideration of content, methods, instructional material and evaluation in the fields of handwriting and spelling. The student demonstrates competency in spelling and in manuscript and cursive handwriting.

110. IMPROVEMENT OF INSTRUCTION IN READING IN THE ELEMENTARY SCHOOL. (ATE) *Three hours credit.*

A detailed consideration of the content to be taught and the methods and materials to be used in the teaching of reading from kindergarten through the sixth grade.

111. IMPROVEMENT OF INSTRUCTION IN ENGLISH IN THE ELEMENTARY SCHOOL. (ATE) *Three hours credit.*

This course is the basic course in the teaching of English in the elementary school. It considers the scope and nature of an adequate program of instruction in English and is concerned primarily with the identification of content to be taught and methods and materials to be used.

112. IMPROVEMENT OF INSTRUCTION IN MATHEMATICS IN THE ELEMENTARY SCHOOL. (ATE) *Three hours credit.*

A comprehensive analysis of the meaning theory, developmental method of teaching, what to teach, grade placement of content, methods of instruction with major emphasis on how to bring about insightful learning, tools of instruction including concrete and semi-concrete materials, and means of evaluating achievement.

113. IMPROVEMENT OF INSTRUCTION IN SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. (ATE) *Three hours credit.*

A detailed basic consideration of objectives, construction and use of units, problem solving, selection and grade placement of content, methodology including the use of concrete experiences, audio-visual materials, group processes, questioning, reading, and techniques of evaluation.

115. IMPROVEMENT OF INSTRUCTION IN LITERATURE IN THE ELEMENTARY SCHOOL. (ATE) *Two hours credit.*

A survey of children's literature that is appropriate for grades through the sixth. Chief emphasis on modern selections. Consideration of interests and abilities governing the choice of literature in the first six grades.

139. INTRODUCTION TO STUDENT TEACHING IN THE ELEMENTARY SCHOOL. (ATE) *Two hours credit.*

Student engages in directed participation in a teaching situation four hours per week under the supervision of a master elementary teacher in the Laboratory School and arranges for one additional conference hour.

222. READING IN THE PRIMARY GRADES. (ATE) *Three hours credit.*

Prerequisites, ED 110, 251. The nature of reading, the pertinent research in the field, the curriculum in reading from the preparatory period through the primary grades, the selection of effective materials of teaching methods and techniques of teaching, and the use of various types of tests will be studied.

223. READING IN THE INTERMEDIATE GRADES. (ATE) *Three hours credit.*

Prerequisites, ED 110, 251. The purpose of this course is to emphasize the specific reading skills taught in the intermediate grades. These skills are identified and discussed in terms of instructional materials, methods, and evaluation procedures. The management of the reading program in the intermediate grades also receives attention in this course.

227. KINDERGARTEN EDUCATION. (ATE) *Three hours credit.*

A course covering the research, theory, and best practices for the education in kindergartens of four and five-year-old children. Organization, housing, and equipping of new kindergartens, the readiness program for first grade, and parent education will have pertinent handlings within the course.

299. NDEA READING INSTITUTE. *Twelve hours credit.*

A general reading institute co-sponsored by the U. S. Office of Education for teachers of reading with minimum backgrounds in reading. Course content includes consideration of word perception, comprehension, reading in the content field, reading study skills and the various basal, phonic, kinesthetic, linguistic and individual approaches to reading.

309. HANDWRITING AND SPELLING IN THE ELEMENTARY SCHOOL. *Two hours credit.*

A comprehensive consideration of content, methods and materials, and evaluation in teaching handwriting and spelling. Research data in handwriting and spelling are reviewed.

310. READING IN THE ELEMENTARY SCHOOL. *Three hours credit.*

A detailed consideration of problems concerned with selection of what to teach, the grade placement of content, methods and materials of teaching and means of evaluating achievement in reading.

311. ENGLISH IN THE ELEMENTARY SCHOOL. *Three hours credit.*

A detailed consideration of problems concerned with selection of what to teach, the grade placement of content, methods and materials of teaching, and means of evaluating achievement in English.

312. MATHEMATICS IN THE ELEMENTARY SCHOOL. *Three hours credit.*

A detailed consideration of problems concerned with selection of what to teach, the grade placement of content, methods and materials of teaching, and means of evaluating achievement in mathematics.

313. SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. *Three hours credit.*

A detailed consideration of problems concerned with selection of what to teach, the grade placement of content, methods and materials of teaching, and means of evaluating achievement in social studies.

314. THE ELEMENTARY SCHOOL CURRICULUM. *Three hours credit.*

Surveys and appraises the various types of curriculum organization applicable to the elementary school. Also considers basic curriculum problems in selected subject matter areas.

315. LITERATURE IN THE ELEMENTARY SCHOOL. *Two hours credit.*

Consideration will be given to locating and evaluating children's books and to the method of organizing, teaching and evaluating a literature program.

320. ANALYSIS OF READING METHODS. *Three hours credit.*

Prerequisite, ED 110 or 310. Evaluative criteria are examined and applied to the various approaches to reading including the basal readers, language experience, individualized, programed, linguistic, phonic, spelling, audio-visual, and kinesthetic approaches. Emphasis is given to beginning reading instruction.

321. SEMINAR IN ELEMENTARY SCHOOL ENGLISH. *Three hours credit.*

Prerequisite, ED 111 or 311. This seminar course considers a few of the problems in the teaching and supervision of English and varies somewhat in content from year to year according to the interests of students.

322. SEMINAR IN ELEMENTARY SCHOOL MATHEMATICS. *Three hours credit.*

Prerequisite, ED 112 or 312. This seminar covers important problems in the teaching and supervision of mathematics in the elementary school. Course content may vary from year to year according to the needs of the students enrolled.

323. SEMINAR IN ELEMENTARY SCHOOL SOCIAL STUDIES. *Three hours credit.*

Prerequisite, ED 113 or 313. This seminar covers important problems in the teaching and supervision of social studies in the elementary school. Problems pertaining to content, unit procedures, problem-solving activities, pupil-teacher planning, and evaluation are considered. Course content may vary from year to year according to the needs of the students enrolled.

324. REMEDIAL READING IN THE ELEMENTARY SCHOOL. *Four hours credit.*

Prerequisite, ED 310 or equivalent. This course is designed to give the classroom teacher, administrator, or reading specialist insight concerning the problems of the educationally retarded reader in the elementary school. Course content includes diagnosis, causation, and remediation. Two hours weekly are spent in the Oral Reading Diagnostic Laboratory.

325. REMEDIAL READING CASE STUDY. *Three hours credit.*

Prerequisite, ED 324 or 317. This course consists of tutoring an individual remedial reader for four hours per week. The fifth hour per week is spent in a seminar reviewing case studies and diagnostic and remedial techniques. Observations of tutoring are followed by individual and group conferences with the students.

326. REMEDIAL READING INTERNSHIP. *Three hours credit.*

Prerequisite, ED 324 or 317. This course consists of serving as intern with a remedial reading teacher working with a small group of remedial reading students four hours weekly. Close supervision is given to diagnostic and remedial procedures by the remedial teacher and college staff. Observations of teaching are followed by individual and group conferences.

327. READING CLINIC INTERNSHIP. *Three hours credit.*

Prerequisite, ED 324 or 317. This course involves working in the college clinic in making reading diagnoses, supervision of clinicians, developing remedial reading material or working with a severely retarded reader. Close supervision is given by the director of the reading clinic.

329. NDEA REMEDIAL READING INSTITUTE. *Nine hours credit.*

The institute consists of remedial reading theory, developmental reading and a remedial reading practicum on-the-job.

410. SEMINAR IN ELEMENTARY SCHOOL READING. *Three hours credit.*

Prerequisites, ED 320 and APST 376. This seminar considers the trends and issues in teaching reading through an analysis of historical and current research in reading. Topics covered will vary from year to year according to the interests of the students.

Department of Curriculum and Instruction

Dr. Robert R. Dunwell, Chairman

Professors: Kerns, Morrison.

Associate Professor: Dunwell.

Assistant Professor: Stoffer.

Description of Courses

140. INTRODUCTION TO STUDENT TEACHING IN THE SECONDARY SCHOOL. (ATE) *Two hours credit.*

Student is assigned to a specific class in his major or minor area under supervision in the Laboratory School. He will meet with the class and the supervising teacher five days per week and arrange for one additional conference hour.

141. METHODS OF TEACHING IN THE SECONDARY SCHOOL. (ATE) *Three hours credit.*

Prerequisite to student teaching. Taken in the Division or Department in which student teaching is done. Includes curriculum and classroom organization, testing and evaluation, procedures and materials, relationship of the subject area to the total secondary program. Teaching techniques are a point of emphasis.

217. READING IN THE CONTENT FIELDS. *Three hours credit.*

A course designed to assist teachers in the content areas to teach subject matter in such a way as to utilize and further develop fundamental reading skills. Special consideration will be given to effective reading skills, vocabulary development in specific areas and study skills.

249. PRINCIPLES OF VOCATIONAL EDUCATION. *Three hours credit.*

A study of the philosophy and development of vocational education, legislation, state policies, school programs, and non-school agencies and programs.

260. PROFESSIONAL RESPONSIBILITIES OF TEACHERS. (ATE) *Maximum of three hours credit.*

Designed to provide a basic understanding of the roles and responsibilities within the education profession. Includes consideration of professional organizations, teacher rights and responsibilities, personnel policies and working conditions. *Enrollment limited to beginning teachers.*

261. SECONDARY INSTRUCTION. (ATE) *Three hours credit.*

Designed to provide a comprehensive understanding of basic instructional practices and trends in the secondary school. Includes determining instructional goals, selecting and organizing appropriate learning experiences, evaluation, marking and reporting, classroom management, and extra class activities. *Enrollment limited to beginning teachers.*

317. REMEDIAL READING IN THE SECONDARY SCHOOL. *Four hours credit.*

A course designed to give the classroom teacher, administrator or reading specialist insight concerning problems of the remedial reader in the secondary school. Causation, diagnosis and remediation are considered in lecture sections. Two hours weekly are spent in the Oral Reading Diagnostic Laboratory.

360. PROFESSIONAL ROLES AND RESPONSIBILITIES. *Maximum of three hours credit.*

Designed to provide a comprehensive understanding of the role and responsibilities within the education profession. Provides an opportunity to examine specific issues in personnel policies and working conditions. *Enrollment limited to experienced teachers.*

361. SECONDARY INSTRUCTION. *Three hours credit.*

Designed to provide a comprehensive understanding of basic instructional practices and trends in the secondary school. Includes determining instructional goals, selecting and organizing appropriate learning experiences, evaluation, marking and reporting, and extra class activities. *Enrollment limited to experienced teachers.*

362. THE DEVELOPMENT OF INSTRUCTIONAL PRACTICE. *Three hours credit.*

Appraises the development of instructional practices through the subsequent stages of American educational growth to the present. Emphasizes the analysis of outcomes of this growth in terms of particular instructional programs: formal discipline, unfoldment, Pestalozzianism, Herbartianism, connectionism, Progressivism, reflective teaching.

363. CURRICULUM IN THE JUNIOR HIGH SCHOOL. *Three hours credit.*

A survey of traditional and recent curriculum organization in the junior high school with reference to the needs of the young adolescent and the special requirements of the school.

364. SEMINAR IN JUNIOR HIGH SCHOOL INSTRUCTION. *Maximum six hours credit.*

A series of seminar experiences designed to provide (1) an overview of the problems of organizing, administering, and supervising the junior high school program, and (2) an opportunity for intensive concentration in a specific area of the curriculum.

366. FOUNDATIONS FOR CURRICULUM DEVELOPMENT. *Three hours credit.*

Includes the theory and practice of curriculum development as determined by social and cultural change, learning theory, and the nature of knowledge. The process of curriculum planning and the design of the curriculum are considered.

367. ADVANCED CURRICULUM CONCEPTS. *Three hours credit.*

Appraises of the emerging curricula in the major areas of the school program and the effects of changes in the foundation areas. Consideration is given to the roles of various agencies in effecting curricular changes.

368. SEMINAR IN CURRICULUM AND INSTRUCTION. *Maximum of nine hours credit.*

Includes a series of seminar experiences dealing with the following areas: (1) current educational trends and issues; (2) the improvement of instructional programs; (3) individual depth study of research and experimentation in instruction.

Department of College Student Personnel Work

Dr. June E. Stuckey, Chairman

Professors: Hause, Shaw.

Associate Professors: H. Collins, Nelson, Oppelt, Stuckey.

Assistant Professors: Bowen, Kinnick, Lakin, Miller, Quinlan, Tanner.

Instructors: Henderson, Stutler.

Description of Courses

252. WORKSHOP FOR RESIDENCE HALL DIRECTORS AND HOUSE-MOTHERS. *Two hours credit.*

The course will be designed for present and prospective residence hall directors and fraternity housemothers. The philosophy and purpose of college housing, together with various methods of supervision, direction, and programing will be discussed. Meal planning, student health, etiquette, budgeting, and advising students will also be considered.

351. PHILOSOPHY AND HISTORY OF COLLEGE STUDENT PERSONNEL WORK. *Three hours credit.*

The philosophy, principles and functions of student personnel work in higher education.

352. STUDENT HOUSING. *Three hours credit.*

The organization, practices and problems of student housing services in colleges and universities.

353. COLLEGE COUNSELING AND HEALTH SERVICES. *Three hours credit.*

The organization, practices and problems of student counseling service, including health counseling, in higher education.

354. ADMISSIONS AND RECORDS. *Three hours credit.*

The organization, practices and problems of the services of admissions and records in colleges and universities.

355. STUDENT GOVERNMENT, ACTIVITIES, AND SPONSORSHIP. *Three hours credit.*

The organization, practices and problems of student government and activities in college.

356. JOB PLACEMENT. *Three hours credit.*

The organization, practices, and problems of job placement services in higher education.

357. FINANCIAL AIDS. *Three hours credit.*

The philosophy, organization and practices of administering financial aids in higher education.

358. INTERNSHIP IN COLLEGE STUDENT PERSONNEL WORK. *(Two hours of seminar and six hours of internship work per two hours of credit.) Maximum of eighteen hours credit.*

Internship consists of practical experience and training for a minimum of six hours per week for one quarter in one of the various student personnel services on campus. Nine internship experiences enable the student to earn a maximum of eighteen hours credit. A weekly seminar is held for all interns.

450. THE COLLEGE AND THE STUDENT. *Three hours credit.*

The nature of needs of the young adult as a college student with particular reference to the college environment as it relates to the student.

451. ORGANIZATION AND ADMINISTRATION OF COLLEGE STUDENT PERSONNEL WORK. *Three hours credit.*

The organizational and administrative practices of systems for providing student personnel services in higher education.

452. CURRENT ISSUES IN COLLEGE STUDENT PERSONNEL WORK. *Three hours credit.*

The current problems and issues affecting student personnel work in higher education.

453. RESEARCH AND EVALUATION IN COLLEGE STUDENT PERSONNEL WORK. *Three hours credit.*

The problems of evaluating student personnel services in higher education, a critical examination of the research that has been reported, and consideration of needed research.

Department of Psychology, Counseling and Guidance

Dr. Arno Luker, Chairman

Professors: Blanchard, Fulbright, Hause, Koplitz, Luker, Lutey.

Associate Professors: D. Anderson, Clevenger.

Assistant Professors: Berreman, Meier, Lakin, L. Montgomery, Pierce, Usher.

Instructors: Morgan, Morgenstern.

Degree programs offered in Psychology, Counseling and Guidance are as follows: (1) an undergraduate minor in Psychology; (2) a graduate major in Psychology, Counseling and Guidance leading to the Masters of Arts Degree; (3) an emphasis in School Psychology, School Psychometry and School Counseling leading to the Specialist in Education degree; (4) a concentration in Psychology, Counseling and Guidance leading to the Doctor of Education degree and providing advanced preparation in areas such as counselor education; school psychology, research and measurement, administration of personnel and guidance services, and learning and instruction in higher education.

Candidates for the Masters degree, the Specialists degree, and the Doctor of Education degree are required to demonstrate basic proficiency in the following six areas: (1) Guidance and Counseling; (2) General Psychology; (3) Growth and Development; (4) Educational Psychology and Learning; (5) Measurement, Evaluation, and Research; and (6) Personal, Emotional, and Social Adjustment. In addition, courses, individual studies, practicums, and internships designed to meet specific degree or certification requirements must be met.

All areas of concentration must be planned with the student's adviser. Copies of programs required for each degree may be obtained from the adviser or from the Psychology, Counseling and Guidance office.

Specialization in school psychology can be obtained at both the specialist and doctoral levels. The basic core requirements for certification as a school psychologist are offered only during the regular academic year.

Description of Courses

COUNSELING AND GUIDANCE

101. PRINCIPLES AND PHILOSOPHIES OF GUIDANCE.

Three hours credit.

A general introduction to guidance; a study of the guidance activities, and their use in industry, business, the classroom, and the professions.

200. GREAT IDEAS SEMINAR: CREATIVE THINKING.

Three hours credit.

The Great Ideas Seminars are conducted by authorities nationally known in their fields of specialization. The purpose of the seminar is to provide information about current important ideas in each field of knowledge.

201. GUIDANCE IN THE ELEMENTARY SCHOOL.

Three hours credit.

A study of the principles of guidance and their application at the elementary level. Emphasis is upon the functioning of the guidance worker in meeting children's needs.

207. GUIDANCE INSTITUTE. *Maximum of fifteen hours credit.*

A course designed to meet the needs of teachers and counselors wishing to upgrade their proficiencies in guidance activities.

214. GUIDANCE WORKSHOP. *Maximum of six hours credit.*

This course is designed to provide concentration of time and study in a special problem in guidance. The needs and interests of class members will help determine the course content and class activities.

311. ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES. *Three hours credit.*

The organization and administration of guidance services in the public school system with emphasis being placed on types of organizations, use of records, in-service training of workers, evaluation roles of various staff members, preparation of budgets, and use of community resources.

313. OCCUPATIONAL INFORMATION AND ANALYSIS IN VOCATIONAL GUIDANCE. (Secondary-Adult). *Three hours credit.*

Analysis of vocational theory, society, changing value structure, and career development; critical examination of classifications of the world of work; investigation of labor forces and employment trends; exploration of basic principles related to educational-vocational planning; experiences in using, reviewing and evaluation of occupational information materials and sources.

314. TECHNIQUES IN GROUP GUIDANCE. *Three hours credit.*

Prerequisite, PCG 101 or 317. A study of information needed and methods used by home room or guidance personnel who help students in groups, with educational planning, vocational choice and interpersonal relations.

315. COUNSELING THEORY AND TECHNIQUES. *Three hours credit.*

A study of the place of counseling in the guidance program and a critical analysis of the theoretical approaches used in conducting counseling interviews. Opportunity is provided to practice in the application of the various approaches.

316. CLINICAL METHODS IN PSYCHOLOGY. *Three hours credit.*

Prerequisites, PCG 285, 380, 382, 388 and 412. A course designed to integrate background knowledge of human development and characteristics, both normal and abnormal, with clinical techniques for appraisal of such development and characteristics. Directed particularly to advanced graduate students preparing to be school psychologists or school counselors.

317. FOUNDATIONS OF GUIDANCE. *Three hours credit.*

Introductory course for professional guidance workers. A study of individual and society needs for guidance and the development of a guidance point of view. Includes purposes and scope of guidance service, concepts, principles, personnel, and basic elements of such services.

318. OCCUPATIONAL INFORMATION FOR GUIDANCE IN ELEMENTARY SCHOOLS. *Three hours credit.*

Prerequisite, PCG 201. A study of the nature, scope and rationale for occupational information in the guidance and counseling of elementary school children. The course covers theories and philosophies of occupational choices, methods and techniques in collecting and analyzing occupational information for guidance of young children, K-6.

410. SUPERVISED PRACTICE IN GUIDANCE SERVICES. *Three hours credit.*

Qualified graduate students majoring in Psychology, Counseling and Guidance engage in guidance activities under the supervision of one or more members of the staff. A typewritten report analyzing the experience must be submitted to the supervisors for approval and then filed in the Graduate Office.

411. INTRODUCTORY SUPERVISED PRACTICE IN COUNSELING. *Three hours credit.*

Prerequisite, PCG 315. The course provides supervised experiences in counseling and interview analysis. Counselees consist of class members, college students, and other adults. Typescripts, tapes, teletapes, feedback from counselees and supervisors, and weekly seminars are used for process analysis.

412. ANALYSIS OF THE INDIVIDUAL. *Three hours credit.*

Prerequisites, PCG 370 and 371. A course designed to develop understandings and skills in collecting and interpreting data concerning the individual, and the use of such data in case studies and follow-up procedures.

413. SUPERVISED PRACTICE IN COUNSELING WITH CHILDREN. *Three hours credit.*

Prerequisite, PCG 411. The course provides supervised experiences in counseling with school age children concentrating mostly on those in the elementary schools. Tapes, teletapes, self analysis, and feedback from the supervisor are used to analyze difficulties and improve proficiency in counseling. Class seminars are used for self improvement and process analysis.

414. SUPERVISED PRACTICE IN COUNSELING WITH YOUTH. *Three hours credit.*

Prerequisite, PCG 411. The course provides supervised experiences in counseling with school age children and youth concentrating primarily on those at the junior and senior high school levels. Tapes, teletapes, self analysis, and feedback from the supervisor are used to analyze difficulties and improve proficiency in counseling. Class seminars are used for self improvement and process analysis.

415. SUPERVISED PRACTICE IN COUNSELING WITH ADULTS. *Three hours credit.*

Prerequisite, PCG 411. The course provides additional supervised experiences in counseling with adults. Tapes, teletapes, self analysis, and feedback from the supervisor are used to analyze difficulties and improve proficiency in counseling. Class seminars are used for self improvement and process analysis.

416. PLAY THERAPY. *Three hours credit.*

Prerequisite, PCG 415. Qualified graduate students majoring in Psychology, Counseling and Guidance examine the theoretical basis for play therapy and engage in practice under the supervision of one or more members of the staff.

GENERAL PSYCHOLOGY

20. GENERAL PSYCHOLOGY. *Three hours credit.*

A basic course in which psychological principles, methods, theories and research findings are studied. Attention is given to perception, cognition, maturation, motivation, learning, individual differences, mental health and their physiological correlates. Practical applications are made to give each student opportunities to modify his behavior.

21. GENERAL PSYCHOLOGY AND HUMAN PERFORMANCE. *Three hours credit.*

Prerequisite, PCG 20. A foundation course in psychology designed to extend the understanding of human behavior through application of psychological theories, constructs, principles, and research findings to situational settings involving groups such as individual and group differences, vocational and occupational profiles, industrial relations, group motivation, syndromes of abnormality.

220. GENERAL PSYCHOLOGY AND THE PRINCIPLES OF BEHAVIOR. *Three hours credit.*

An introductory course in psychology designed to help students develop a basic understanding of human behavior. Principles of psychology are developed and applied in the areas of perception and cognition, maturation, motivation, learning, emotions, and personal and social adjustment. Recommended as a substitute for PCG 20.

222. SEMINAR: PSYCHOLOGICAL ISSUES. *Three hours credit.*

This is one of the culminating experiences in the minor. Students will study, report, and discuss psychological issues and problems which they identify in their class observation and study experiences. They will also review and discuss research findings and conduct small research projects of their own.

324. THEORIES OF MOTIVATION. *Three hours credit.*

A consideration of the topics of physiological drives, learned needs, reinforcement, sensory cues, behavior cycles, and social motives with special emphasis on the implication for the study of human behavior.

325. HUMAN NEUROPSYCHOLOGY. *Four hours credit.*

This course integrates current knowledge of neurophysiology with psychological correlates. Emphasis is placed on learning, motivation, perception, and personality variables as revealed in supervised psychodiagnostic experiences. Selected procedures and case studies are used to assess the role of neurological, especially brain, function or dysfunction and the consequent behavioral manifestations.

420. DEVELOPMENT AND PHILOSOPHY OF IDEAS IN PSYCHOLOGY. *Five hours credit.*

This course is intended to orient the advanced graduate student in psychology to his discipline through a study of the origin, evolution and philosophical implications of issues and ideas in psychology.

421. TRENDS IN PSYCHOLOGY, COUNSELING AND GUIDANCE. *Three hours credit.*

A course designed to focus on current trends and research in the areas of human growth and development, learning, mental hygiene, guidance and counseling. Special emphases are placed on methods of identifying significant trends and recognition of broad implications of trends.

422. SEMINAR: ISSUES IN PSYCHOLOGY, COUNSELING AND GUIDANCE. *Three hours credit.*

A seminar designed to develop competency in discussion and evaluation of psychological, professional and ethical issues, pertinent research, and implications for action. The nature and functions of professional publications and organizations are examined.

GROWTH AND DEVELOPMENT

30. HUMAN GROWTH PROCESSES AND DEVELOPMENTAL TASKS. *Five hours credit.*

An introduction to basic concepts of growth and development. The course considers the individual from conception to senescence. Emphasis is placed on developmental tasks, both physiological and psychological, which are identified throughout the lifetime of an individual.

230. PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE. *Three hours credit.*

A course designed to assist prospective teachers to understand and guide the physical, mental, social, and emotional development of children and youth. Total psychological development from infancy to maturity is emphasized.

331. CHILD PSYCHOLOGY. *Three hours credit.*

A study of the growth, adjustment and capacities of children from conception through the elementary school years. Emphasis is placed on the theories of development and on application in guiding the development of normal children.

332. PSYCHOLOGY OF ADOLESCENCE. *Three hours credit.*

This course deals with the change from the period of childhood into adulthood and the resultant physical, mental, social, and emotional growth with its implications for guiding the adolescent toward a wholesome realization of his potentialities.

333. PSYCHOLOGY OF COLLEGE STUDENTS AND OTHER ADULTS. *Three hours credit.*

A course to enable students to study the psychological phenomena of the life span from post-adolescence through the final stages of adulthood. Major theories concerned with processes maturing will be examined and problems characteristic of this age span will be considered. Emphasis will be placed on understanding related research and assessing areas indicative of need for further research.

334. PSYCHOLOGY OF INDIVIDUAL DIFFERENCES. *Three hours credit.*

The nature and extent of differences among individuals and differences between such groups as men and women, age, class, race and nationality; factors related to these differences; and the application of the facts of human variability to educational, vocational, social and personnel work.

EDUCATIONAL PSYCHOLOGY AND LEARNING

140. EDUCATIONAL PSYCHOLOGY. (ATE) *Five hours credit.*

Prerequisite, PCG 20. A course designed to assist prospective teachers to build competence in understanding and guiding physical, mental, social, and emotional development from infancy to adulthood and in understanding and utilizing the teaching-learning process through applications of principles of learning, motivation, readiness, transfer, individual differences and evaluation.

142. TEACHING LEARNING PROCESS. *Three hours credit.*

An introduction to basic concepts of teaching and learning. Considers opportunities for teaching in nursing. Emphasis is on teaching health and self-care measures to individuals, families and groups.

240. PSYCHOLOGY OF LEARNING. *Three hours credit.*

A course designed to develop attitudes, understandings, and proficiencies in the application of psychological principles to the educative process. Principles, theories and research are applied to learning, motivation, transfer, readiness, remembering and forgetting, individual differences, social and emotional adjustment and evaluation.

340. THEORIES OF LEARNING. *Five hours credit.*

The several theories of learning are examined critically for the purpose of developing a working control of the learning process by the student.

347. LEARNING PROBLEMS: DIAGNOSIS AND REMEDIATION. *Three hours credit.*

The course considers techniques used by school psychologists in identifying and evaluating extreme learning problems. It is also concerned with planning and coordinating remedial experiences.

443. INTERNSHIP IN SUPERVISION OF COUNSELING. *Maximum of twelve hours credit.*

Prerequisites, PCG 411 and 413, 414, or 415. The course is designed for doctoral candidates preparing for college teaching. It provides experiences in working with regular staff member engaged in supervising counseling practicums. A log of experiences and an analysis of self growth are reported as a culmination of the course.

444. INTERNSHIP IN SUPERVISION OF GUIDANCE SERVICES. *Maximum of twelve hours credit.*

Prerequisites, PCG 411 and 413, 414, or 415. The course is designed for specialist and doctoral candidates preparing for elementary secondary school, college and university teaching and administration in the area of guidance services. It provides experiences in working with regular staff members engaged in guidance activities at all lines of education. A log of experiences and an analysis of self growth are reported as a culmination of the course.

445. INTERNSHIP IN SUPERVISION OF PSYCHOLOGICAL TESTING. *Four to twelve hours credit.*

Prerequisite, advanced students in testing may enroll in this course. Opportunity is provided for the student with successful and extensive background in psychological testing to participate under supervision in the instruction of the practice courses in testing. Experiences may include demonstration testing, supervision of practicing students, giving group or individual instruction in administering, scoring, reporting and interpreting test results.

MEASUREMENT, EVALUATION AND RESEARCH

170. INTRODUCTION TO MEASUREMENT AND EVALUATION. *Three hours credit.*

A course designed to develop understanding of the essential concepts of measurement and evaluation. Emphases are placed on constructing, interpreting, and using teacher-made and standardized tests with attention to determination, meaning, and application of fundamental statistical concepts to problems dealing with measurement and evaluation. Provision is made for guided study of available instruments in student's major field.

275. EXPERIMENTATION IN PSYCHOLOGY. *Three hours credit.*

This is a course designed to introduce the student to experimental and other psychological research. It is concerned with the basic principles and concepts involved in conducting effective experimentation and research, and provides practical experience in reviewing, conducting, and reporting psychological research.

370. PRINCIPLES AND PRACTICES IN TESTING AND MEASUREMENT. *Three hours credit.*

A course designed to develop understanding of the functional relationship between measurement and evaluation. Attention is given to teacher-made and standardized instruments and to essential statistical concepts. Laboratory experience is provided in construction, administration and interpretation of tests.

371. APTITUDE AND ACHIEVEMENT ANALYSIS. *Five hours credit.* Standardized psychological instruments are critically analyzed in terms of the Technical Recommendations for Psychological Tests and Techniques. Students take a series of tests and incorporate the interpreted results into a self-case study. Laboratory experiences are provided in the administration and interpretation of group tests.

372. APTITUDE AND ACHIEVEMENT ANALYSIS, K-6. *Five hours credit.*

Prerequisite, PCG 371 and permission of instructor. Standardized psychological instruments developed specifically for young children, grades K-6, are critically analyzed in terms of the APA Technical Recommendations for Psychological Tests and Diagnostic Techniques. Experiences in administration and interpretation of various standardized instruments used at the elementary school level is provided.

373. INDIVIDUAL TESTS OF INTELLIGENCE. *Four hours credit.*

Prerequisite, PCG 370. The history, theoretical backgrounds and descriptions of the Stanford-Binet Intelligence, the Wechsler Pre-School and Primary Scale, the Wechsler Intelligence Scale for Children and the Wechsler Adult Intelligence Scale. Not open to unclassified students.

374. SUPERVISED PRACTICE IN THE USE OF INDIVIDUAL TESTS OF INTELLIGENCE I (Pre-School through Adult Age Levels). *Six hours credit.*

Prerequisites, PCG 373 and permission of instructor. This course provides supervised practice in administering, scoring, reporting and interpreting the results of the 1960 Stanford-Binet Intelligence Scale, the Wechsler Pre-School and Primary Scale, the Wechsler Intelligence Scale for Children and the Wechsler Adult Intelligence Scale. Intended for students preparing for professional positions in which their responsibilities include testing of subjects of all age levels. Recommended for students majoring in School Psychometry. Not open to students who have taken PCG 375 or PCG 376 or unclassified students.

375. SUPERVISED PRACTICE IN THE USE OF INDIVIDUAL TESTS OF INTELLIGENCE II (Emphasis on Pre-School through Junior High School Age Levels). *Five hours credit.*

Prerequisites, PCG 373 and permission of instructor. This course provides supervised practice in administering, scoring, reporting and interpreting the results of the 1960 Stanford-Binet Intelligence Scale, the Wechsler Pre-School and Primary Scale, and the Wechsler Intelligence Scale for Children. Recommended for students majoring in School Psychology, Remedial Reading, Teaching of Reading and Special Education. Not open to students who have taken PCG 374 or PCG 376 or unclassified students.

376. SUPERVISED PRACTICE IN THE USE OF INDIVIDUAL TESTS OF INTELLIGENCE III (Emphasis on Adolescent and Adult Age Levels). *Five hours credit.*

Prerequisites, PCG 373 and permission of instructor. This course provides supervised practice in administering, scoring, reporting, and interpreting the results of the 1960 Stanford-Binet Intelligence Scale, the Wechsler Intelligence Scale for Children, and the Wechsler Adult Intelligence Scale. Recommended for students majoring in Vocational Rehabilitation Counseling and College Student Personnel Work. Not open to students who have taken PCG 374 or PCG 375 or unclassified students.

377. USE OF PSYCHODIAGNOSTIC TESTING INSTRUMENTS WITH CHILDREN. *Four hours credit.*

Prerequisites, PCG 370, 371; PCG 374, 375 or 376; PCG 388. Theoretical backgrounds of, and the supervised practice in, the use of psychodiagnostic instruments such as the Bender Visual Motor Gestalt Test for Children, the Illinois Test of Psycholinguistic Abilities, the Marianne Frostig Developmental Test of Visual Perception, the Minnesota Percepto-Diagnostic Test. Special emphasis is placed on understanding the inter-relationships of results of these instruments along with the results of intelligence and achievement tests and non-standardized sources of data in diagnosing psychological problems of children.

470. MEASUREMENT: PREDICTION AND ASSESSMENT. *Three hours credit.*

Prerequisites, APST 275, PCG 370, 371. An advanced course in measurement integrating the principles of measurement, research and testing. Deals with the construction and use of predictor instruments. Emphasis is placed on the criterion problem and special methods of prediction and analysis.

471. MEASUREMENT: SCALING AND RELATED TECHNIQUES. *Three hours credit.*

Prerequisites, APST 275, PCG 370, 371. An advanced course on the theory and methods of scaling with emphasis on attitude scales. Several of the newer techniques, such as the Q-Sort and Semantic Differential, are also covered.

PERSONAL, EMOTIONAL AND SOCIAL ADJUSTMENT

184. INDUSTRIAL PSYCHOLOGY. *Three hours credit.*

Students will study the basic methods used by psychologists in selecting, placement, training, and motivation of industrial personnel. They will examine the psychological factors involving inter-personal relations influencing morale, production, job satisfaction, etc.

280. PERSONALITY DYNAMICS. *Three hours credit.*

The personal and interpersonal dynamics of individual behavior are discussed and influences contributing to an understanding of personality are examined. Variables pertaining to the characteristics and the development of self, and to identifying and dealing with problems of self development are considered.

285. MENTAL HYGIENE AND EMOTIONAL ADJUSTMENT. *Three hours credit.*

Psychological principles, theories, and practices are examined and applied to individual, school, family, and community mental health problems.

293. SOCIODRAMA. *Two hours credit.*

How to use sociodrama. The topics studied are producing a sociodrama, purposes of the sociodrama, types and use of the sociodrama.

294. SOCIOMETRY. *Two hours credit.*

The measurement of interpersonal relations in small groups; measurement of social status, social adjustment, leadership and morals. Sociometric organization of elementary and secondary school classrooms.

326. SEMINAR IN PERCEPTUAL PSYCHOLOGY. *Three hours credit.*

Prerequisites, graduate status; permission of instructor. A seminar designed to allow students to study, report, and discuss basic perceptual psychological theory and research. Areas of investigation will include the relationship of human perception to such topics as: (1) the self concept, (2) motivation, (3) goals and values, (4) growth and development, (5) emotions and feelings, and (6) the teaching-learning process or other related "helping" professions. Students may construct perceptual demonstrations or design perceptual research.

380. THEORIES OF PERSONALITY. *Three hours credit.*

The course explores the psychological factors underlying personality development and adjustment and concentrates on the theories by which personality structure is explained.

- 381. SURVEY OF PROJECTIVE TECHNIQUES.** *Three hours credit.*
Prerequisite, PCG 370. Develops the theories and rationale behind the most commonly used projective techniques including attention to the pertinent research. The course is designed for students in related professions who are likely to be working with psychologists and psychological reports.
- 382. INTRODUCTION TO RORSCHACH ADMINISTRATION AND SCORING.** *Three hours credit.*
Prerequisites, PCG 340, 373, 380, 388. A course for graduate students in training to become school psychologists. Stresses the conceptual basis for comparing the projective with more traditional psychometric procedures and develops beginning skills in actual administration and scoring of the Rorschach Test.
- 383. PROJECTIVE TECHNIQUES.** *Three hours credit.*
Prerequisite, PCG 382. Continues the topics begun in PCG 382 with special attention to problems of interpretation. Additional projective techniques such as the TAT, sentence completion tests, etc. are considered. Enrollment is limited to students in training to become school psychologists.
- 384. GROUP DYNAMICS IN HUMAN RELATIONS.** *Three hours credit.*
Prerequisite, PCG 285. A course designed to give an understanding of the principles of group dynamics as applied to group situations including the classroom.
- 387. SEMINAR IN SCHOOL PSYCHOLOGY.** *Three hours credit.*
A seminar intended to develop an appreciation for the professional issues and problems of concern to the school psychologist. The course considers such topics as qualifications for test administration, confidentiality, relations with other professions, problems of referral, and report writing.
- 388. ABNORMAL PSYCHOLOGY.** *Three hours credit.*
Prerequisites, PCG 285, 340, 380. The course is designed to give an understanding of abnormal behavior, its causes, symptoms, characteristics, classifications and prevention. These concepts form a necessary background for courses in projective techniques and training as school psychologists.
- 389. ADVANCED PSYCHOPATHOLOGY.** *Three hours credit.*
Prerequisite, PCG 388 and permission of instructor. This course is designed for school psychology graduate students and is a continuation in greater depth of the topics in disorganized personality treated in PCG 388. Attention will be devoted to the projective test behavior related to the conditions discussed.
- 390. INTERNSHIP IN SCHOOL PSYCHOLOGY.** *Maximum of sixteen hours credit.*
Prerequisites, PCG 374, 382, 383. A practical field work experience in the practice of school psychology under supervision conducted in selected public school systems.

Department of Special Education

Dr. Tony D. Vaughan, Chairman

Professors: Kolstoe, Reid, Vaughan.

Associate Professors: Gearheart, McAlees, Smitherman.

Assistant Professors: Cegelka, Eldredge, Forgnone, Gelhart, Napier, Peterson, Whorton, R. Wolfe.

Instructors: Bliier, Cornett, Henkels, Hunt, Townsend, Weishahn.

Degree programs in Special Education are offered as follows: (1) a major or minor at the undergraduate level; (2) a major at the master's level; (3) a graduate area of concentration leading to the Doctor of Education degree.

The program affords undergraduate students the opportunity to qualify for a Colorado Teacher Certificate with endorsement for acoustically handicapped or mental retardation. Junior and senior students may take course work in the areas of teaching the visually handicapped and physically handi-

capped and in speech correction and audiology. This course work may be used for certification in the special areas of teaching when all requirements for certification are met.

The campus Special Education School, a cooperative project of the Greeley Public Schools and Colorado State College, provides a laboratory in which students may observe and do student teaching. At the present time this laboratory school enrolls mentally retarded, physically handicapped, acoustically handicapped, emotionally disturbed, and visually handicapped children. The Special Education facility also includes a speech and hearing clinic which provides complete audiometric evaluations as well as speech correction services; a research suite; and provision for testing and measuring exceptional children.

A graduate program is offered to prepare vocational rehabilitation counselors.

Description of Courses

GENERAL AND ADMINISTRATION

10. EDUCATION OF EXCEPTIONAL CHILDREN. *Three hours credit.*
A survey of the characteristics and educational needs of impaired and gifted children. Designed as an overview of the field for undergraduate students in special education, general education, nursing, counseling and other related personnel.

201. WORKSHOP IN SPECIAL EDUCATION. *One to six hours credit.*
A workshop designed for teachers and administrators. This course is designed to facilitate specific disability areas and will be so designated with each workshop offered. The content will include current issues, problems, programs, and topics of national and local interest.

202. COUNSELING PARENTS OF EXCEPTIONAL CHILDREN. *Three hours credit.*
This course is designed to present the techniques of working with parents of exceptional children. How to interpret a handicapped to parents and how the parents and family can accept the children in the home is also developed.

300. EDUCATION AND PSYCHOLOGY OF EXCEPTIONAL CHILDREN. *Three hours credit.*
A survey of the characteristics and educational needs of impaired and gifted children. Designed as an overview of the field for graduate students in special education, general education, psychology and other related fields.

301. ADMINISTRATION AND SUPERVISION OF SPECIAL EDUCATION. *Three hours credit.*
Problems of organization, administration and supervision of special education programs; finance and attendance, physical facilities, budgeting, needed equipment, community agencies and curriculum development.

302. APPRAISAL OF EXCEPTIONAL CHILDREN. *Four hours credit.*
Prerequisites, PCG 170, 373, 374. A critical examination of objective tests used to appraise the intellectual abilities of exceptional children.

303. PRACTICUM IN APPRAISING EXCEPTIONAL CHILDREN. *Three hours credit.*
Prerequisite, SPED 302. Provides supervised practice in administering specialized tests to children who are visually handicapped, acoustically handicapped, cerebral palsied, speech impaired, or mentally retarded.

401. RESEARCH SEMINAR IN SPECIAL EDUCATION AND REHABILITATION. *Three hours credit.*
An analysis of studies and research pertaining to the education of exceptional children. Procedures for conducting and reporting research. A survey of critical problems and trends in Special Education.

402. PROBLEM SEMINAR IN SPECIAL EDUCATION. *Three hours credit.*
A course designed for leaders and resource personnel in Special Education. Emphasis will be placed on how to develop good leadership, the identification of major problem areas, the possible solutions of these problems, and evaluation of these solutions.

403. TRENDS IN SPECIAL EDUCATION. *Three hours credit.*

A course designed for the study of historical development of educational programs for exceptional children. A critical analysis of issues and trends in special education.

404. INTERNSHIP IN SPECIAL EDUCATION. *Maximum of fifteen hours credit.*

The internship is a supervised program of orientation, observation, and participation in one or more community agencies devoted to exceptional children. Specific experiences are planned to include administration, program development, and inter-agency relationships. The internship requires a minimum of 330 clock hours of field experience during one full quarter.

MENTALLY RETARDED

210. INTRODUCTION TO MENTAL RETARDATION. *Four hours credit.*

Prerequisite, SPED 10 or 300. A study of the social, emotional, physical, and mental characteristics of the mentally retarded child. Methods of classifying, diagnosing and treating retarded children will be discussed from medical, psychological, sociological, and educational points of view.

211. EDUCATION OF SEVERELY MENTALLY RETARDED CHILDREN. *Three hours credit.*

Organization of special class and school programs for severely mentally retarded children. Diagnosis and classification. Development of teaching materials and techniques. Community organizations and parent education.

212. CURRICULUM DEVELOPMENT AND METHODOLOGY FOR MENTALLY RETARDED. *Four hours credit.*

Prerequisites, SPED 10 or 300, 210. This course will have as its main purpose the development of integrated experience-units for primary, intermediate, and pre-vocational mentally retarded children. Experience-centered units will be built around the following three areas: occupational, economic, and social. The course will consist of reading, lectures, observation, experimentation and meetings.

311. VOCATIONAL REHABILITATION OF MENTALLY RETARDED YOUTH. *Three hours credit.*

Prerequisite, SPED 10 or 300. Emphasis will be on discussing techniques in the following areas: (1) evaluating vocational fitness, (2) job placement, (3) working with related disciplines, (4) understanding of the implications of vocational experiences on curriculum, (5) on-the-job supervision, and (6) follow-up services.

312. ADVANCED CURRICULUM DEVELOPMENT. *Four hours credit.*

Prerequisite, SPED 212. This course will develop the application of the principles of preparation, development, and effective use of integrated units. Evaluation and reporting in terms of achievement of the curriculum objectives will also be emphasized.

314. PRACTICUM WITH THE MENTALLY RETARDED. *Maximum of fifteen hours credit.*

Prerequisites, SPED 10 or 300, 210, 212. Individual observation and supervised practice in the education of the mentally handicapped.

410. SOCIOLOGICAL AND EDUCATIONAL ASPECTS OF MENTAL RETARDATION. *Four hours credit.*

A study of the sociological and educational problems related to mental retardation. Major emphasis will be placed on research findings having to do with community and institutional care treatment, and education of the mentally retarded.

411. MEDICAL AND PSYCHOLOGICAL ASPECTS OF MENTAL RETARDATION. *Four hours credit.*

A study of the medical and psychological problems related to mental retardation. Included will be discussions of the medical causes, treatment, and prevention of mental retardation as well as a critical examination of research related to such areas as learning, perception, brain injury and psychotherapy.

EMOTIONALLY DISTURBED AND SOCIALLY MALADJUSTED

220. INTRODUCTION TO THE EDUCATION OF SOCIALLY AND EMOTIONALLY DISTURBED CHILDREN. *Three hours credit.*

An introduction to concepts, practices, and trends in education for emotionally disturbed and socially maladjusted children, an orientation to the dynamics, personality characteristics and needs of emotionally handicapped and socially maladjusted children is provided.

321. METHODS OF TEACHING CLASSES OF SOCIALLY AND EMOTIONALLY MALADJUSTED CHILDREN. *Three hours credit.*

The role of the special teacher in the development of an hygienic educational atmosphere and an adequate corrective program for socially maladjusted and emotionally disturbed children is stressed.

322. SOCIOLOGICAL AND CULTURAL ASPECTS OF SOCIALLY AND EMOTIONALLY DISTURBED CHILDREN. *Three hours credit.*

A study of the sociological and cultural problems related to social and emotional maladjustment. Major emphasis will be placed on research findings related to such areas as etiology, community and institutional care and treatment, pertinent current issues, and review of special legislation and typical community services.

323. SEMINAR IN EDUCATION OF EMOTIONALLY DISTURBED. *Three hours credit.*

Prerequisites, SPED 10 or 300, 220, 321, 322. Composite of shared experiences in course work and practicum in education of emotionally disturbed. Emphasis on critical appraisal of programing, methodology, and instructional techniques with emotionally disturbed; development of communication skills in consultation with professions of psychiatry, psychology, social work and others as a team approach.

324. PRACTICUM WITH THE SOCIALLY AND EMOTIONALLY DISTURBED. *Maximum of fifteen hours credit.*

Prerequisites, SPED 10 or 300, 220, 321. Individual observation and supervised practice in the education of the socially and emotionally disturbed.

PHYSICALLY HANDICAPPED

230. CARE AND PATHOLOGY OF THE PHYSICALLY HANDICAPPED. *Three hours credit.*

Prerequisite, SPED 10 or 300. A course designed for teachers of physically handicapped children. Problems will be discussed in the following areas; vision, hearing, speech, orthopedics, epileptics and miscellaneous. Observation hours are required.

231. PROBLEMS OF TEACHING THE PHYSICALLY HANDICAPPED. *Three hours credit.*

Methods of teaching physically handicapped children; evaluation of techniques and teaching procedures with the various types of physically handicapped children; study of available material, curriculum planning, and aids used in the education of the physically handicapped child. Some time will be given to counseling of parents and organizing of parent groups. Observation hours are required.

331. ADVANCED PROBLEMS IN TEACHING THE CEREBRAL PALSIED. *Three hours credit.*

Consideration of problems of child guidance, working with parents of cerebral palsied children and specific techniques helpful in education and training of cerebral palsied children. Emphasis upon teamwork approach to solving medical, educational, and therapeutic problems.

334. PRACTICUM WITH PHYSICALLY HANDICAPPED. *Maximum of fifteen hours credit.*

Prerequisites, SPED 10 or 300, 230. Individual observation and supervised practice in the education of the physically handicapped.

VISUALLY HANDICAPPED

- 240. STRUCTURE AND FUNCTION OF THE EYE.** *Three hours credit.*
An ophthalmologist presents the anatomy and physiology of the eye and the medical eye examination. An educator presents functional implications of various pathologies in the educational setting. Educational interpretation of the medical eye report.
- 241. SURVEY OF EDUCATION OF THE VISUALLY HANDICAPPED.**
Three hours credit.
Educational, social and emotional implications of visual disability. Overview of history, and current practices in educational and rehabilitation planning. Organization and implications of various education services—pre-school through college. A review of private and public agencies, their philosophies, and programs.
- 242. PRINCIPLES OF EDUCATION OF THE PARTIALLY SEEING.**
Three hours credit.
Identification, classification, and methods of program organization; principles of preparation, selection, effective use of instructional materials for children with limited vision. Adaptation of the school environment considered. Observation, discussion, and administration of the Snellen Vision Screening test presented.
- 243. BEGINNING BRAILLE.** *Three hours credit.*
History of development of braille and other systems of reading used by the blind. Mastery of literary braille code. Development and use of special materials; slate and stylus techniques presented; introduction to Nemeth Code of Mathematics.
- 244. ELEMENTARY METHODS FOR THE BLIND.** *Three hours credit.*
Special instructional techniques in teaching reading through braille; use of audio and dimensional aids; current practices in arithmetic, language, arts, music, physical education, efficient living skills; orientation and mobility foundations. Materials preparation, adaptation of commercial devices emphasized.
- 245. SECONDARY METHODS FOR THE BLIND.** *Three hours credit.*
Curriculum, adaptations and special methods; problems of adjustment and expansion of the operational environment. Use of guidance, counseling and vocational rehabilitation agency services in life planning for the senior high school blind student. Pre-adult and adult special services. Review of special legislation and typical services available to the young blind adult.
- 343. ADVANCED BRAILLE.** *Three hours credit.*
Intensive study of Nemeth Code, including material for algebra, calculus, trigonometry, and other advanced mathematics notation. Principles of transcription; editing and adaptation of print material for the braille reader. Sources of embossed material considered; a review of the volunteer movement. Overview of the music code; review of chemical notation.
- 344. PRACTICUM WITH VISUALLY HANDICAPPED,** *Maximum of fifteen hours credit.*
Supervised teaching experience with both blind and partially seeing children; placement evaluations; preparation of materials. Observation of varied programs, including resource room and residential school plans, rehabilitation agencies.
- 345. PRINCIPLES OF ORIENTATION AND MOBILITY FOR THE BLIND.** *Three hours credit.*
Independence in exploration of the environment as a life need. Technique in developing orientation skills; pre-cane mobility instruction. Philosophy and history of cane instruction, guide dogs, and other methods of travel. Current programs review. Observation of special orientors working with children. Students will gain experience in traveling independently with cane.
- 346. THE MULTI-IMPAIRED BLIND CHILD.** *Three hours credit.*
A course designed to study characteristics, learning problems, curricular adjustments, and program techniques of blind children with additional disabilities, including cerebral palsied blind, mentally retarded blind, and children with brain damage.

441. SEMINAR IN VISUALLY HANDICAPPED. *Three hours credit.*

A course designed to allow intensive inquiry into rapid changes in braille systems, techniques for reproduction, development, and distribution of educational materials, and application of low vision aids in the utilization of residual vision.

ACOUSTICALLY HANDICAPPED**250. PATHOLOGY AND INTRODUCTION TO EDUCATION OF THE DEAF.** *Three hours credit.*

History and philosophy of education of the deaf. Structure of the ear and causes. Problems in organization, support, and maintenance of programs for deaf and hard-of-hearing children. Presentation of types of instruction given in various schools, the oral method, the combined method, the Rochester method, and the acoustic method.

251. SPEECH DEVELOPMENT FOR ACOUSTICALLY HANDICAPPED CHILDREN. *Maximum of six hours credit.*

Presentation of various methods commonly used in speech development of intelligible speech. Integration of speech with other language arts. Importance of pre-school programs and parent education.

252. LANGUAGE DEVELOPMENT FOR ACOUSTICALLY HANDICAPPED CHILDREN. *Maximum of six hours credit.*

Development of language comprehension through speech-reading and reading. Systems of teaching language to the deaf. Principles of grammar essential to the use of any system of language instruction. Development of functional language usage in both oral and written forms. The meaning and importance of an integrated language arts program.

253. METHODS OF TEACHING CONTENT SUBJECTS TO THE DEAF. *Maximum of six hours credit.*

Prerequisite, SPED 250. The use of the communication skills in all content subject areas. Methods of teaching advanced reading skills. Improvement of speech and language usage. Development of an interest in recreational reading and reading of current literature. Means of preparing pupils to enter regular high schools or Gallaudet College.

256. EDUCATION OF HARD-OF-HEARING CHILD. *Three hours credit.*

Sociologic, psychologic and economic implications of hearing loss. Survey of public school program of hearing conservation. Methods and practice of hearing therapy including lip-reading, auditory training, and speech improvement. Presentation of typical lesson plans at various levels and collection of source materials. Mechanics and use of hearing aids and other amplifying devices.

257. SPEECH READING. *Three hours credit.*

Speech reading theory and practice. Some educational problems of the speech reading teacher. Methods used for the instruction of children and adults. Correlation with auditory training, reading, and speech correction. Different approaches used with hard-of-hearing children and the deaf.

350. ADVANCED PROBLEMS IN TEACHING DEAF CHILDREN. *Three hours credit.*

Prerequisites, SPED 251, 252, 253. Preparation of units of work in content subject areas. Expansion of vocabulary and language comprehension and usage. Curriculum planning. An opportunity will be given experienced teachers to work on specific problems.

354. PRACTICUM WITH THE DEAF AND HARD-OF-HEARING. *Maximum of fifteen hours credit.*

Individual observation and supervised practice in the education of the deaf and hard-of-hearing. It is recommended that this course be taken over two consecutive quarters.

SPEECH CORRECTION**64. INTRODUCTION TO SPEECH CORRECTION.** *Three hours credit.*

Brief review of identifying characteristics and comprehensive study of causes

and diagnostic techniques pertaining to the following speech disorders: articulation, delayed speech, bilingualism, voice disorders, and speech of the hard-of-hearing.

260. SPEECH PATHOLOGY I. *Three hours credit.*

Prerequisite, SPED 64. An introduction to the area of speech difficulties on the elementary, secondary, and college levels. Training in recognition, diagnosis, and treatment of minor speech problems.

261. METHODS FOR SPEECH PATHOLOGY I. *Three hours credit.*

Prerequisite, SPED 64. Will be enrolled in conjunction with SPED 260, Speech Pathology I. The presentation of methods, materials, and techniques appropriate to speech correction in individual and group therapy situations for speech disorders of: articulation, delayed speech, bilingualism, voice disorders, and speech of the hard-of-hearing.

262. CLINICAL PRACTICE IN SPEECH CORRECTION. *Maximum of eight hours credit. Two credit hours in Clinical Practice may be earned per quarter.*

This course supplements the methods of speech diagnosis and treatment with observation and supervised teaching in the college speech clinic. A minimum of 275 clock hours in the laboratory is one of the requirements necessary to qualify for ASHA as a speech correctionist.

263. SPEECH PATHOLOGY II. *Three hours credit.*

Prerequisite, SPED 261. Brief review of identifying characteristics and comprehensive study of course and diagnostic techniques pertaining to the following speech disorders: speech of the cerebral palsied, cleft palate, aphasic, stutterers, and the emotionally disturbed.

264. METHODS FOR SPEECH PATHOLOGY II. *Three hours credit.*

Prerequisite, SPED 261. Will be enrolled in conjunction with SPED 263, Speech Pathology II. The presentation of methods, materials, and techniques appropriate to speech correction in individual and group therapy situations for speech disorders of: speech of the cerebral palsied, cleft palate, aphasic, stuttering, and the emotionally disturbed.

265. THE AUDITORY AND SPEECH MECHANISMS. *Three hours credit.*

A study of the structure and physiology of the voice and hearing mechanisms.

266. PROGRAMING SPEECH CORRECTION IN THE PUBLIC SCHOOL. *Three hours credit.*

The organization, administration, and evaluation of speech correction programs in public school settings. Special emphasis is placed on methods of screening large public school populations, organizing therapy on a basis of communication needs, fitting standard practices of therapy to the needs of the school.

267. DIAGNOSIS IN SPEECH PATHOLOGY. *Three hours credit.*

Prerequisite, SPED 264. The techniques of clinical diagnosis and evaluation of speech disorders will be discussed. The student will participate in all phases of assessment of speech and language problems.

268. SPEECH AND LANGUAGE DEVELOPMENT FOR MENTALLY RETARDED. *Three hours credit.*

Prerequisites, SPED 263, 264 and graduate standing. Study of classification, etiology, abnormalities in growth and development, relationship of speech to mental retardation, diagnosis of speech of the mentally retarded and therapeutic measures used in the development of speech and language of the mentally retarded.

360. SPEECH HABILITATION IN CEREBRAL PALSY. *Three hours credit.*

Prerequisite, SPED 264. The speech problems which arise from various conditions of cerebral palsy, their etiology and manifestations. Attention is given to the various types of conditions, the extent to which speech is involved in each, the types of therapy indicated in each. Methods of assessing problems are demonstrated. Emphasis is placed on the special educational needs of the cerebral palsied person, his problems of life adjustment and communication.

361. CLEFT PALATE SPEECH AND THERAPY. *Three hours credit.*

Prerequisite, SPED 264. A study of the problems of communication common to cleft palate speech. A focus is placed on the structural defects, the major trends in surgery and prosthetic treatment, possible etiology. Special emphasis is placed on the psycho-social problems in communication of individuals with cleft palate.

362. THE REHABILITATION OF PERSONS WITH APHASIA. *Three hours credit.*

Prerequisite, SPED 264. A consideration of psycho-social and educational problems in the recovery from aphasia. The emphasis of this course is upon the problems of re-education of the individual who has lost language functions as the result of an injury to the central nervous system. Opportunity is afforded for the development of materials and techniques to be used in aphasia therapy.

363. THE THEORY AND TREATMENT OF STUTTERING. *Three hours credit.*

Prerequisite, SPED 264. The techniques of clinical diagnosis theories concerning the cause and nature of stuttering. An investigation of research findings, clinical evidence, and of the prejudices of prominent agencies and individuals in the literature. The student is provided an opportunity to work out his own rationale for stuttering therapy. Emphasis is placed on techniques of treatment which prove successful with stutterers.

364. SPEECH CORRECTION AND IMPROVEMENT IN THE CLASSROOM. *Three hours credit.*

This course is designed to train the classroom teacher in recognition of speech difficulties which may be encountered in the classroom and also in the development of techniques and acquisition of materials and supplies which may be used for the development and improvement of the speech skills of the students.

365. FUNCTIONAL AND ORGANIC PROBLEMS OF ARTICULATION. *Three hours credit.*

Prerequisite, SPED 264. A survey of the variety of problems contributing to defective articulation. Consideration is given to research findings in current trends in therapy. Problems in articulation are seen in relationship to communication rather than isolated incidents of production.

366. ADVANCED DIAGNOSIS IN SPEECH PATHOLOGY. *Three hours credit.*

Prerequisites, SPED 267 and graduate standing. The student will be required to complete a minimum of 50 hours of clinical internship in the areas of diagnosis and evaluation of various speech and hearing disorders under strict supervision.

367. NEUROLOGICAL MECHANISMS FOR SPEECH AND HEARING PRODUCTION. *Three hours credit.*

Prerequisites, SPED 265 and graduate standing. A study of the structures in the organism responsible for controlling and maintaining the integrity and function of the various organs necessary for the functions of the speech and hearing mechanisms.

368. VOICE SCIENCE. *Three hours credit.*

Prerequisites, SPED 265, 270 and graduate standing. Study of speech sounds which are produced by the coordinated actions of the processes of respiration, phonation, resonance, and articulation.

369. VOICE DISORDERS AND TREATMENT. *Three hours credit.*

Prerequisite, SPED 264. A study of the structure of the vocal mechanism, its diseases and pathologies, the nature of functional and organic voice problems. Consideration is given to the voice as an index of personality. Opportunity is provided to gain experience in examining the throat, in evaluating voice quality, and to develop techniques for treatment of voice disorders.

461. SEMINAR: LANGUAGE PROBLEMS. *Three hours credit.*

Prerequisites, SPED 260, 263. An investigation of the patterns of normal speech and language development with special focus on research findings. Emphasis is placed on severe communication disruption as a result of deafness, brain damage, mental retardation or emotional disturbance.

462. SEMINAR: COMMUNICATION BARRIERS. *Three hours credit.*

Prerequisites, SPED 260, 263. An investigation of the factors of interpersonal significance in communication breakdown. The study considers the individual within the framework of a social situation communicating by all those processes by which individuals influence each other. The interpersonal aspects serve as a focus.

463. PRACTICUM IN SPEECH DIAGNOSIS. *Three hours credit.*

Prerequisites, SPED 260, 263. The student shall participate, under supervision, in the diagnostic program of the Speech and Hearing Clinic. This participation shall include all phases of diagnosis, evaluation of results, and disposition of the case. Opportunities to participate in diagnosis will be provided in additional facilities where appropriate.

464. PRACTICUM IN COMMUNICATION BARRIERS. *Three hours credit.*

Prerequisites, SPED 260, 263. An investigation of communication barriers in cases and groups undergoing therapy in the Speech and Hearing Clinic. Focus will be placed on those interpersonal and intrapersonal factors which limit successful communication, interfere with therapeutic processes, and inhibit normal integration.

AUDIOLOGY

270. AUDIOLOGY. *Three hours credit.*

A consideration of factors essential to the measurement of the loss of hearing acuity. Administration of hearing tests and interpretation of test results. The organization of hearing conservation programs, identification audiometry, and referral procedure.

271. SPEECH AUDIOMETRY. *Three hours credit.*

A presentation of the rationale for speech audiometry, the development of test materials, the techniques necessary for presentation, interpretation, and counseling from the results of speech tests of auditory acuity. Participation in a testing program to gain facility in the use of equipment of speech audiometry.

272. ADVANCED AUDIOMETRY. *Three hours credit.*

Prerequisites, SPED 270 and 271. The theory and practice of advanced pure tone and speech audiometry. A consideration of the instrumentation necessary for such testing, the interpretation of audiometric findings with special emphasis on the effects of hearing loss on communication. A study of the rationale and conduct of clinical programs.

273. THE HEARING MECHANISM. *Three hours credit.*

A detailed study of the human ear, the processes of audition, and special attention to the psychophysics of audition. A consideration of the abnormalities and diseases of the hearing mechanism.

274. PRACTICUM IN AUDIOLOGY. *Maximum of nine hours credit. Three credit hours in Practicum may be earned per quarter.*

Principles of and experience in the administration of hearing tests and their evaluation.

370. HEARING AIDS. *Three hours credit.*

Prerequisites, SPED 270 and 271. The presentation of those means by which the acoustically-impaired may most effectively utilize residual hearing, including amplification, auditory training, and speech reading. Consideration is given to the individual and group hearing aids, their design, basis for selection, and training necessary for their successful use.

371. CLINICAL STUDY IN COMMUNICATION PROBLEMS. *Three hours credit.*

Prerequisites, SPED 270, 271, 272. The evaluation of individuals with communication problems, a study is made of the various types of breakdown in communication, methods of distinguishing among these types by the use of the differential diagnosis. Emphasis is placed upon actual clinical application of evaluation techniques.

372. SEMINAR IN AUDIOLOGICAL PROBLEMS. *Three hours credit.*
This course will analyze problems involving the fitting of hearing aids and adjustment of the individuals to them. It will also involve problems concerning necessary auditory training. Experience will be provided on an individual basis.

GIFTED

280. EDUCATION OF CHILDREN WITH SPECIAL ABILITIES. *Three hours credit.*

Basic organization of programs for the education of the gifted child; classification and testing; curriculum adjustments and principles of teaching the gifted; exploring creative activities; guidance and evaluation of student programs.

VOCATIONAL REHABILITATION

290. INTRODUCTION TO REHABILITATION. *Three hours credit.*

An orientation to the rehabilitation process including a survey of history, principles, philosophy and legal aspects of rehabilitation and related fields. Rehabilitation as a concept of integrated service is stressed and an understanding of the objectives and the organizational basis of rehabilitation programs is provided.

298. COMMUNITY RESOURCES FOR REHABILITATION, GUIDANCE AND COUNSELING. *Three hours credit.*

Designed to acquaint the student with an understanding of the need for community resources. Provides the student with techniques for evaluating the effectiveness of available resources, and the knowledge and skills required to develop community resources needed for the implementation of rehabilitation, guidance and counseling services.

391. PRINCIPLES AND TECHNIQUES OF THE REHABILITATION PROCESS. *Three hours credit.*

An introduction to the basic skills and techniques required of a rehabilitation counselor by the rehabilitation process. Designed to prepare the student for an effective period of supervised clinical practice.

392. VOCATIONAL PLACEMENT AND ADJUSTMENT OF THE DISABLED IN REHABILITATION. *Three hours credit.*

Consideration of such basic areas of knowledge as theories of vocational choice, labor market analysis, job analysis, and the psychology and sociology of work as they relate to the vocational placement problems presented by disabled persons. Analysis of job placement and training facilities and ability to relate these through vocational guidance to client capacities and employer expectations.

393. SEMINAR IN REHABILITATION: REHABILITATION PLAN FORMULATION. *Three hours credit.*

To develop proficiency in the formulation of individual rehabilitation plans and to acquaint the student with essential content of the client study process. To develop the student's understanding and appreciation of his responsibilities in the provision of medical, training, placement, and related services and to emphasize the importance, along with evaluation and services, of counseling and planning as the "heart and core" of the total rehabilitation process.

394. SUPERVISED CLINICAL PRACTICE IN REHABILITATION COUNSELING. *Sixteen hours credit.*

This internship will include supervised practice in counseling, case studies, contacts with community social agencies and employers, as well as practicum in specific rehabilitation processes. The supervised clinical practice consists of a minimum of 400 clock hours of field work, lasting one full term of approximately 11 weeks.

395. SEMINAR IN REHABILITATION: SPECIFIC DISABILITY AREAS. *Three hours credit.*

To develop a sensitive awareness of the handicapping nature of specific disabilities and the relationship between the disability and the psychological, social,

and vocational aspects of successful adjustment. Specific disability areas discussed will vary from year to year according to the needs and interests of each particular group of students.

396. SEMINAR IN REHABILITATION: PROFESSIONAL PROBLEMS.

Three hours credit.

To provide the student with a thorough understanding of his responsibilities and duties as regards non-case-work rehabilitation activities and to stimulate an awareness of the need for continuous professional growth and development. Research in rehabilitation, ethical problems and professional issues of current concern will be discussed.

397. MEDICAL ASPECTS OF REHABILITATION. *Three hours credit.*

Medical implications for rehabilitation counselors including anatomy, physiology and pathology of human systems, physical reconstruction, restoration and adaptation. Special emphasis is placed on the social and occupational aspects of injuring, somatic and psychogenic disability and the acquiring of facility in basic medical terminology.

DIVISION OF AEROSPACE STUDIES

Lt. Col. Hollis R. Moomaw, Chairman

Professor: Moomaw.

Assistant Professors: Downing, Kelsey, Schaffer.

Description of Courses

11, 15. CORPS TRAINING I, II. *One hour credit per course.*

An introduction to the methods of Air Force organization at the squad and flight level. Opportunities are provided for the cadet to subject himself to personal and group discipline, to identify himself with a group, and to acquire the training, poise, and self-confidence needed to conduct himself in a military manner. Courses may be substituted for otherwise required physical education courses.

21, 25. CORPS TRAINING III, IV. *One hour credit per course.*

Practical training in elementary leadership activities involving small groups and an introduction to leadership methods and Cadet Corps organization at the flight and squadron level. The cadet is provided the opportunities to test his leadership skill in situations dealing with small groups and to recognize and accept personal responsibility. Courses may be substituted for otherwise required physical education courses.

22. WORLD MILITARY SYSTEMS I. *One hour credit.*

An introductory course to survey the organization and mission of the United States Air Force, including the combat and support commands and their role in the defense of the United States and the free world. The course concludes with a brief investigation of the professional opportunities available within the Air Force.

24. WORLD MILITARY SYSTEMS II. *Two hours credit.*

A study exploring the causes of present world conflict. It includes international power factors, a comparative analysis of the Democratic and Communist ideologies, and the role of military power as an instrument of national policy. It concludes with a study of how our Defense Department is organized to effectively use our military power.

104. WORLD MILITARY SYSTEMS III. *Two hours credit.*

A study of the doctrine, organization and mission of the U. S. Army and Navy. A comparative analysis is made of the Communist bloc's military forces and the course concludes with a study of the Western Alliances (NATO, CENTO, SEATO) and their role in free world security.

106. WORLD MILITARY SYSTEMS IV. *One hour credit.*

An analysis of the trends and implications of the world power struggle in which nations are striving to accomplish their national objectives. Primary emphasis is placed on the political and military strategy behind these conflicts.

216. GROWTH AND DEVELOPMENT OF AEROSPACE POWER I.
Three hours credit.

Prerequisite, Enrollment in POC. A survey course about the nature of war and development of airpower in the United States, including the beginnings, the formative years, problems of peace between world wars, and airpower during and after World War II. The development of communicative skill is a major goal of this course.

218. GROWTH AND DEVELOPMENT OF AEROSPACE POWER II.
Three hours credit.

Prerequisite, Enrollment in POC. A study of the mission and organization of the Defense Department, and Air Force concepts, doctrine and employment. Also, an introduction to astronautics and space operations. The development of communicative skill is a major goal in this course.

220. GROWTH AND DEVELOPMENT OF AEROSPACE POWER III.
Three hours credit.

Prerequisite, Enrollment in POC. Continuation of the study of astronautics and space operations, and the future development of aerospace power. Includes the United States space program, vehicles, systems, and problems in space exploration. The development of communicative skill is a major goal in this course.

256. THE PROFESSIONAL OFFICER I. *Three hours credit.*

Prerequisite, Enrollment in POC. A study of military professionalism and leadership. Includes the meaning of professionalism, professional responsibilities, the Military Justice System, leadership theory, functions and practices. A major goal is the strengthening of communicative skills.

258. THE PROFESSIONAL OFFICER II. *Three hours credit.*

Prerequisite, Enrollment in POC. An examination of management problems, discipline, human relations and current Air Force personnel policies. Emphasis is on individual and group problem solving. A major goal is the strengthening of communicative skills.

260. THE PROFESSIONAL OFFICER III. *Three hours credit.*

Prerequisite, Enrollment in POC. A study of management principles, functions, tools, practices, and controls. The course also includes material to help the cadet make a rapid and effective adjustment to active duty as an officer of the United States Air Force. A major goal is the strengthening of communicative skills.

263. FLIGHT INSTRUCTION. *Three hours credit.*

This course is designed to meet the ground school requirements for a private pilot license. Includes the study of Federal Aviation regulations, meteorology, aerial navigation, radio procedures, flight computer and flying safety practices.

DIVISION OF THE ARTS

Dr. Kenneth F. Perry, Chairman

Department of Fine Arts

Mr. John I. Mariani, Chairman

Professors: Ball, Mariani.

Associate Professors: W. Green, Leacock.

Assistant Professors: D. Johnson, Schumacher

Instructors: Blubaugh, Cordiner, O. Green, Hutchinson, Settje.

Description of Courses

1. DRAWING. *Three hours credit.*

A foundation course open to anyone who wishes to learn to draw. Visual training, technical procedures, the essentials of perspective. Media; chiefly charcoal and pencil.

7. ELEMENTARY EARTHENWARE. *Two hours credit.*

The creative application of pottery to a grade school or junior high school art teaching situation with few, if any, existing facilities.

11. INTRODUCTION TO DESIGN. *Five hours credit.*

A study of the basic elements of design and the techniques of organization. Creative projects in abstract and applied fields.

12. ELEMENTARY CRAFTS DESIGN. *Two hours credit.*

A beginning course in constructing three dimensional form. Emphasis will be on approaches and techniques of simple forms suitable for use in the elementary school program.

13. LETTERING. *Two hours credit.*

The basic letter forms and useful variants. A study of layout and design. The course includes work in manuscript, showcard and poster.

17. INTRODUCTION TO POTTERY. *Three hours credit.*

A beginning course in the design and construction of handbuilt clay objects with emphasis on a fundamental knowledge of clay, glazes, and firing.

23. POSTER DESIGN AND PRODUCTION. *Two hours credit.*

A series of laboratory visual experiments organized to aid the student in manipulating materials and originating effective visual patterns for the purpose of advertising events, mass-producing notices and organizing bulletin boards for efficient display purposes.

50. FIGURE CONSTRUCTION. *Three hours credit.*

Prerequisite, FA 1. The study of the human figure, its essential anatomy and construction. The figure as an important motif in design and composition. Study from life.

51. INTRODUCTION TO COLOR. *Three hours credit.*

Color study developed from various theories and its particular application in design and pictorial organization.

53. MATTING, FRAMING AND DISPLAY. *Two hours credit.*

Different methods of matting watercolors, prints and reproductions. Making and treating frames, fashioning of inserts, color schemes and the best methods of displaying and pricing different styles and types of paintings.

54. DRAWING AND PAINTING TECHNIQUES. *Three hours credit.*

Techniques in drawing and several areas of painting with a variety of media.

58. INTRODUCTION TO SCULPTURE. *Three hours credit.*

Basic technology of sculpture, clay and plaster modeling, and simple mold-making. Elements of three-dimensional design related to sculpture problems with emphasis on a concept of sculptural form.

100. WEAVING. *Three hours credit.*

A study of the basic fundamentals of threading and weaving on two and four harness looms; emphasis on plain and pattern weaving.

101. PHILOSOPHY OF ART EDUCATION. *Two hours credit.*

The philosophy of art education in American schools and art as an integral part of the education of the citizens of a democracy.

103. INTRODUCTION TO WATERCOLOR PAINTING. *Two hours credit.*
Prerequisite, FA 1. A beginning course in watercolor painting.**104. COMMERCIAL DESIGN AND POSTER.** *Two hours credit.*

A study of the commercial arts and their place in the art program in the high school. Emphasis will be directed toward the development of techniques in advertising layout, package design, poster design and illustration. Commercial processes of reproduction and printing will also be introduced.

105. COLOR THEORY. *Three hours credit.*

Prerequisite, FA 11. A study of color relationships and organizational principles pertinent to the color unit.

108. CLAY MODELING *Two hours credit.*

The theory and techniques of modeling and casting.

111. ADVANCED DESIGN. *Five hours credit.*

Prerequisite, FA 11. Experiences organized to help the student in his intellectual and visual understanding of three-dimensional art. Experiences will be built around problems involving bas-relief, volumetric constructions and space experiments.

116. CRAFT PROCESSES AND DESIGN. *Five hours credit.*

Prerequisite, FA 11. Creative expression with a variety of media in sculpture, textiles, carving, modeling, metals, and construction.

117. POTTERY. *Three hours credit.*

Prerequisite, FA 17. The study of glazes and firing with gas and electric kilns and beginning throwing on the potter's wheel.

120. INTRODUCTION TO OIL PAINTING. *Three hours credit.*

Prerequisite, FA 1. A beginning course in oil painting.

123. ART EDUCATION FOR THE SECONDARY SCHOOL. *Three hours credit.*

A study of the relationship of art activities to the school program of general education.

124. ELEMENTARY ART. *Three hours credit.*

Organization of art units at the various grade levels and practical creative experience in a wide variety of media. To be taken concurrently with FA 125.

125. METHODS OF TEACHING ART IN THE ELEMENTARY SCHOOL. *Two hours credit.*

Methods of teaching art at the elementary school level with emphasis on teaching techniques, procedures, materials and evaluation. To be taken concurrently with FA 124.

126. INSTRUCTIONAL TECHNIQUES IN ART EDUCATION. *Three hours credit.*

Orientation to problems of teaching and teacher preparation in art for the elementary school. This course is to give the prospective teacher the objectives, philosophy, psychology and methods necessary for the teaching of art at various grade levels.

127. CRAFT TECHNIQUES. *Three hours credit.*

Construction and basic techniques in a variety of craft processes, including puppets, paper mache, stitchery, silk screen, clay, weaving, soap sculpture, scrap craft.

135. LIFE DRAWING. *Two hours credit.*

Prerequisite, FA 1. Opportunity to draw from the human figure.

200. TECHNIQUES OF CREATIVE WEAVING. *Three hours credit.*

Prerequisite, FA 100. A study of the problems and various processes of weaving. Emphasis on original designing of patterns for color and texture.

203. WATERCOLOR PAINTING. *Five hours credit.*

Prerequisites, FA 1 and 103. This course seeks to develop individual expression in creative painting and technical mastery of the medium.

204. FIGURE AND COMPOSITION. *Three hours credit.*

Prerequisite, FA 50. An advanced study of the human figure in composition. Creative work in a variety of media.

205. MONOPRINTS. *Two hours credit.*

This course provides an initial experience in an expressive use of oils as a graphic transfer technique.

208. SCULPTURE. *Three hours credit.*

The theory and techniques of sculpture, with a study of the processes. Creative work in a choice of plastic media.

209. PRINT MAKING. *Three hours credit.*

A study of print processes: etching, dry-point, lithograph, stencil, woodcut and block printing. Experience is offered in the making of prints and the adaptation of print making to secondary school uses.

212. PROBLEMS IN DESIGN. *Three hours credit.*

Prerequisite, FA 11. A study of the techniques of organization of the design variables. Opportunity for individual growth in solving design problems in areas of student's choice.

216. CREATIVE JEWELRY. *Four hours credit.*

An experimental approach to the problem of contemporary silver jewelry, including the exploration of combining wood, bone, stones, and enameling.

217. POTTERY: ADVANCED THROWING. *Three hours credit.*

Prerequisite, FA 17, 117. Advanced throwing techniques on the potter's wheel. Individual competence and craftsmanship stressed in this phase of the potter's craft.

219. THE SILK SCREEN PROCESS. *Three hours credit.*

Various methods and techniques in the graphic processes of silk screening. Applied problems in all the processes with emphasis on blockout, paper stencil, film, touche, serigraphy, and textiles.

220. OIL PAINTING. *Five hours credit.*

Prerequisite, FA 120. This course seeks to develop individual expression in creative painting and technical mastery of the medium.

221. ART HISTORY I. *Three hours credit.*

A study of the development of art from prehistoric times to and including the Gothic Age.

222. ART HISTORY II. *Five hours credit.*

A study of the development of art from the Renaissance to the present day.

223. SURVEY OF ART. *Five hours credit.*

The important arts of the world studied toward understanding and appreciating the forms produced by man from the dawn of pre-history through all important eras of art development. Emphasis is placed on contemporary trends in the arts which dictate the appearance of the world around us today.

225. FIGURE PAINTING. *Four hours credit.*

Prerequisite, FA 120. Painting in oils from the human figure.

227. GLAZE FORMULATION. *Three hours credit.*

Prerequisites, FA 17, 117. An exploration of ceramic glazes as related to their use in a pottery studio or public school classroom.

228. SEMINAR IN SECONDARY ART. *Two hours credit.*

A survey and demonstration of new ideas in art techniques and materials essential to a secondary school art program. Student participation in selected areas.

230. SEMINAR IN ELEMENTARY ART. *Two hours credit.*

This course is designed to give the graduate student a philosophy of art education; an understanding of and an opportunity to participate in the essential art activities for the elementary school; to develop his interest and enthusiasm for the teaching of art. Emphasis is given to the creative approach and the integration of the art activities with the entire school program.

232. CONTEMPORARY OIL PAINTING. *Five hours credit.*

Prerequisite, FA 120. This course is designed to give the student more time and experience in a search for his own personal expression through the medium of oil paint.

233. MIXED MEDIA PAINTING. *Five hours credit.*

This course provides new experiences in the development of new techniques in individual creative expression.

240. ART IN THE 7TH, 8TH, AND 9TH GRADES. *Five hours credit.*

A study of the problems and techniques in art at the junior high school level, with emphasis on objectives, philosophy, and the actual experiments in the areas of drawing, painting, design, graphic arts, and crafts.

301. SUPERVISION OF ART. *Three hours credit.*

An exploration of the expanding role of art education in the total school program and a critical study of the role of the art supervisor and supervisory techniques.

302. TRENDS IN ART EDUCATION. *Two hours credit.*

An appraisal of the various points of view in art education and a comprehensive study of the current literature dealing with methods, media and techniques.

303. ADVANCED WATERCOLOR PAINTING. *Two hours credit.*

Prerequisite, FA 203. A study of recent developments in watercolor painting with emphasis on new techniques and mixed media.

304. SEMINAR IN ART EDUCATION. *Two hours credit.*

This seminar will be directed toward problems of teaching and supervision of art education in the high school. The scope of the course will remain flexible to enable the student to pursue the areas of his greatest need.

305. ADVANCED COLOR THEORY. *Four hours credit.*

Prerequisite, FA 105. An intensive study of creative color composition.

315. CRAFT TRENDS IN THE SECONDARY SCHOOL. *Two hours credit.*

Research and creative expression in the new trends in craft processes for the secondary level. Emphasis on new construction materials and textile techniques.

316. CRAFTS FOR THE SECONDARY SCHOOLS. *Three hours credit.*

A study of design and artcrafts adapted to secondary school levels.

317. CERAMICS. *Three hours credit.*

Prerequisite, FA 17, 117, 217. Practical studio studies and experience on the graduate level in glazes, clay bodies, firing with gas and electric kilns, and related phases of pottery.

319. SERIGRAPHY. *Two hours credit.*

Prerequisite, FA 219 or 116. A study and production of the techniques of making original art prints through the silk screen process.

320. ADVANCED OIL PAINTING. *Two hours credit.*

An examination of the latest technical trends and philosophies in oil painting and exploratory and experimental projects in these fields.

324. CREATIVE ACTIVITIES IN THE ELEMENTARY SCHOOL. *Three hours credit.*

Research and creative experience in the various art activities of the elementary school art education program.

327. CRAFT ACTIVITIES FOR THE ELEMENTARY SCHOOL. *Three hours credit.*

Experimentation and exploration of the recent trends and techniques of craft work suited to the elementary school classroom.

328. THE CURRICULUM IN ART EDUCATION. *Three hours credit.*
A review of the best literature on the content and organization of the curriculum in general education, and the professional literature in art education. Analysis and evaluation of course of study, the building of curriculums and significant units for teaching art.

335. ADVANCED LIFE DRAWING. *Two hours credit.*
Many types of drawing techniques and a variety of materials are used to further the student's basic skills and the development of visualization by drawing from the human figure.

336. ADVANCED DRAWING. *Three hours credit.*
Advanced problems and research in drawing, with emphasis on individual needs and enrichment. Course includes techniques in various media.

Department of Home Economics

Dr. Myrtle Bailey, Chairman

Associate Professor: Hall.

Assistant Professors: Bailey, Burns, Funderburk.

Instructors: Cadigan, Grable, Long, Nye, Reeves, Taylor.

Description of Courses

70. CLOTHING SELECTION. *Two hours credit.*
A study of the factors which influence one's personality: posture, grooming, the application of art principles to clothing selection for figure and facial types, appropriate accessories and care of clothing.

71. TEXTILE FUNDAMENTALS. *Three hours credit.*
A basic study of natural and man-made fibers, with their properties and uses. Yarn construction and modern methods of texturizing yarns are included, with emphasis on the newer finishes for old and new fabrics.

72. ELEMENTARY CLOTHING CONSTRUCTION. *Three hours credit.*
(One hour lecture, four hours laboratory.)
Basic principles used in garment construction applied through actual construction of garments. Common fitting problems are studied.

77. FAMILY MEAL COOKERY AND SERVICE. *Four hours credit.* *(Two hours lecture, four hours laboratory.)*
Prerequisite, CHEM 40. A study of the fundamental processes of cookery. Basic principles of nutrition and meal planning are used in the preparation and serving of family meals.

81. ART IN HOME LIVING. *Two hours credit.*
Course is designed to develop an appreciation and understanding of color and the other art elements of design with the application of art principles or guides to personal and home living. Students are encouraged to use creative ideas in solving art problems. Opportunities provided to improve aesthetic judgment in making everyday selections.

94. ELEMENTARY COOKERY AND FOOD SERVICE. *Four hours credit.*
(Two hours lecture, four hours laboratory.)
Non-majors. This is a non-technical course in food preparation planned for men or women students desiring more knowledge of the fundamental processes of cookery and food marketing. Simple meals and party refreshments will be planned, prepared and served.

98. BASIC NUTRITION. *Three hours credit.*
Enables students to select food suited to their needs in the light of the newer

knowledge of nutrition and individual physical fitness. A study of the use of food nutrients in the body.

173. INTERMEDIATE CLOTHING CONSTRUCTION. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 70, 71, 72. A costume of the latest fabrics is constructed using the method appropriate to the pattern and fabric.

178. PRINCIPLES OF FOOD PREPARATION. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, CHEM 40 and HEC 77. Emphasis is given to principles of cooking involved in more difficult food preparation. Laboratory work is planned to show the relationship between scientific principles and cookery processes. Food products are evaluated.

180. FAMILY RELATIONSHIPS. *Three hours credit.*

The relationship of the individual to his human contacts and the establishment of the successful American home are studied.

183. HOME NURSING. *Two hours credit.*

The chief purpose of this course is to develop the ability to give a simple type of nursing care to a member of the family who is ill, injured, or helpless because of age or infirmity. The principles involved in nursing procedures are stressed, the procedures demonstrated and the students are required to practice on each other.

188. COSTUME DESIGN—FLAT PATTERN. *Three hours credit. (One hour lecture, four hours laboratory.)*

Prerequisites, HEC 72, 173. Some basic problems are presented in flat pattern making. A personal master pattern is developed for each student. Creative problems are planned to develop skill in the application of art principles to costume.

191. MANAGEMENT IN FAMILY LIVING. *Three hours credit.*

A study of management in relation to successful home living. Family values, goals, decision making, managerial responsibilities, principles and techniques used in managing time, energy and money are stressed.

199. PRESERVATION OF FOOD. *Two hours credit. (One hour lecture, two hours laboratory.)*

Prerequisites, HEC 77, 178. Discussions and laboratory practice in home methods of food preservation by the waterbath, pressure cooker, and quick freeze techniques. Jellies, jams, and relishes are prepared. Study of commercial methods of food preservation.

203. DEVELOPMENT AND GUIDANCE OF THE YOUNG CHILD. *Three hours credit. (Two hours lecture, two hours laboratory.)*

The physical, emotional and social growth processes as they apply in understanding the total development of the pre-school years with appropriate guidance procedures emphasized. The functions, techniques and physical setting of the pre-school are studied.

209. NEW TRENDS IN NUTRITION. *Three hours credit.*

A detailed study of the value of carbohydrates, fats, proteins, minerals and vitamins in human nutrition. A comprehensive study of nutrition problems in health education. Food as an aid to positive health is stressed. A study of the food needs of growing children in the elementary and secondary school is made.

219. INFANT AND CHILD CARE. *Four hours credit. (Three hours lecture, two hours laboratory.)*

A study of growth patterns from conception through infancy and the third year. Includes prenatal and postnatal factors influencing early development; guidance and provision for care, and the responsibilities of adults for providing a favorable home environment; the effect of these factors on later years. Observation of and participation in the nursery school.

222. PROBLEMS IN HOME ECONOMICS. *Three hours credit.*

A study of current trends and problems in selected areas: Nutrition and family meals; management of family resources; child development; and housing the family. Consideration of present conditions and corresponding problems in managing the family resources.

240. PARENT EDUCATION. *Three hours credit.*

This course deals with relationships of parents and children: resources for meeting problems with emphasis on discussion as a method.

243. ART IN CONTEMPORARY LIVING. *Three hours credit.*

A consideration of art principles in the selection of well-designed clothing for the individual man or woman, selection and arrangement of well-designed furnishings suitable to the modest home, selection of attractive food dishes and centerpieces.

244. PERSONAL IMPROVEMENT FOR THE TEACHER. *Three hours credit.*

A workshop in the personal improvement of the teacher. Emphasis will be given to the problems of the individual. Techniques for the development of positive mental health, expressive personality traits and attractive personal appearance will be stressed.

255. CONSUMER PROBLEMS OF THE FAMILY. *Three hours credit.*

This course is designed to give college students a background of practical information and the applications concerning consumer and financial problems of the family.

261. PARTICIPATION IN PRE-SCHOOL. *Three hours credit. (Six hours laboratory per week.)*

Prerequisite, HEC 203. Experience with children in the pre-school situation supplemented by readings, films and discussions. Emphasis on child growth through children's interests and activities.

264. WORKSHOP IN PRE-SCHOOL. *Three hours credit. (Six hours laboratory per week.)*

Prerequisite, HEC 203. Sources and uses of play equipment for large and fine coordinations, for dramatic play and for the materials used in musical and creative development in the pre-school are studied. The laboratory sessions give students practical application of these uses as they apply to the child's needs.

265. THE FAMILY. *Three hours credit.*

A study of the family in present day America. Considers functions of the family and forces affecting it; variations in family values and practices; roles, adjustments, relations and problems of adult and child members. Designed for teachers of adolescents and adults.

267. IMPROVEMENT OF INSTRUCTION IN HOME ECONOMICS. *Four hours credit.*

This course is planned primarily for advanced students who wish to improve their competence in teaching home economics in junior and senior high.

268. FAMILY HOUSING. *Two hours credit.*

A study of housing as it relates to family living. Students learn basic principles and acquire information needed for solving housing problems of typical family groups. Students consider the financing of housing, family needs, and procedures in buying, renting, and building. Plans are made for building and remodeling family housing units.

274. EQUIPMENT SELECTION AND MAINTENANCE. *Four hours credit.*

Through individual reports, projects, field trips, demonstrations, and classroom discussions, a body of knowledge and criteria are developed by which equipment and utensil may be evaluated. Basic scientific principles of heat, mechanics, electricity, and light are studied.

275. HOME FURNISHINGS. *Three hours credit.*

A study of the application of art principles to the selection of furnishings for homes of various types. Emphasis is given to the importance of considering the needs and resources of the family for intelligent choice, arrangement and care of furnishings.

277. NUTRITION AND THE SCHOOL LUNCH PROGRAM. *Three hours credit.*

A study of the school lunch program, its organization and management, its effect on the food habits and nutritional state of the elementary and secondary school pupil, and its place as an integral part of the total school program. A review of the nutrition needs of the growing child will be made.

278. ADVANCED NUTRITION. *Three hours credit.*

Prerequisite, HEC 98. A review of the fundamentals of human nutrition is made. Emphasis given to recent development in human nutrition. Application of principles of nutrition to community, state, national and world problems and needs. Readings and reports from current literature.

279. PRESERVATION OF FOOD I. *Two hours credit. (One hour lecture, two hours laboratory.)*

The principles of making jellies, jams, pickles and relishes are studied. Products are made. Problems of deep freezing foods are discussed. The purchase and care of the home freezer are included.

280. PRESERVATION OF FOOD II. *Two hours credit. (One hour lecture, two hours laboratory.)*

Open kettle, water bath, pressure cooker, quick freeze methods of food preservation are discussed and home methods of these types of food preservation are practiced in the laboratory.

282. NUTRITION IN DISEASE. *Three hours credit.*

Prerequisite, HEC 98. A study of the fundamental principles involved in the treatment of disease through diet. Emphasis is given to modification of normal diet.

284. DEMONSTRATION TECHNIQUES. *Two hours credit.*

Prerequisites, HEC 72, 77. Practice in the techniques of demonstrating before audiences. All phases of the Home Economics field will be used to furnish types of demonstrations.

285. EXPERIMENTAL COOKERY. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisites, HEC 77, 78. An opportunity to determine the effects of temperature, time, and different manipulations on foods. Commercial products and tested and compared with home methods of preparation.

286. QUANTITY COOKERY. *Four hours credit. (Three hours lecture, two hours laboratory.)*

Prerequisites, HEC 77, 78, 98. Meal planning, techniques of food buying and application of cookery principles to large quantity food service. The facilities of student dining halls and the school lunch program are used as practice laboratories.

287. INSTITUTIONAL MANAGEMENT. *Five hours credit. (Four hours lecture, two hours laboratory.)*

The organization and management of various types of institutions. Specific emphasis is given to problems of personnel, the physical plant, and efficient work schedules. The food-service areas of various types of institutions are selected for study.

288. CREATIVE PROBLEMS IN DRESS DESIGN. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 70, 72, 173. Basic problems in draping on dress forms and in the drafting of flat patterns. Opportunity is provided for creative designs for different figure types in a variety of textured fabrics. Some consideration is given also to the design of simple decorative details and appropriate accessories.

290. APPLIED HOME FURNISHINGS. *Three hours credit. (One hour lecture, four hours laboratory.)*

This course includes various projects which will give students experience in the application of art principles to interior decorations. Individual and/or class projects such as the construction of draperies, bedspreads and slipcovers.

291. MANAGING FAMILY RESOURCES. *Three hours credit.*

A study of the management of human and material resources in achieving family goals. Work simplification, efficient planning and management of family finances are studied in detail.

293. ADULT EDUCATION IN HOMEMAKING. *Three hours credit.*

A study of the philosophy of adult education, procedures used in promoting and organizing adult programs, and techniques used in teaching adults.

- 294. INSTRUCTIONAL AIDS IN HOME ECONOMICS.** *Four hours credit.* Students develop and use criteria in evaluating teaching materials and aids. Selecting organizing, and storing of aids are included. Visual aids and devices used in teaching various phases of homemaking are planned and prepared. Printed materials are evaluated.
- 295. TAILORING.** *Four hours credit. (Two hours lecture, four hours laboratory.)* Prerequisites, HEC 72, 173. Opportunity for developing skill is presented in the construction of custom tailored suits and coats.
- 298. MEAL PLANNING AND SERVICE.** *Four hours credit. (Two hours lecture, four hours laboratory.)* Prerequisites, HEC 77, 178, CHEM 40. Individual planning and purchasing of food. Gracious serving of meals on three income levels involving time and energy management. The study of linens, china, glass, and silverware; their purchase and care.
- 299. HOME MANAGEMENT RESIDENCE.** *Three hours credit.* Prerequisites, HEC 77, 178, 191, 298. Students live in the Margaret Roudebush Home Management House where they put into practice desirable standards of home living.
- 301. SUPERVISION OF STUDENT TEACHING IN HOME ECONOMICS.** *Three hours credit.* The qualifications, objectives and responsibilities of the supervising teacher are analyzed. Supervision techniques and the evaluation of the development of the student teacher are stressed.
- 302. TEACHING PROBLEMS IN HOMEMAKING.** *Four hours credit.* Modern trends in homemaking education will be evaluated. Problems of the individual teacher are studied and assistance is given her in working out practical solutions. Common problems are considered by the entire group.
- 303. CURRICULUM IN HOMEMAKING.** *Four hours credit.* This course helps teachers improve their ability to plan functional programs in homemaking and to solve other curriculum problems. Implications of social and economic conditions, research findings, trends in education and current issues are determined. Modern developments of program planning are studied. Students have experience in curriculum planning.
- 304. EVALUATION IN HOMEMAKING EDUCATION.** *Four hours credit.* A study of principles and procedures in appraising student achievement of educational goals. Emphasis on evaluation as an integral part of the teaching and learning process. Experience provided in developing procedures and instruments for use in teaching situations.
- 306. HISTORY OF COSTUME.** *Three hours credit.* A study of the development of the costume through the ages and its influence on the designs of present day clothing. The development of costumes in the couturier houses of Europe and America is considered.
- 307. CLOTHING ECONOMICS.** *Three hours credit.* A study of family and individual clothing problems: standardization, labeling, consumer protection, recent textile developments, consumer purchasing surveys, custom and wholesale production comparisons. The relation of fashion to manufacturing and consumption of clothing.
- 371. ADVANCED TEXTILES,** *Three hours credit.* Prerequisite, HEC 71. A study of recent textile developments. Problems of individual interest are considered. A study of Oriental, European, English and American textiles, the synthetic fibers and recent developments in textiles.
- 372. TECHNIQUES OF TEXTILE RESEARCH.** *Four hours credit.* This course affords the student the opportunity of carrying out some visual and manual experiments that will correlate the fundamental facts and concepts of textile fibers with their behavior in use and care, and to assist her in applying this knowledge to herself as a teacher and as a consumer.

376. PROBLEMS IN CLOTHING CONSTRUCTION. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisites. HEC 72, 173. This course is planned for graduate students with a background of knowledge of the fundamentals of clothing construction. Opportunity will be presented to develop greater skill in construction processes, fitting techniques, and alteration of ready-to-wear.

385. RESEARCH IN FOODS. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisites, HEC 77, 178, CHEM 40. A study of the recent findings in food research. Opportunity is given for individual investigation in various problems of food preparation. Valid techniques of experimentation are stressed.

386. PRINCIPLES AND TECHNIQUES OF COOKERY. *Four hours credit. (Three hours lecture, two hours laboratory.)*

A study of the scientific principles which are basic to protein, fat and carbohydrate cookery. The principles involved in hydration, crystalization, leavening, emulsions and other cookery problems will be included. The relationships between techniques of food preparation and principles involved will be stressed.

387. FOOD ECONOMICS. *Three hours credit.*

A study of family and world food problems: the influence of food on world conditions, work of the Food and Agriculture Organization of the United Nations (FAO), problems of food production, marketing, consumer practices and consumer protection in the United States, the cost of meeting nutrition needs of the American family.

389. ADVANCED CLOTHING CONSTRUCTION. *Three hours credit. (Two hours lecture, two hours laboratory.)*

Prerequisites, HEC 72, 173, 188. Individual patterns designed from the basic block made in HEC 188 or HEC 288 are used in constructing garments. Fitting problems and construction techniques of the entire class will be used to provide a breadth of learning experiences. This will provide the student opportunities to develop more knowledge and skills in these areas of clothing construction.

396. DRESS DESIGN IN DRAPING. *Four hours credit. (Two hours lecture, four hours laboratory.)*

Prerequisite, HEC 188. Creative experiences in dress design through draping fabric on a form which the student makes to her own measurements. Basic problems in draping construction are emphasized. One original garment is completed.

398. FAMILY MEAL MANAGEMENT. *Four hours credit. (Two hours lecture, four hours laboratory.)*

An intensified survey of basic concepts related to food study. Aesthetic, economic and scientific aspects of food selection, preparation and service as it applies to the home.

Department of Industrial Arts

Dr. David Jelden, Chairman

Professors: Erwin, F. M. Johnson, Perry.

Associate Professors: Hammond, Jelden, Lubbers, D. Olson.

Assistant Professor: H. Collins.

Instructor: Kruger.

Description of Courses

NOTE: All laboratory type courses in Industrial Arts require an additional one hour laboratory per credit hour of course.

6. FREEHAND DRAFTING AND DESIGN. *Three hours credit.*

The principles of design and freehand drawing as related to materials, construction techniques, and their application to industrial arts problems.

41. GRAPHIC ARTS FUNDAMENTALS. *Three hours credit.*

Experience with the fundamental operations used in school graphic arts shops. Information about tools, machines, and materials.

50. BENCH WOODWORK. *Three hours credit.*

Development of basic skills in the use of hand tools and materials for the wood shop. Emphasis is on the study of wood characteristics, orderly procedures, safe working practices, and care of hand tools.

61. PRINCIPLES OF DRAFTING. *Three hours credit.*

Lettering, freehand sketching, geometric construction, orthographic projection, sectional views, and dimensioning in drafting.

70. INTRODUCTION TO GENERAL METAL. *Three hours credit.*

Basic shop procedures, objectives, and relationship to other types of work in metal. Emphasis on elementary bench metal, sheet metal, and forge practice.

71. ART METAL AND METAL SPINNING. *Three hours credit.*

Elementary course in art metal work including bowl and tray construction, etching, pierce work, soft and hard soldering, planishing and finishing of copper and aluminum.

72. GAS AND ELECTRIC WELDING. *Two hours credit.*

An introductory course in the field of gas and electric welding. Fabrication of projects to apply these processes.

80. GENERAL ELECTRICITY. *Three hours credit.*

Elementary principles of electricity that are applicable to projects in the junior and senior high schools. Emphasis placed on magnetism, production of electricity, transformers, induction, capacitance, and resonant circuits.

90. INTRODUCTION TO POWER. *Two hours credit.*

A study of energy sources and the machines that convert energy into useful work. Emphasis given to broad overview of entire field of power and its importance to technology.

110. GENERAL BOOKBINDING. *Three hours credit.*

Development of basic skills in hand bookbinding applicable to elementary or junior high school arts programs.

111. BOOKBINDING. *Two hours credit.*

Hand binding with limited home-made equipment. Types of bindings and bookcrafts for unit or general industrial arts shops.

112. ADVANCED BOOKBINDING. *Three hours credit.*

Magazine binding in heavy buckram or leather, including appropriate sewing in terms of the use of books.

115. GENERAL CRAFTS. *Five hours credit.*

Design, construction, and demonstration in crafts with simple tools and inexpensive materials, including experience in block printing, bookbinding, braiding and weaving, chip carving, copper enameling, leather, metal tooling, mosaic, plastics, silk screening, and woodcrafts.

116. GENERAL LEATHERCRAFT. *Three hours credit.*

Development of design, tooling and carving skills for application in the unit or general shop.

117. LEATHERCRAFT. *Two hours credit.*

Design and development of tools, leather projects, techniques for industrial arts programs, camp activities, and recreation programs.

118. GENERAL PLASTICS. *Three hours credit.*

Introduction to the use of synthetics for the unit or general shop programs in junior high or senior high schools.

119. PLASTICS. *Two hours credit.*

Design and construction techniques in fiberglass and laminated plastics for the arts unit or general shop.

141. GRAPHIC ARTS. *Two hours credit.*

The relationship of the processes used in school graphic arts shops to industry. Consumer information is developed and occupational opportunities are explored.

142. PHOTOGRAPHY. *Three hours credit.*

Fundamentals of camera, lens, photographic materials, and processing. Photography as a means of communication through picture planning and practical photography.

145. PUBLICATION PRODUCTION. *Five hours credit.*

A study of printing as it relates to the field of journalism. The basic areas covered will be news photography, layout and design, and production. Time will be spent on practical applications of each of the three areas.

150. WOODWORKING TECHNOLOGY. *Five hours credit.*

The study of woods, materials, and equipment related to the woodworking area. Laboratory emphasis is on woodworking tools and machines.

153. FURNITURE AND CABINET MAKING. *Three hours credit.*

Design and construction of period and modern furniture, study of production methods of industry, upholstery, and woodfinishing.

154. WOODFINISHING. *Two hours credit.*

Prerequisite, IA 150. Techniques and processes in woodfinishing. Experience with traditional and new types of materials. A study of the needs of public school shops in this area of work.

155. EQUIPMENT AND MAINTENANCE PROBLEMS IN WOOD. *Three hours credit.*

Prerequisite, IA 150. Upkeep and repair of woodworking tools and machines. Selection and purchase of woodworking tools, machines and supplies for a school shop.

156. UPHOLSTERY. *Two hours credit.*

Techniques and processes in the various types of upholstery for all grade levels.

157. WOODTURNING. *Two hours credit.*

Basic skills and related techniques in faceplate and spindle woodturning.

161. PICTORIAL DRAFTING. *Two hours credit.*

Object description and pictorial drawing. Emphasis is on inking, auxiliary views, isometric, dimetric, trimetric, oblique, cabinet, and perspective drawings.

162. WORKING DRAWINGS. *Three hours credit.*

Course deals with revolutions, detail drawings, assembly drawings, piping drawings, electronic drawings, welding drawings, and simple duplicating processes such as diazo, ozalid, blueprinting, and xerography.

163. SHEET METAL DRAFTING. *Two hours credit.*

Intersections and development of flat surfaces to three-dimensional objects. Emphasis placed on intersections of planes and surfaces and layout techniques.

173. JEWELRY DESIGN AND CONSTRUCTION. *Two hours credit.*

An introduction to the basic processes of jewelry construction including silver soldering, sawing, filing, ring construction, simple silversmithing and setting stones.

174. MACHINE LATHE OPERATION. *Two hours credit.*

An introductory unit concerned with the basic operations performed on a machine lathe including straight and taper turning and thread cutting.

181. ELECTRICAL MECHANICAL EQUIPMENT. *Two hours credit.*

Prerequisite, IA 80. Advanced principles of electricity that are applicable to projects in the junior and senior high schools and construction of such projects. Emphasis placed on motors, generators, electrical wiring, and electrical measuring devices.

191. INTERNAL COMBUSTION RECIPROCATING ENGINES. *Three hours credit.*

A study of two-cycle and four-cycle reciprocating engines. Emphasis placed on principles of operation, systems of basic engines, such as ignition (spark and compression), cooling, fuel, lubricating, and electrical.

211. PROBLEMS IN BINDERY ORGANIZATION. *Three hours credit.*

Organization of a bindery relating to the library, classroom, and as a general shop unit. Development of courses to meet individual needs.

216. DESIGN PROBLEMS IN LEATHER. *Two hours credit.*

Techniques in the designing and construction of leather-craft projects for the junior and senior high school unit or general shop.

217. ADVANCED LEATHERCRAFT. *Three hours credit.*

Prerequisite, IA 216. Organization, teaching problems, and advanced techniques in leathercraft. Development of course material suitable to a unit or general shop.

218. DESIGN PROBLEMS IN SYNTHETIC MATERIALS. *Two hours credit.*

Design and techniques of construction in the area of synthetic craft materials. Development of course units suitable to a unit or general shop on the junior or senior high school level.

219. ADVANCED PLASTICS. *Three hours credit.*

Advanced techniques and problems in the field of plastics. Fabrication design and construction of projects in the area of synthetic craft materials for a unit or general shop. Development of course materials suitable to a unit or general shop.

220. COURSE ORGANIZATION IN INDUSTRIAL ARTS. *Three hours credit.*

Criteria underlying the organization of a course of study in industrial arts. Techniques by which courses are developed or revised. Each student prepares a course of study in the field of his interest.

232. IMPROVEMENT OF INSTRUCTION IN THE ARTS. *Three hours credit.*

An analysis of current difficulties and weaknesses in teaching the arts. Curriculum problems, objectives, methods and administration and community pressures are studied.

233. MATERIALS OF INDUSTRY. *Three hours credit.*

A study of the origin of the materials used in industrial arts classes and processes involved in the manufacture of each material. Ways of presenting the related information and consumer knowledge of each material are considered.

234. TEACHING THE INDUSTRIAL ARTS. *Three hours credit.*

Problems in planning industrial arts courses. Philosophy, objectives, evaluation, and school shop organization are considered.

235. HISTORY AND PHILOSOPHY OF INDUSTRIAL ARTS. *Three hours credit.*

A basic understanding of the history of industrial arts, with emphasis on developing an individual philosophy. A study of the conflicts and relationship of philosophy to actual practice in a functional program of industrial arts.

236. PRINCIPLES OF GENERAL SHOP ORGANIZATION. *Three hours credit.*

The purpose and philosophy underlying the organization of general shops. Types of shops, problems of administration, cost, criteria for selecting areas of study and evaluation are considered.

238. CURRENT THEORY AND PRACTICE IN THE ARTS. *Three hours credit.*

Current controversial issues which confront the teacher of the arts. Problems of standardization, laboratory organization, administrative and community attitudes, and correlation with other departments.

240. GRAPHIC ARTS DESIGN AND LAYOUT. *Three hours credit.*

A study of the origin, development and application of the principles of design in the field of typography. Special emphasis is on the selection and use of type and illustrations for printing layout.

241. COPY PREPARATION AND CAMERA PROCEDURES. *Three hours credit.*

Copy preparation for all the printing processes. Use of hot, cold, and photo type. Paste up procedures, camera techniques, and press production.

242. COLOR SEPARATION FOR PHOTOMECHANICAL REPRODUCTION. *Three hours credit.*

Fundamentals of subtractive color theory as used in separating color copy. Handling of transparent and reflection copy. Special proofing, plate making and press operation.

243. THEORY AND PRACTICE IN OFFSET LITHOGRAPHY. *Three hours credit.*

This course will include copy preparation, camera and darkroom work, stripping and opaquing, plate making and offset press operation.

250. CONTEMPORARY FURNITURE DESIGN AND FABRICATION. *Three hours credit.*

A brief introduction of recognized periods of furniture design leading to the present concept of functionalism and the techniques of applying contemporary design.

254. ELEMENTARY SCHOOL INDUSTRIAL ARTS. *Three hours credit.*

Development of basic skills through elementary work in wood, metals, and other materials. Adaptation of work to classroom or small shops with limited equipment.

256. ADVANCED UPHOLSTERY. *Two hours credit.*

The use of special techniques and materials relating to upholstery. The study of upholstery and its place in the public school shop.

257. CONSTRUCTION PROBLEMS IN WOOD. *Three hours credit.*

A course for advanced woodworking students with special emphasis on construction problems relating to the building trades.

261. ARCHITECTURAL DRAWING. *Three hours credit.*

Course deals with the planning and drawing of a complete set of building plans with specifications. Emphasis placed on principles, practices, and techniques of house construction.

262. MACHINE DRAWING. *Three hours credit.*

Principles of designing machines. Materials, processes and procedures will be discussed. Such areas as limit and tolerance dimensions, types of fits, screw threads and fasteners, and cam and gear drawing are included.

264. INDUSTRIAL ARTS DESIGN. *Three hours credit.*

Principles of design as they apply to the several areas of industrial arts.

270. ADVANCED GENERAL METALWORK. *Three hours credit.*

An advanced course in bench metalwork, sheet metal work, forge and foundry work.

271. ADVANCED ART METAL. *Three hours credit.*

An advanced course in art metal and metal spinning including work in extreme raising, repousse, chasing, use of sectional chucks and other processes.

272. ADVANCED GAS AND ELECTRIC WELDING. *Three hours credit.*

Advanced course in oxyacetylene and electric welding which includes flat, horizontal, vertical, and overhead welding, cast iron welding, and the use of low temperature alloy rods. Consideration is given to principles of teaching, course content, welding supplies and the equipment suitable for the teaching of welding at the junior and senior high school level.

273. ADVANCED JEWELRY AND LAPIDARY WORK. *Three hours credit.*

This course is designed to give advanced work in jewelry construction and silversmithing with the student cutting and polishing his own setting as an introduction to lapidary work.

274. ADVANCED MACHINE TOOL OPERATION. *Two hours credit.*

An advanced course in machine tool operation concerned with the basic operations performed on the engine lathe, shaper, milling machine, surface grinder

and cylindrical grinder. Consideration is given to instructional techniques at the junior and senior high school levels.

275. ADVANCED MACHINE SHOP THEORY. *Three hours credit.*

Advanced course organization and practice for the secondary and junior college levels in machine tool operation, maintenance, construction specifications and machine shop theory.

281. PROBLEMS IN TEACHING GENERAL SHOP ELECTRICITY. *Three hours credit.*

An opportunity for teachers of industrial arts who have to include a "doing" course in electricity in their general shop program to develop such a unit. Selection of content and the development of projects to meet the objectives of the work. Laboratory organization and equipment problems are also considered.

282. MOTORS, GENERATORS, AND ELECTRICAL WIRING. *Two hours credit.*

Prerequisite, IA 281. A study of the fundamental types of DC and AC generators and motors used in electricity. Deals with construction, repair, and maintenance problems common to AC-DC motors and generators. Also discusses electrical wiring and devices used to measure electrical energy.

283. ELECTRONIC HARDWARE AND COMPONENTS. *Two hours credit.*

Prerequisite, IA 80. A study of the manufacture, application and function of electronic hardware and components used in industry. Vacuum tubes, transistors, coils, and capacitors are discussed.

284. ELECTRONIC CIRCUITRY. *Three hours credit.*

Prerequisite, IA 283. A study of the basic electronic circuits used in industry and some common applications of each. Such circuits as power supplies, amplifiers, oscillators, transmitters and receivers are considered.

285. BASIC RADIO (AM-FM). *Three hours credit.*

Prerequisite, IA 284. A study of the characteristics of the AM and FM radio and problems involved in servicing. The procedures, techniques, and problems of making and repairing printed circuits in electronic equipment are considered. Study of circuitry and alignment of AM-FM radio receivers and transmitters.

290. POWER FUNDAMENTALS. *Three hours credit.*

An advanced study of energy sources and the machines that convert into useful work. Emphasis placed on two-cycle and four-cycle engines and their principles of operation.

292. STEAM AND REACTION ENGINES. *Three hours credit.*

A study of the various steam engines and their generating plants. Course will include nuclear generator plants and steam turbine operation. Emphasis also placed on gas turbines, jets and rocket engines.

293. DIRECT ENERGY CONVERSION. *Two hours credit.*

A study of the means of direct energy conversion and the possible applications of such devices. Emphasis placed on thermionics, thermodynamics, solar and photo cell operation, fuel cell, nuclear, and other exotic power generating systems.

294. TRANSMISSION OF POWER. *Three hours credit.*

A study of the various methods of converting power into useful work. Study will include mechanical, hydraulic, and pneumatic transmission and the physical laws concerning this transmission. Emphasis will also be placed on mechanical drives, hydraulic and pneumatic circuits, pumps, valves, and other equipment used.

320. ORGANIZATION AND ADMINISTRATION OF INDUSTRIAL EDUCATION. *Three hours credit.*

A study of the purposes and programs of industrial education in secondary schools, including industrial arts and vocational-industrial education. Special emphasis on the program of vocational-industrial education as provided through the Smith-Hughes Act and other pieces of federal legislation.

330. ORGANIZATION AND ADMINISTRATION IN INDUSTRIAL ARTS. *Three hours credit.*

A course designed for teachers, supervisors and administrators of industrial arts. Emphasis placed on shop planning, teacher and school liability, shop organization and operation, accounting procedures, maintenance problems and purchase and replacement of equipment and supplies.

331. A CRITIQUE OF MODERN INDUSTRIAL ARTS. *Three hours credit.*

A course in which several instructors participate. Men of divergent points of view present and defend ideas of common interest to today's industrial arts teacher.

332. SEMINAR IN INDUSTRIAL ARTS. *Three hours credit.*

An opportunity for students doing independent research to report and receive criticism.

333. HISTORY OF INDUSTRIAL ARTS. *Four hours credit.*

A study of the origin, movements, and leaders responsible for theories and philosophies of industrial arts.

335. PHILOSOPHY OF INDUSTRIAL ARTS. *Three hours credit.*

A study of the many factors which influence the development of a sound philosophy. Method and subject matter, terminology, development of aims, and the place of the arts in the history of man.

336. CRITIQUE FOR GENERAL SHOP ORGANIZATION. *Three hours credit.*

Philosophy of the program, objectives, techniques of teaching and organization of general shops. Special problems of instruction and administration are also considered.

337. DEVELOPMENT OF INSTRUCTIONAL AIDS IN INDUSTRIAL ARTS. *Three hours credit.*

Visual aids, instruction sheets, charts, graphs, and other instructional devices are planned and developed. The student will select, plan, and construct, where appropriate, various instructional aids.

338. CURRICULUM DEVELOPMENT IN INDUSTRIAL ARTS. *Three hours credit.*

Designed for industrial arts teachers, supervisors and administrators who need an understanding of content, objectives, and equipment to conduct classes of industrial arts in the public schools and colleges. Emphasis placed on objectives, methods of selecting course content, equipment, and research completed in this area.

339. EVALUATION IN INDUSTRIAL ARTS. *Three hours credit.*

Problems in measuring industrial arts achievement. A study of the purposes of evaluation and the kind and types of instruments used. Interpretation of data leading to the improvement of instruction.

343. ORGANIZATION OF THE GRAPHIC ARTS SHOP. *Three hours credit.*

The techniques and objectives of the graphic arts; their historical development and place in our cultural background; art in printing; shop planning, equipment and management; course content and organization.

344. PROBLEMS OF DESIGN IN THE GRAPHIC ARTS. *Three hours credit.*

Course is centered around graphic arts problems found in individual projects, with emphasis upon teaching students to recognize, appreciate and use the principles of design on the printed page.

351. ORGANIZATION OF THE WOOD SHOP. *Three hours credit.*

Critical study of current practices. A "refresher" course for teachers who have been away from the field. Includes techniques in both bench and machine work.

352. PROBLEMS IN WOODWORKING. *Three hours credit.*

A study of the problems the specialized teacher of woodworking in secondary schools must meet.

362. PROBLEMS IN DRAFTING AND PLANNING. *Three hours credit.*
Objectives, course content, and teaching procedures of all units in drafting. Problems are set up in terms of individual needs.

363. DESCRIPTIVE GEOMETRY. *Three hours credit.*

A study and an analysis of the space relationships of points, lines, and planes that precedes design. Emphasis is placed on orthographic projection, auxiliary view techniques, and revolution. In addition, time will be spent on practical applications of engineering and mathematical problems.

371. ADVANCED METAL CRAFT TECHNIQUES. *Three hours credit.*

Advanced metal tooling, etching, engraving, wire crafts, copper jewelry, forming, raising and spinning. Problems of organization and teaching techniques.

373. ADVANCED LAPIDARY AND SILVER CRAFTS. *Three hours credit.*

Advanced techniques in silver with emphasis on the lost wax process, enameling, lapidary, plating and jewelry.

374. ORGANIZATION OF THE METAL SHOP. *Three hours credit.*

This course shall include objectives, course content, shop organization, evaluation and problems of teaching the various phases of metalwork.

375. PROBLEMS OF THE METAL SHOP. *Three hours credit.*

Prerequisite, IA 374. Advanced course in the organization of both unit and general metal shops and shop practice handled on the seminar basis, giving the graduate students an opportunity to work on problems in the field.

381. INDUSTRIAL ELECTRONICS. *Two hours credit.*

A study of selected materials, components and circuits involved in electronic devices in industry. Special emphasis will be given to basic theory of operation and possible applications of electronic equipment. Deals with fuel cells, solar cells, facsimile reproduction, photo-electrical devices, computers, radar, high frequency heating, motor controls, electronic counters and timers, resistance welding and electroluminescence lighting.

395. PROBLEMS IN TEACHING POWER. *Three hours credit.*

Objectives, course content and teaching procedures in all units in power and power transmission. Problems are set up on the basis of individual needs.

430. RESEARCH IN INDUSTRIAL ARTS. *Maximum of nine hours credit.*

Provides an opportunity for students to present and defend proposed studies. Members of class report and evaluate recent research in the field.

DIVISION OF BUSINESS

Dr. Ramon P. Heimerl, Chairman

Professors: Heimerl, Waterman.

Associate Professors: Damgaard, Hillestad, Will, Yetka.

Assistant Professors: Gordon, Kennedy, Kilpatrick.

Instructors: Hansen, Ratliff, Thames, Wertz.

Description of Courses

BUSINESS

1. THE AMERICAN BUSINESS SYSTEM. *Five hours credit.*

A general course designed to provide an understanding of how the American business system operates and its place in the economy. The course provides background for more effective use of business services in personal affairs as well as preparation for future business courses.

10. TYPEWRITING I. *No credit. (A fee for a four hour credit course will be assessed.)*

A beginning course in typewriting. Emphasis will be given to both personal and vocational use.

11. TYPEWRITING II. *Four hours credit.*

Prerequisite, BUS 10 with a grade of "C" or better (or the equivalent). The second course in typewriting. Emphasis will be strictly on vocational use. Students who have had two years of high school typewriting or the equivalent cannot take this course for credit.

12. TYPEWRITING III. *Four hours credit.*

Prerequisite, BUS 11, with a grade of "C" or better. The third course in typewriting. Emphasis will be on speed and accuracy building and advanced production procedures.

13. SECRETARAL MACHINES. *Two hours credit.*

Prerequisite, BUS 12 with a grade of "C" or better. An introduction to machines used in the business world. Emphasis will be on attaining some skill in using various duplicating machines and dictating and transcribing machines.

14. RECORDS MANAGEMENT. *Two hours credit.*

Prerequisite, BUS 10 with a grade of "C" or better. An introduction to various records systems used in the business world. Practice will be provided in the various filing systems also.

16. BEGINNING GREGG SHORTHAND. *Four hours credit.*

Prerequisite, BUS 11. Course comprises complete theory of Gregg shorthand. Students who have one year of high school shorthand or the equivalent cannot take this course for credit, but should take BUS 17.

17. INTERMEDIATE GREGG SHORTHAND. *Four hours credit.*

Prerequisite, BUS 16 with a grade of "C" or better. Course comprises intensive review of Gregg shorthand theory. Students who have had two years of high school shorthand or the equivalent cannot take this course for credit.

18. ADVANCED SHORTHAND. *Four hours credit.*

Prerequisite, BUS 17 and the ability to take dictation of at least 60 wpm, and typing speed of 40 wpm. This course is devoted primarily to dictation and transcription.

19. SHORTHAND TRANSCRIPTION. *Four hours credit.*

Prerequisites, BUS 12, 18. Emphasis is upon rapid and accurate transcription, speed dictation, punctuation, and other office skills.

20. PRINCIPLES OF ACCOUNTING I. *Four hours credit.*

A beginning course in accounting. Students who have previously studied book-keeping or accounting may be exempted from this course with the approval of

their adviser. Common business transactions are recorded in various journals, summarized in general and subsidiary ledgers, and the effect of these transactions is reported on classified financial statements.

21. PRINCIPLES OF ACCOUNTING II. *Four hours credit.*

Prerequisite, BUS 20. The emphasis in this course is on principles of accounting as they apply to the measurement and reporting of assets, liabilities, ownership equities, periodic revenues, and periodic expenses.

22. PRINCIPLES OF ACCOUNTING III. *Four hours credit.*

Prerequisite, BUS 21. The emphasis in this course is on the accumulation and analysis of financial data for management purposes.

30. INTRODUCTION TO BUSINESS LAW. *Three hours credit.*

A general course in business law designed to emphasize the conceptual approach to business law. The role of law in society and the legal philosophy are seen through the careful study of actual cases and the court decisions rendered. All topics are covered briefly in this introductory course.

60. MARKETNG. *Three hours credit.*

Prerequisite, ECON 30. Marketing as an institution and as a managerial variable is studied in this course. Particular attention is placed upon the interdisciplinary contributions made to marketing as they affect the role of the marketing manager.

61. SALESMANSHIP. *Three hours credit.*

An introductory course in the principles and practices of salesmanship. Emphasis is placed on both "in store" and "outside" selling. Selling demonstrations are conducted.

62. DISPLAY. *Two hours credit.*

This course introduces the students to techniques of display. Emphasis is placed upon show card writing and upon dressing display windows.

70. PRINCIPLES OF FINANCE. *Three hours credit.*

This course is designed to provide factual knowledge of the financial institutions in our economy. Course emphasis will be placed upon the integration of the short-term money market, the long-term capital market, and monetary and fiscal management, particularly as these relate to business practices.

80. INTRODUCTION TO BUSINESS DATA PROCESSING. *Two hours credit.*

Prerequisite, BUS 20. This course is designed to familiarize students with the basic concepts and equipment of business data processing. Starting with manual methods, the student is then introduced to mechanical and electronic data processing methods applied to three business operations: order and billing, inventory, and payroll.

81. DATA PROCESSING-UNIT RECORD. *Three hours credit.*

This is an introductory course in using data processing equipment. It is concerned with terminology, concepts, various machines, and applications.

90. CALCULATING MACHINES AND BUSINESS ARITHMETIC. *Four hours credit. (Three hours lecture, two hours laboratory.)*

An office machines course emphasizing the operation and use of printing and rotary calculators. Business arithmetic is studied in its applications to the routine business calculations in retail and wholesale businesses.

110. SECRETARIAL PROCEDURES. *Three hours credit.*

Prerequisites, BUS 12, 13, 14, 19. Advanced instruction in and practical application of the skills and knowledge needed to be a secretary.

115. BUSINESS COMMUNICATIONS. *Three hours credit.*

Prerequisite, BUS 10. Basic principles and practices in the preparation of business communications are studied and applied.

120. INTERMEDIATE ACCOUNTING I. *Three hours credit.*

Prerequisite, BUS 22. An advanced course in accounting principles emphasizing the problems of asset and liability valuation and the related problems of measuring income periodically.

121. INTERMEDIATE ACCOUNTING II. *Three hours credit.*

Prerequisite, BUS 120. A continuation of BUS 120 and, in addition, includes the study of funds-flow reporting.

122. COST ACCOUNTING. *Five hours credit.*

Prerequisite, BUS 22. This course gives emphasis to both costing for inventory valuation and income determination and costing for planning and control.

131. PRINCIPLES OF BUSINESS LAW. *Five hours credit.*

Prerequisite, BUS 30. This course in business law is designed to provide the student with a more thorough understanding of the various areas of business law: contracts, agency, commercial paper, sales, bailments, partnerships, corporations, insurance, security devices, bankruptcy, trusts, and estates. The case approach will be used stressing the Uniform Commercial Code in understanding how the principles of business law are applied.

150. PRINCIPLES OF MANAGEMENT. *Five hours credit.*

A study of the managerial functions of planning, organizing, staffing, directing and controlling. An analysis of the on-going processes, the knowledge of which a manager must have in order to achieve desired coordination in the attainment of company objectives.

151. JOB ANALYSIS. *Two hours credit.*

Job analysis is studied as part of a job-study program. Techniques of preparing job analysis forms, collecting information, processing information, and putting the job analysis to work are considered. Job descriptions are developed and analyzed.

161. RETAIL MANAGEMENT. *Four hours credit.*

Prerequisite, BUS 60. A study of the basic principles and techniques of retail merchandising and store operation.

162. ADVERTISING. *Three hours credit.*

An introductory course in advertising including a study of psychological principles, advertising media and types of advertising business organizations. Students participate in the preparation of advertising layouts and radio and TV announcements.

170. BUSINESS FINANCE. *Three hours credit.*

Prerequisite, BUS 21. This course emphasizes the sources of short-term, intermediate-term, and long-term funds for a business. Principles and motives of financial management are stressed.

190. MATHEMATICS FOR MANAGEMENT. *Three hours credit.*

A course of business-oriented mathematical concepts applicable to analysis and control in business. Control of variables in operations, as used in decision making, in the establishment of standards and limits for performance, to maximize operational efficiency. New mathematical techniques related to statistical measurement of economic activity.

191. BUSINESS STATISTICS I. *Three hours credit.*

A course designed to orient the business student to statistics and their use in business affairs. The major emphasis will be on the nature of statistics, decisions based on statistics, and collection of business data.

192. BUSINESS STATISTICS II. *Three hours credit.*

Prerequisite, BUS 191. A continuation of the foundation started in BUS 191. Major emphasis will be on probability, normal distributions, sampling distributions, statistical inference, decision procedures, sampling designs, quality control, and the time series analysis.

205. THE CONSUMER IN OUR ECONOMY. *Three hours credit.*

Prerequisites, BUS 1, ECON 30. A course designed to look into the theories of consumer behavior and what the consumer can do to improve his position in the American economy. Consumption in general, national income, and government protection of the consumer are general topics discussed.

221. ADVANCED ACCOUNTING. *Five hours credit.*

Prerequisite, BUS 22. This course includes a study of the accounting problems caused by multiple proprietorship—partnerships, corporations, and business combinations.

223. GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING. *Three hours credit.*

Prerequisite, BUS 21. Accounting principles and procedures relating to schools, hospitals, and other non-profit institutions and to cities, counties, and other governmental units.

227. AUDITING. *Four hours credit.*

Prerequisite, BUS 121. This course involves a study of professional ethics and legal responsibility of public accountants, generally accepted accounting principles, and auditing procedures.

228. INCOME TAX ACCOUNTING I. *Three hours credit.*

Study and application of the principles in preparing federal income tax returns for individuals.

229. INCOME TAX ACCOUNTING II. *Three hours credit.*

Prerequisite, BUS 228. A continuation of BUS 228, with emphasis on federal income tax rules applicable to partnerships and corporations.

231. REAL ESTATE LAW. *Two hours credit.*

This course is concerned with basic terminology, concepts, and relationships involving purchaser, seller, broker, builders, lending agencies, administrative groups, and landlord and tenant. Practical aspects of title, building contracts, loans, deeds, liens, restrictions, zoning, eminent domain, escrow, and statutory requirements will be included.

233. INSURANCE LAW AND TAXATION. *Six hours credit. (Two per quarter.)*

In this course basic elements of business law are applied to life insurance. Student is given a broad background in subjects of guardianship, administration and distribution of property, administration of estates, wills and trusts. Federal income, estate, and gift tax systems are explained with particular reference to the taxation of life insurance and annuities. (C.L.U. Part III.)

239. BUSINESS LAW AND PROPERTY INSURANCE. *Six hours credit. (Two per quarter.)*

This course provides a review of basic principles of business law and applies them specifically to property and casualty insurance practices and problems. Special attention is given to the law of contracts as applied to insurance contracts, agency in insurance, and the law of liability as resulting from negligence. (C.P.C.U. Part IV)

240. INTRODUCTION TO INSURANCE. *Three hours credit.*

The different types of insurance coverage available and the kinds of policies are presented in this course. Primary emphasis is placed on life insurance. Each student will develop a tentative insurance program.

241. LIFE AND HEALTH INSURANCE. *Six hours credit. (Two per quarter.)*

This course is designed to provide the student with a firm foundation in meaning of human life concept; life insurance and annuity contracts; various uses of life insurance and annuities; and fundamental principles underlying calculation of life insurance and annuity premiums, reserves, forfeiture values and dividends. (C.L.U. Part I)

242. GROUP INSURANCE AND PENSIONS. *Six hours credit. (Two per quarter.)*

Prerequisite, BUS 241. This course provides a thorough analysis of the important and rapidly growing fields of group insurance, individual and group health insurance, and pensions. It also covers the problems of old age, unemployment and disability along with the various plans which have been developed to meet these problems. (C.L.U. Part II)

244. FINANCE AND ECONOMICS OF INSURANCE. *Six hours credit. (Two per quarter.)*

Prerequisite, BUS 241. The course deals with the financial and economic system within which life and health insurance exist. Different aspects of family finance are presented, including investments in common stocks, bonds, and mutual funds; bank deposits and other saving media; and property and liability insurance coverages. The subject of economics is considered, dealing with the individual and the complex American market system. (C.L.U. Part IV)

245. BUSINESS INSURANCE AND ESTATE PLANNING. *Six hours credit. (Two per quarter.)*

Prerequisite, BUS 241. The course covers advanced subjects in life underwriting such as the use of settlement agreements in estate planning, business uses of life insurance, and estate planning in general including a section on the particular uses of life insurance in the estate planning process. A section on human behavior and ethics is also included. (C.L.U. Part V)

246. PROPERTY AND LIABILITY INSURANCE. *Six hours credit. (Two per quarter.)*

This course covers in detail the various kinds of property and liability insurance available. The emphasis is not only on principles but also on practices currently in the insurance industry. (C.P.C.U. Part I)

247. ANALYSIS OF INSURANCE FUNCTIONS. *Six hours credit. (Two per quarter.)*

This course covers in detail an analysis of the various insurance functions especially applicable to property and casualty insurance. Some of the topics covered will be underwriting practices, loss prevention, rate making, regulation of insurance, types of insurers, reserves necessary, human motivation, professional ethics, and risk management. (C.P.C.U. Part II)

248. INSURANCE BUSINESS AND GOVERNMENT. *Six hours credit. (Two per quarter.)*

This course covers a study of the insurance business as part of our economic structure and the control of government over business. Besides a review of the economy and its operation, the economic role of government and the taxation structure are studied. (C.P.C.U. Part III)

249. INSURANCE MANAGEMENT. *Six hours credit. (Two per quarter.)*

This course reviews the basic principles of management and then applies them specifically to the management of insurance businesses. A brief unit on personal finance is also included to help persons manage. Also included in the course are units on accounting and business finance as applied to the insurance business. (C.P.C.U. Part V)

252. OFFICE MANAGEMENT. *Three hours credit.*

The emphasis in this course is on the functions of the office and office organization; work in the office, office layout, equipment, supplies, and forms; personnel problems in the office; and costs and control of office work.

253. PERSONNEL MANAGEMENT. *Five hours credit.*

A study of the principles and techniques of personnel management with attention given to their psychological foundations.

256. BUSINESS POLICIES AND MANAGEMENT. *Three hours credit.*

Prerequisite, Business Core requirements completed. A course for the senior student designed to integrate the various functional areas of business in terms of policy level decision-making. Cases are emphasized.

257. PRODUCTION MANAGEMENT. *Three hours credit.*

A course which emphasizes the methods of production control in industrial processes. The elements of control applied in planning, scheduling, routing of the product-in-process, and the appraisal and measurement of industrial performance as applied by conventional administrative methods, assisted by data processing and computer-controlled processes.

260. MARKETING STRATEGY. *Three hours credit.*

Prerequisite, BUS 60. This course is designed to familiarize the student with operations of marketing organizations. The understandings and administrations of marketing strategy with regard to consumer analysis, product planning, and promotion. Readings and cases will be used.

261. SALES MANAGEMENT. *Three hours credit.*

Prerequisite, BUS 61. A study of sales management, the major problems involved, and the relationship of sales management to the total business operation.

262. MARKETING RESEARCH. *Three hours credit.*

Prerequisite, BUS 60. This course is designed to acquaint the student with the typical marketing problems on which research can be used effectively. Analysis

of basic research designs and basic methods of collecting data will be covered. Special emphasis will be placed on motivational research, product research, advertising research, marketing research, consumer-demand research and sales control research. Cases are used for discussions.

263. ADVERTISING STRATEGY. *Three hours credit.*

Prerequisite, BUS 162. A study of current advertising strategy, and the functions of advertising departments and agencies leading into the development and management of a complete advertising program.

267. TRANSPORTATION. *Three hours credit.*

A course to provide basic theory and principles of public transportation. The economics, financing, regulation, and operation of common carriers is related to other business functions. Railroads, motor, water, pipeline, and air transport are studied as related to each other and the business environment.

270. FINANCIAL MANAGEMENT. *Three hours credit.*

Prerequisite, BUS 170. In this course the problems of financing business enterprise are studied. The scope includes working capital financing, budgeting, analyzing financial statements, and intermediate and long-term financing. Cases will be used to illustrate.

271. INVESTMENTS. *Three hours credit.*

The course is designed to provide the individual investor with a working basis for investment policy. A study will be made of topics such as how to develop a logical investment program, how to recognize and minimize investment risks, how to formulate decisions, and how to take advantage of investment opportunities.

272. PRINCIPLES OF REAL ESTATE. *Three hours credit.*

The course is designed to be a beginning course in the real estate area. Theories and practices that have a significant influence on the real estate market both locally and nationally are discussed. The course will be useful to the consumer, the practitioner in real estate, and the general employee in business.

276. CREDIT MANAGEMENT. *Three hours credit.*

This course provides information and understanding of the credit operations of business for both students of business and practicing businessmen. The various kinds of credit (consumer and commercial) are discussed, and the management of credit by business firms is given emphasis in the course.

280. SYSTEMS AND PROCEDURES. *Three hours credit.*

The relationship of systems and procedures to policies and needs of management; job characteristics, management audit; flow charting. Analysis of operations by a study of work simplification, work measurement, work sampling. Current development in human engineering, job design, forms control, records management, and company manuals.

287. ELECTRONIC DATA PROCESSING. *Three hours credit. (Laboratory required)*

This course includes an introduction to electronic computers and to programming. The student's work involves analyzing and developing a program relative to his field of interest.

301. FOUNDATIONS OF BUSINESS. *Three hours credit.*

A study of the major ideas sustaining business enterprise in the Western World. Discussion of the various factors which influence the modern business world: philosophical, political, economic, and social. Primarily a readings and discussion course for graduate students to provide a background for other business content courses.

320. MANAGEMENT ACCOUNTING. *Five hours credit.*

The use of accounting for control and planning will be emphasized after a review unit on accounting principles. Case problems will be used.

321. SEMINAR IN FINANCIAL ACCOUNTING THEORY. *Three hours credit.*

Prerequisite, consent of instructor. A study of the development and present status of financial accounting theory with emphasis on current literature in this area.

330. APPLIED BUSINESS LAW. *Five hours credit.*

A comprehensive review of business law for the business teacher with practical applications to everyday situations. This course is not designed to be preceded by the undergraduate course.

350. ADMINISTRATIVE THEORY. *Three hours credit.*

This course involves research and seminars on the principles and advanced theory of business functions and the relationship of the common elements of these functions to the responsibilities of top management for planning, organizing and controlling the operations of a business.

353. SEMINAR IN PERSONNEL MANAGEMENT. *Two hours credit.*

Examination of managerial policies and practices in the selection, development, and motivation of employees. Consideration of factors underlying employee participation in policy formation; the effect of the work environment; administration of wages, salaries, and benefits; and the evaluation of personnel programs. Both individual and group emphasis will be accorded treatment in the course. Students will make company studies and give reports.

360. SEMINAR IN MARKETING THEORY. *Three hours credit.*

Prerequisite, BUS 60. A critique of the current theories in marketing from an historical perspective and an analysis of their applicability to marketing strategy. Contributions made by "outside" disciplines will be emphasized.

390. OPERATIONS ANALYSIS. *Three hours credit.*

Prerequisite, BUS 190. A course to orient the manager in the principles, theory, and scope of analysis of business problems utilizing mathematical concepts. The course includes the selection of variables, formulation of the problem in mathematical and statistical terms, solution, and test of the results.

BUSINESS EDUCATION

140. INTRODUCTION TO BUSINESS EDUCATION. (ATE) *Two hours credit.*

A beginning course for future business teachers designed to acquaint students with problems of teaching, the business program, philosophy of business education, common methods for business classes, and devices common to many classes. Observations of high school business classes is one of the course requirements.

141. METHODS AND MATERIALS OF TEACHING TYPEWRITING. (ATE) *One hour credit.*

Prerequisites, BUS 12, BUED 140. A beginning course in the teaching of typewriting with special emphasis on various methods and techniques that have been shown to be useful by research. Materials will also be examined in the course.

142. METHODS AND MATERIALS OF TEACHING SHORTHAND. (ATE) *One hour credit.*

Prerequisites, BUS 19, BUED 140. An introduction to the teaching of shorthand for business teachers with emphasis on devices, techniques, and materials.

143. METHODS AND MATERIALS OF TEACHING BOOKKEEPING. (ATE) *One hour credit.*

Prerequisites, BUS 21, BUED 140. An introduction to the teaching of bookkeeping. Major emphasis in the course will be on techniques and methods of aiding students in high school. Materials will be examined and evaluated in the class.

144. METHODS AND MATERIALS OF TEACHING BASIC BUSINESS SUBJECTS. (ATE) *One hour credit.*

Prerequisites, BUS 1, ECON 30, BUED 140. A course designed to aid beginning business teachers in the teaching of the basic business subjects of general business, business law, economics, consumer economics, etc. Materials available for such classes will be examined by the class.

145. DISTRIBUTIVE EDUCATION PROGRAMS. (ATE) *Three hours credit.*

A study of the organization, administration, supervision, and coordination of secondary school, post secondary school, and adult distributive education programs.

146. METHODS AND MATERIALS OF TEACHING DISTRIBUTIVE EDUCATION. (ATE) *Two hours credit.*

Prerequisites, BUED 140, 145. A course devoted to the specific methods and techniques relating to the teaching of distributive education. Major emphasis will be placed upon individual instruction and sources of instructional materials.

147. COORDINATION TECHNIQUES. (ATE) *Two hours credit.*

Prerequisite, BUED 145. An analysis of the duties involved in coordinating the classroom instruction and the on-the-job experiences provided through the cooperative program. Actual problems encountered will be studied.

171. EVALUATION IN BUSINESS EDUCATION. (ATE) *Two hours credit.*

Designed to supplement the methods course with a foundation in techniques of evaluation including the preparation and administration of tests in the skill and content areas of business subjects and the use of other evaluative materials in the field.

230. ECONOMIC EDUCATION SEMINAR. (ATE) *Three hours credit.*

Prerequisites, ECON 30, 102. A study of the conceptual framework of economic education for potential teachers, administrators, curriculum specialists and guidance personnel.

266. DEVELOPMENT OF DISTRIBUTIVE EDUCATION INSTRUCTIONAL MATERIALS. *Two hours credit.*

This course is designed to offer a brief analysis of instructional materials, their courses, and how to use them. Students will develop materials for use in their own instructional programs.

277. ADULT PROGRAMS IN BUSINESS EDUCATION. *Three hours credit.*

Organizing, promoting, and supervising an adult program. Selecting and preparing teachers, course building, forms of effective presentation, public relations, and community organization are included.

280. WORKSHOP IN BUSINESS EDUCATION. *Maximum of nine hours credit.*

Through cooperative effort, problems in business education will be solved. Not more than three of these courses may be applied to any one degree.

281. WORKSHOP IN DISTRIBUTIVE EDUCATION. *Maximum of nine hours credit.*

An intensive course designed primarily for distributive education coordinators.

353. IMPROVEMENT OF INSTRUCTION IN BOOKKEEPING AND ACCOUNTING. *Two hours credit.*

The instruction in this course is planned primarily for those who have had experience teaching bookkeeping or accounting. Objectives, content, good teaching practices, and evaluation as well as the specific teaching problems of the members of the class are emphasized.

355. IMPROVEMENT OF INSTRUCTION IN DISTRIBUTIVE EDUCATION. *Three hours credit.*

Important procedures and effective techniques used in teaching high school cooperative classes in the distributive occupations and in evening classes for employed sales and supervisory personnel.

356. IMPROVEMENT OF INSTRUCTION IN SHORTHAND. *Two hours credit.*

Primarily for experienced teachers who have had an undergraduate methods course in shorthand. Emphasis is upon research in learning and on applications of this research to the teaching of shorthand.

357. IMPROVEMENT OF INSTRUCTION IN TYPEWRITING AND OFFICE PRACTICE. *Three hours credit.*

Primarily for experienced teachers who have had an undergraduate methods course in typewriting. Emphasis is upon improved methods of instruction in the teaching of typewriting.

358. IMPROVEMENT OF INSTRUCTION IN BASIC BUSINESS. *Two hours credit.*

This course emphasizes the teaching of general business with some emphasis on the teaching of business law, consumer education, and advanced general business. Individual and group work on objectives, content, teaching practices, and evaluation.

370. ADMINISTRATION AND SUPERVISION OF BUSINESS EDUCATION. *Three hours credit.*

This course deals with the problems of administrators and supervisors who are interested in business education as well as heads of departments of business education.

371. TESTS AND MEASUREMENTS IN BUSINESS EDUCATION. *Five hours credit.*

A survey of tests and measurements in business education, their uses and methods of construction, and presentation of necessary statistical tools for test interpretation especially applicable to business education. A study is made of prognostic tests, vocational aptitude tests, and published achievement tests.

372. CURRICULUM CONSTRUCTION IN BUSINESS EDUCATION. *Five hours credit.*

High school curricula and courses of study in business subjects will be planned and developed in this course. The history, present status, philosophy, and trends of curriculum construction will be discussed.

373. CURRENT PROBLEMS IN BUSINESS EDUCATION. *Three hours credit.*

Current problems in business education are studied and discussed by individuals, committees and the class.

374. COOPERATIVE PROGRAMS IN BUSINESS EDUCATION. *Two hours credit.*

The aim of the course is to define cooperative programs in business education, to describe the typical types, to explore basic philosophies, and to clarify the nature and scope of cooperative programs by portraying its development in schools.

401. ANALYSIS OF RESEARCH IN BUSINESS EDUCATION. *Five hours credit.*

An analysis of the best studies that have been done in business education. A study will be made of research techniques as well as the findings of these research studies. Emphasis will be placed upon determining further needed research.

402. ISSUES AND TRENDS IN BUSINESS EDUCATION. *Three hours credit.*

A seminar course designed to have individual and group analysis and discussion of the various issues in business education. Trends in the field will also be analyzed and clarified.

403. POST HIGH SCHOOL BUSINESS EDUCATION. *Three hours credit.*

A course planned for those teaching or planning to teach business or business education in post high school institutions—public and private business schools, junior colleges, and colleges educating business teachers. Curriculum and instructional practices and problems are emphasized.

DIVISION OF HEALTH, PHYSICAL EDUCATION AND RECREATION

Dr. L. C. Butler, Chairman

Professors: Butler, Cyphers, Everett, Pearson, Staton, Van Anne.

Associate Professors: Behling, Best, Blasi, Heiss, Latham, Lindahl, Maria-Rossi, R. Montgomery, Shirley, Steffy.

Assistant Professors: Barham, Benich, Fri, LaBonde, McKain, Malumphy, Mosser, Sage, Wright.

Instructors: Berry, Conover, McMillen, Notto, Rollins, Shanahan, Zenor.

Description of Courses

GENERAL EDUCATION COURSES

These courses are numbered from one to 61 inclusive with courses numbered from one to 60 meeting the Physical Education activity requirement of the General Education Program. When an activity is offered at more than one level of skill it will be noted in the printed class schedule. Skill standards are posted on division bulletin boards. Special advisement and detailed mechanics of the Activity Program are described in the Undergraduate Programs section of the catalog. HPER 61, Personal and Community Health, is an academic requirement of General Education.

1. FIELD SPORTS. *One hour credit.*
2. WINTER SPORTS. *One hour credit.*
3. BADMINTON. *One hour credit.*
4. ARCHERY. *One hour credit.*
5. MOVEMENT FUNDAMENTALS. *One hour credit.*
6. TUMBLING. *One hour credit.*
8. GYMNASTICS. *One hour credit.*
9. PHYSICAL FITNESS AND CONDITIONING. *One hour credit.*
11. SOFTBALL. *One hour credit.*
12. TENNIS. *One hour credit.*
14. WRESTLING. *One hour credit.*
15. VOLLEYBALL. *One hour credit.*
16. GOLF. *One hour credit.*
18. BASKETBALL. *One hour credit.*
20. BOWLING. *One hour credit.*
22. FENCING. *One hour credit.*
25. SWIMMING. *One hour credit.*
30. CONTEMPORARY DANCE. *One hour credit.*
33. SOCIAL DANCE. *One hour credit.*
34. FOLK DANCE. *One hour credit.*
35. AMERICAN SQUARE AND COUPLE DANCE. *One hour credit.*
36. TAP DANCE. *One hour credit.*
40. FRESHMAN FOOTBALL. *One hour credit.*
41. VARSITY FOOTBALL. *One hour credit.*
42. FRESHMAN BASKETBALL. *One hour credit.*
43. VARSITY BASKETBALL. *One hour credit.*
44. FRESHMAN WRESTLING. *One hour credit.*
45. VARSITY WRESTLING. *One hour credit.*
47. VARSITY GYMNASTICS. *One hour credit.*
49. VARSITY SWIMMING. *One hour credit.*
50. FRESHMAN BASEBALL. *One hour credit.*
51. VARSITY BASEBALL. *One hour credit.*
53. VARSITY TRACK. *One hour credit.*
55. VARSITY TENNIS. *One hour credit.*
57. VARSITY GOLF. *One hour credit.*
61. PERSONAL AND COMMUNITY HEALTH. *Three hours credit.*

Designed to develop the understandings, attitudes, and practices which contribute to better individual and group health. Emphasis is placed upon the major health and safety problems of the college years and early adulthood.

SPECIAL CERTIFICATION COURSES

- 62. FIRST AID.** *Two hours credit.*
- 63. ADVANCED FIRST AID.** *One hour credit.*
Prerequisite, HPER 62.
- 64. INSTRUCTOR'S COURSE IN FIRST AID.** *One hour credit.*
Prerequisites, HPER 62, 63.
- 65. SENIOR LIFE SAVING.** *One hour credit.*
- 66. WATER SAFETY INSTRUCTOR'S COURSE.** *One hour credit.*
Prerequisite, HPER 65.

Driver Education—The Colorado State Department of Education will certify as Driver Education Instructors those holders of Colorado teaching certificates who complete HPER 271, Safety Education; HPER 274, Methods and Materials in Driver Education; HPER 275, Advanced Driver Education; and who are recommended by the Division of Health, Physical Education and Recreation. Applications for certification should be obtained in the division office, filled out by the applicant, and returned to the division office for approval.

PROFESSIONAL COURSES FOR DIVISION MAJORS AND MINORS

Courses numbered 70 and higher are intended primarily for the professional preparation of degree candidates completing a major or a minor in the various programs of the division.

- 70. THEORY AND PRACTICE OF GYMNASTICS AND TUMBLING**
(Men). Two hours credit.
Fundamental skills on parallel bars, rings, side horse, horizontal bar, trampoline, and mats.
- 71. THEORY AND PRACTICE OF TEAM SPORTS (Men).** *Two hours credit.*
Fundamental skill techniques in team sports such as: volleyball, soccer, and softball. An emphasis will be placed on rules, offensive and defensive strategy, lead-up drills, game courtesies and the value of the activity to immediate and ultimate fitness. Volleyball and soccer will be the primary sports activities taught.
- 72. THEORY AND PRACTICE OF INDIVIDUAL AND DUAL SPORTS**
(Men). Two hours credit.
Fundamental skill techniques in sports. Emphasis on fundamental skill techniques in individual and dual sports such as tennis, badminton, golf, archery, casting, horseshoes and others. Instruction will be given on rules, strategy, special skill techniques, game courtesies and the value of the activity to immediate and ultimate fitness.
- 73. THEORY AND PRACTICE OF BASKETBALL (Men).** *Two hours credit.*
Fundamental skill techniques in basketball.
- 74. THEORY AND PRACTICE OF SWIMMING (Men).** *One hour credit.*
Fundamental skill techniques in swimming (Intermediate level).
- 75. THEORY AND PRACTICE OF WRESTLING (Men).** *One hour credit.*
Fundamental skill techniques of teaching wrestling.
- 76. THEORY AND PRACTICE OF FOOTBALL (Men).** *Two hours credit.*
Fundamental skill techniques in football.

- 77. THEORY AND PRACTICE OF TRACK (Men).** *One hour credit.*
Fundamental skill techniques in track, covering form in starting, running, field events and jumping.
- 78. THEORY AND PRACTICE OF BASEBALL (Men).** *One hour credit.*
Fundamental skill techniques in baseball.
- 80. TECHNIQUES OF BADMINTON (Women).** *One hour credit.*
Fundamental skills, strategies and rules of badminton.
- 81. TECHNIQUES OF VOLLEYBALL AND BASKETBALL (Women)** *Two hours credit.*
Fundamental skills, team play, and rules.
- 82. TECHNIQUES OF HOCKEY AND SOCCER (Women).** *Two hours credit.*
Fundamental skills, team play, and rules.
- 83. TECHNIQUES OF SWIMMING (Women).** *Two hours credit.*
Fundamental skills of swimming and diving.
- 84. TECHNIQUES OF TENNIS AND SOFTBALL (Women).** *Two hours credit.*
Fundamental skills, team play, and rules.
- 85. TECHNIQUES OF TUMBLING AND GYMNASTICS (Women).** *Two hours credit.*
Fundamental skills and techniques in tumbling, side horse vaulting, floor exercise, balance beam, uneven parallel bars, and trampolining. Experience in organization of meets and demonstrations is included.
- 86. TECHNIQUES OF ARCHERY AND BOWLING.** *Two hours credit.*
Fundamental skills, strategies, and rules of archery and bowling.
- 87. TECHNIQUES OF FENCING AND GOLF.** *Two hours credit.*
Fundamental skills, strategies, and rules of fencing and golf.
- 88. PHYSICAL EDUCATION ACTIVITIES FOR THE ELEMENTARY SCHOOL.** *Two hours credit.*
Designed for, required of, and restricted to majors and minors in elementary education. Content deals with basic principles and activities included in a well-rounded program of physical education for the elementary school.
- 89. TECHNIQUES OF TRACK AND FIELD (Women).** *One hour credit.*
Fundamental skills and rules of track and field activities for women.
- 90. TECHNIQUES IN FOLK DANCE.** *Two hours credit.*
Fundamental and advanced skills of folk dance.
- 91. RHYTHMS FOR THE ELEMENTARY SCHOOL.** *Two hours credit.*
Techniques and materials in creative dance, singing games, and folk dances.
- 92. AMERICAN SQUARE AND SOCIAL DANCE.** *Two hours credit.*
Fundamental and advanced skills of square and social dancing.
- 93. TECHNIQUES IN CONTEMPORARY DANCE.** *Two hours credit.*
The analysis and techniques of movement in relation to the aspects of time, space, and force.
- 94. PROBLEMS IN DANCE COMPOSITION.** *Two hours credit.*
Problems in dance composition includes rhythmic analysis and accompaniment for dance.
- 95. TECHNIQUES OF MOVEMENT FUNDAMENTALS (Women).** *One hour credit.*
Skills and techniques of conditioning, body mechanics and movement patterns.
- 97. INTRODUCTION TO HEALTH EDUCATION, PHYSICAL EDUCATION, AND RECREATION.** *Two hours credit.*
Designed to orient freshman majors with the breadth, scope, and nature of the professional program in health education, physical education, and recreation.

98. ANALYSIS OF SWIMMING TECHNIQUES (Women). *One hour credit.*
Prerequisite, HPER 83. Analysis of swimming, diving and synchronized swimming techniques.

99. INTRODUCTION TO COMMUNITY HEALTH. *Four hours credit.*
Prerequisite, HPER 61. Designed to acquaint prospective teachers with health problems in a community and to make them aware of community agencies which cope with these problems.

101. HEALTH EDUCATION IN THE ELEMENTARY SCHOOL. (ATE)
Two hours credit.

Prerequisite, HPER 61. Designed to give the prospective elementary teacher a foundation in school health education, including health services, healthful school living, and health instruction.

102. HEALTH EDUCATION IN THE SECONDARY SCHOOL. (ATE)
Four hours credit.

Prerequisite, HPER 61. Designed to give the prospective secondary teacher a foundation in school health education, including health services, healthful school living, and health instruction.

120. ANATOMICAL KINESIOLOGY. *Three hours credit. (Two hours lecture, two hours laboratory.)*

A study of the anatomical and anthropometrical components of human movement as they relate to the prescription of exercise.

121. MECHANICAL KINESIOLOGY. *Three hours credit.*

A study of the mechanical components of human movement. The course will involve a study of the mechanical laws applicable to the movements of the body and to the performance of motor skills.

122. PHYSIOLOGICAL KINESIOLOGY. *Three hours credit. (Two hours lecture, two hours laboratory.)*

A study of the physiological components of human movement as they relate to motor performance and the effects of exercise.

123. PSYCHOLOGICAL KINESIOLOGY. *Three hours credit.*

A study of the psychological components of human movement. The course will involve a study of human motor behavior, and the behavioral factors affecting human motor performance.

124. MATURATIONAL KINESIOLOGY. *Three hours credit.*

Prerequisites, HPER 120 and 121. A study of the genetic and environmental factors affecting human maturation. Emphasis will be given to organic and motor development and motor learning as affected by age group characteristics and environmental stimuli.

125. TEACHING OF TEAM SPORTS (Women). (ATE) *Two hours credit.*

Prerequisites, HPER 81, 82, 84. A consideration of the basic techniques of team sports including skills, rules and strategies, emphasizing teaching procedures.

126. TEACHING OF DANCE. (ATE) *Two hours credit.*

Prerequisites, HPER 90, 92, 93, 94. Teaching procedures of dance activities. For the physical education major student.

127. TEACHING OF INDIVIDUAL SPORTS (ATE) (Women). *Two hours credit.*

Prerequisites, HPER 80, 84, 85, 89. A consideration of the basic techniques of individual and dual sports, including skills, rules and strategy, emphasizing teaching techniques.

130. OFFICIATING FALL SPORTS FOR GIRLS. *One hour credit.*

Prerequisite, HPER 81. A course designed to give a background and understanding of the rules and techniques of officiating various sports found in the women's program. Officials' ratings will be given in volleyball.

131. OFFICIATING WINTER SPORTS FOR GIRLS. *One hour credit.*

Prerequisite, HPER 81. A course designed to give a background and understanding of the rules and techniques of officiating various sports found in the women's program. Officials' rating will be given in basketball.

132. OFFICIATING SPRING SPORTS FOR GIRLS. *One hour credit.*

Prerequisite, HPER 84. A course designed to give a background and understanding of the rules and techniques of officiating various sports found in the women's program. Officials' rating will be given in softball or tennis.

144. METHODS AND OBSERVATION OF TEACHING PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. (ATE) *Three hours credit.*

A study of mental, emotional, physical and social needs of children of elementary school age levels, and the planning of a program, selection of materials and methods of teaching physical education at these levels.

145. METHODS AND OBSERVATIONS OF TEACHING PHYSICAL EDUCATION IN THE SECONDARY SCHOOL. (ATE) *Two hours credit.*

A study of planning, materials, and methods in physical education for the secondary school based on mental, physical, and social needs of the student at various age levels.

161. COACHING OF FOOTBALL. (ATE) *Two hours credit.*

Prerequisites, HPER 40, 41 or 76. The techniques and strategy of coaching football, with emphasis upon type of formations, defense, play series, rules, and football coaching in general.

162. COACHING OF BASKETBALL. (ATE) *Two hours credit.*

Prerequisites, HPER 42, 43 or 73. Theory and practice in scouting, charting, scoring, timing, and officiating. Principles of successful modern offensive and defensive play. Procedures in developing and utilizing playing personnel.

163. COACHING OF TRACK AND FIELD. (ATE) *Two hours credit.*

Prerequisite, HPER 53 or 77. A study of the techniques of coaching the various events in track and field, the rules, and the methods of conducting track events.

164. COACHING OF BASEBALL. (ATE) *Two hours credit.*

Prerequisite, HPER 50, 51 or 78. Techniques and procedures in developing individual and team play. Defensive baseball: pitching, catching, infielding, outfielding, strategy. Offensive baseball: batting, base-running, strategy.

172. SOCIAL RECREATION. *Two hours credit.*

Designed to prepare the student for effective planning and leadership in the area of social recreation activities. Special attention is given to programs for church and school groups as well as to activities appropriate for family groups within the home.

173. CAMP COUNSELING. *Three hours credit.*

An introductory course to acquaint the student with methods of leadership in camping activities. Special attention is given to the development and application of outdoor skills to the camping situation.

200. WORKSHOP IN HEALTH, PHYSICAL EDUCATION AND RECREATION. *Three hours credit.*

Designed to provide opportunities for study in the problem areas of the participants; however, the problems attacked would vary from time to time according to the experts conducting the workshop. The nature of the workshop might cover such areas as administration, curriculum, new programs and techniques, etc. Each workshop will have a sub-title; and no sub-title may be repeated by a student for credit.

201. PROBLEMS IN SCHOOL HEALTH PROGRAMS. *Four hours credit.*

Problems and trends in school health and safety education, health services and guidance, and healthful school living.

203. HEALTH EDUCATION WORKSHOP. *Three hours credit.*

The workshop will be concerned with the practical problems of the school health programs: health instruction, medical and nursing services, nutrition, lunch programs, safety, mental hygiene, and environmental sanitation.

205. FAMILY HEALTH PROBLEMS. *Three hours credit.*

The relationship of health to marriage is presented. Some of the problems encountered in marriage which would be typical of this course are health as a

qualifying factor for marriage; maternal and child care; accident prevention in the home; and medical care plans for the family.

213. HEALTH COUNSELING AND APPRAISAL. *Two hours credit.*
Prerequisite, HPER 101, 102 or 201. Designed to give prospective teacher an insight into the purpose of health appraisals of school children, the use of the health records in health counseling, techniques in observing for deviations from normal, counseling with pupils, parents, and teachers, and how to make referrals to private and public agencies.

220. SCIENTIFIC BASES OF HEALTH AND PHYSICAL EDUCATION.
Five hours credit.

This course is designed to acquaint the advanced student with the progress made in the scientific study of exercise and sports. Special attention is given to structural, mechanical, physiological, psychological, and therapeutic aspects of exercise and fitness.

226. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION.
(ATE) Three hours credit.

Designed to give the student a foundation in techniques of evaluation, including elementary statistical procedures, the preparation and administration of skill and written tests, and the use of other evaluative materials in the field.

232. ADAPTED PHYSICAL EDUCATION. *(ATE) Three hours credit.*

Prerequisites, HPER 120, 121. Developmental, remedial, and corrective programs in physical education. Emphasis is given to adaptations which are designed to meet the needs of individuals requiring special attention above and beyond the regular physical education program.

235. EDUCATIONAL INTERPRETATIONS OF HEALTH, PHYSICAL EDUCATION AND RECREATION. *(ATE) Three hours credit.*

A foundational approach to interpretations and objectives of physical education, health education, and recreation in general education. Designed to assist the mature professional major in developing a sound philosophic background for continued growth in the professional field.

245. ADVANCED TECHNIQUES IN TEACHING GYMNASTIC ACTIVITIES. *Four hours credit.*

Designed to assist the high school or college teacher with special problems in teaching and officiating gymnastic activities.

246. ADVANCED TECHNIQUES IN TEACHING INDIVIDUAL SPORTS.
Four hours credit.

Designed to assist the high school or college teacher with special problems in teaching and officiating individual sports.

247. ADVANCED TECHNIQUES IN TEACHING TEAM SPORTS. *Four hours credit.*

Designed to assist the high school or college teacher with special problems in teaching and officiating team sports.

248. ADVANCED TECHNIQUES IN TEACHING DANCE ACTIVITIES.
Four hours credit.

Special problems and procedures for teaching social, square and folk dance. For the advanced physical education major student.

250. ADMINISTRATION OF PHYSICAL EDUCATION. *(ATE) Three hours credit.*

A study of administrative problems in physical education for men and women dealing with budget and finance, legal aspects, purchase and care of equipment and supplies, programs, public relations, intramural activities, and class organization.

251. ADMINISTRATION OF COMMUNITY RECREATION. *Four hours credit.*

The course is concerned with the organization and administration of the community recreation program. Eleven essential areas of this subject are studied: fact-finding, survey, legal aspects, municipal organization, department organization, financing, records and reports, publicity, public relations, leadership, program.

252. INTERNSHIP IN RECREATION. *Fifteen hours credit.*

A course designed primarily to help students make the transition from the classroom to the practical situation. Opportunity is provided for students to assume the normal responsibilities involved in the conduct of various kinds of recreation activities. One quarter of full-time activity is required.

255. CONTEMPORARY DANCE TECHNIQUES. *Four hours credit.*

Prerequisite HPER 94. Basic techniques, movement analysis and composition for the advanced physical education major student.

256. WORKSHOP IN CONTEMPORARY DANCE. *Four hours credit.*

Problems connected with the staging of dance performances.

257. DANCE HISTORY AND PHILOSOPHY. *Four hours credit.*

Prerequisites HPER 93 94. History and development of dance as it is culturally determined and the philosophy influencing dance in education.

258. DANCE METHODS AND MATERIALS. *Four hours credit.*

Prerequisites, HPER 90, 92, 93, 94. Teaching procedures for folk, social, square and contemporary dance. For the dance education major and minor student.

260. SCIENTIFIC PRINCIPLES OF COACHING. *Four hours credit.*

Primarily for the athletic coach to assist him in teaching and coaching the usual major sports of the school competitive sports program. Designed to establish on a sound scientific basis the mechanical principles involved in developing techniques for sport competition.

261. MECHANICAL PRINCIPALS OF TEACHING ACTIVITIES IN PHYSICAL EDUCATION. *Four hours credit.*

For physical educators, including both men and women, and designed to assist them in teaching the activities and rhythms of the school physical education program.

264. SPORTS OFFICIATING FOR MEN. *Four hours credit.*

Designed for coaches, administrators, and officials. Considers general principles and philosophy of officiating as well as study of the mechanics of officiating the sports for men in the school program.

265. ADVANCED TECHNIQUES IN TEACHING FOOTBALL TO MEN. *Two hours credit.*

Designed to assist the in-service teacher of major sports for men with special problems in the field of football, including organization, strategy, personnel.

266. ADVANCED TECHNIQUES IN TEACHING BASKETBALL TO MEN. *Two hours credit.*

Designed to assist the in-service teacher of major sports for men with special problems in the field of basketball, including organization, strategy, personnel.

268. PROGRAMS IN RECREATION. *Four hours credit.*

Designed to prepare the student for effective planning of varied types of recreation programs. Special attention is given to programs for public playgrounds, community centers, and such special groups as the aging, teenagers, young adults, and the handicapped.

269. RECREATION FOR THE HANDICAPPED. *Three hours credit.*

Adaptation of recreation activities to meet the varying needs of handicapped individuals in hospitals, schools, homes, recreation and rehabilitation centers. Reports, discussions, observations, and visitations.

270. ADMINISTRATION OF ATHLETICS. *Three hours credit.*

The administrative problems confronted by the coach: management of athletic events, schedules, budgets, finances, athletic facilities and equipment, awards, public relations, and insurance.

271. SAFETY EDUCATION. *Three hours credit.*

Comprehensive course for teachers and administrators in public schools.

272. RECREATION LEADERSHIP. *Three hours credit.*

Reading, reports and projects covering the philosophy, methods, and materials for the recreation leader.

274. METHODS AND MATERIALS IN DRIVER EDUCATION. *Three hours credit.*

Designed to give prospective teachers some experiences in methods techniques and materials necessary to develop a driver education program. The course is divided into two parts, classroom and behind the wheel experiences. This course requires laboratory time in which prospective teachers of driver education practice driving.

275. ADVANCED DRIVER EDUCATION. *Three hours credit.*

Prerequisite, HPER 274. An advanced course, designed for Driver Education teachers, in which problems related to administration, instruction, evaluation, and research in Driver Education programs will be studied. Particular emphasis will be placed upon the development of improved testing procedures and instructional aids.

280. CARE OF SPORTS INJURIES. *Three hours credit.*

Prerequisites, HPER 120, 121. Intensive course in care and treatment of athletic injuries with time devoted to each specific injury. The etiology, pathology, sign and symptoms, treatment, and adapted activities will be given for the major injuries.

304. SCHOOL HEALTH ADMINISTRATION. *Four hours credit.*

Designed to acquaint administrators, supervisors, and health educators with the planning and organizational aspects of the total school health program. Special attention is given to administrative and supervisory problems in health and safety instruction, health services and guidance, and healthful school living.

305. PUBLIC HEALTH EDUCATION. *Four hours credit.*

This course is designed to develop understanding and appreciation of the media and techniques used in health education of the public. Program planning and evaluation of procedures influencing public opinion and attitudes toward health and safety are considered.

312. EVALUATION IN HEALTH, PHYSICAL EDUCATION AND RECREATION. *Four hours credit.*

Prerequisite, HPER 226. Designed to give the graduate student a sound background in the tools, techniques, and methods of evaluation. Special emphasis is given to the construction of both written and activity tests as well as the use of other evaluative tools.

322. ADVANCED PHYSIOLOGICAL KINESIOLOGY. *Four hours credit.*

Prerequisites, HPER, 120, 121, and 122. Effect of muscular activities on the various systems and organs of the body.

324. ADVANCED MATURATIONAL KINESIOLOGY. *Four hours credit.*

An advanced study of the organic, motor, and social aspects of human movement as affected by age group characteristics.

336. THE SCIENCE OF BODY MECHANICS. *Four hours credit.*

Prerequisite, HPER 120, 220 or 232. A course designed to analyze movement of various activities and the recognition of and exercises for remedial defects. Emphasis will be placed on problems of individual students in relationship to home or school situations.

340. CURRICULUM IN HEALTH AND PHYSICAL EDUCATION. *Four hours credit.*

The principles underlying curriculum construction, the various elements making up a curriculum, and experience in building a curriculum in either the field of health or physical education.

344. SUPERVISION OF PHYSICAL EDUCATION AND RECREATION. *Four hours credit.*

Concepts, principles, organization, and techniques of supervision for use by superintendents, supervisors, and teachers in the construction or supervision of programs in physical education and recreation.

375. AREAS AND FACILITIES IN PHYSICAL EDUCATION AND RECREATION. *Four hours credit.*

Major problems involved in the planning, construction, and maintenance of varied types of physical education and recreation areas and facilities. Technical aspects of construction and maintenance will be emphasized.

376. SEMINAR IN CONTEMPORARY PROBLEMS IN RECREATION.

Four hour credit.

Detailed study of important problems in the area of leisure and recreation in America.

390. ISSUES AND TRENDS IN HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION. *Four hours credit.*

A course designed to provide detailed examination of the forces affecting the allied fields of Health Education, Physical Education, and Recreation. A study, in depth, of problems will be expected of each student according to his area of specialization.

401. ANALYSIS OF RESEARCH AND LITERATURE IN HEALTH AND PHYSICAL EDUCATION. *Four hours credit.*

Appraisal of research and significant literature in health and physical education for the purpose of orienting the student to possible areas of research and developing understanding and appreciation of writings in the field.

402. CHANGING PERSPECTIVES IN PHYSICAL EDUCATION. *Four hours credit.*

The purpose of this course is to study the changing concepts of physical education throughout its history; to identify and analyze the forces which have influenced the program; and to determine the role which physical education should play in America today.

403. RESEARCH SEMINAR IN HEALTH AND PHYSICAL EDUCATION. *Four hours credit.*

Prerequisite, HPER 401. Designed to serve the needs of doctoral candidates planning to conduct research in health education, physical education, or allied areas. Presents techniques and procedures in research and aids in the development of the required research outline for the doctoral degree.

404. PROBLEMS IN HUMAN MOVEMENT. *Four hours credit.*

Individual and group study of problems related to the scientific variables of human movement.

406. ADMINISTRATIVE INTERRELATIONSHIPS IN HEALTH, PHYSICAL EDUCATION AND RECREATION. *Four hours credit.*

The purpose of this course is to develop a better understanding of and skill in the administrative process as applied to the numerous interrelationships involved in the operation of programs of health, physical education and recreation.

DIVISION OF MUSIC

Dr. James E. Miller, Chairman

Professors: Garlick, Hutcherson, King, J. Miller, Mohr, Schenkman.

Associate Professors: Dykins, Evans, Goodbrod, Himmel, Schmitz, Walker.

Assistant Professors: Baker, Bartlett, Fluke, R. James, Menk, Mickens, Nofziger, Skinner, Smith.

Instructors: Ginsburg, Goes, Linscome, G. Johnson, Robinson.

Description of Courses

INDIVIDUAL PERFORMANCE

Credit for all individual music instruction will be entered in the student's registration under the title and course number appearing below:

100 series—Introductory work in the fundamentals of the chosen performance medium—technical studies and repertoire will be selected according to the student's need. FOR FRESHMEN AND SOPHOMORES.

200 series—Continuation of technical studies for further development of performance competency. Repertoire from the standard literature will be selected. Voice majors will begin to draw from Italian, German and French sources in the art song, opera and oratorio. FOR JUNIORS AND SENIORS.

300 series—Music study in performance at this level will assume a technical proficiency sufficient for extensive familiarity with the advanced repertoire, drawing upon all periods and styles of solo performance. FOR GRADUATE STUDENTS.*

*In some cases, the 100 series may be used to indicate a deficiency in applied music at the graduate level.

- 130, 230, 330.** INDIVIDUAL PERFORMANCE IN VOICE. *One hour credit.*
- 131, 231, 331.** INDIVIDUAL PERFORMANCE IN PIANO. *One hour credit.*
- 132, 232, 332.** INDIVIDUAL PERFORMANCE IN ORGAN. *One hour credit.*
- 133, 233, 333.** INDIVIDUAL PERFORMANCE IN STRINGS. *One hour credit.*
- 134, 234, 334.** INDIVIDUAL PERFORMANCE IN WOODWINDS. *One hour credit.*
- 135, 235, 335.** INDIVIDUAL PERFORMANCE IN BRASS. *One hour credit.*
- 136, 236, 336.** INDIVIDUAL PERFORMANCE IN PERCUSSION. *One hour credit.*

MAJOR ENSEMBLE PERFORMANCE

Credit for all music performance organizations will be entered on the student's registration under the title and course number appearing below:

100 series—Freshmen and Sophomores.

200 series—Juniors and Seniors.

300 series—Graduate Students.

170, 270, 370. SYMPHONIC WIND BAND. *One hour credit.*

The Symphonic Wind Band is limited in enrollment to approximately 80 members. This organization performs the best literature available for the band. Over the years this CSC band has become known throughout the region for its excellence as a concert organization. The Symphonic Wind Band presents many concerts during the year, and takes an annual tour.

171, 271, 371. CONCERT BAND. *One hour credit.*

The Concert Band is open to all band performers who wish a more limited band experience than is provided by the Symphonic Wind Band. This band studies, rehearses, and presents advanced forms of concert band literature.

172, 272, 372. MARCHING BAND. *One hour credit.*

Open to all men students regardless of major field who have had high school band experience. A study and practice of the fundamentals of drill and presentation of marching maneuvers and pageants at athletic events. Required during Fall Quarter for men in either Symphonic Wind Band or Concert Band. Satisfies physical education requirements for Fall Quarter.

173, 273, 373. VARSITY BAND. *One hour credit.*

Open to all students regardless of major who have had high school band experience. To provide music for athletic and college functions. To read material suitable for use by high school band.

174, 274, 374. STAGE BAND. *One hour credit.*

Membership in the Stage Band is limited to five trumpets, five trombones, five saxophones, and three rhythm players (piano, string bass, percussion). This unit is concerned with jazz idiom music: show music, dance music, and concert jazz. The goal of this type of ensemble training is to give the student a thorough background in this style and to present teaching techniques particular to this idiom in preparation for teaching at both the secondary and college levels. Members of Stage Band must be enrolled in either Concert Band or Symphonic Wind Band.

175, 275, 375. SYMPHONY ORCHESTRA. *One hour credit.*

The College Symphony Orchestra is a rapidly developing organization in which the wealth of the world's most outstanding music is performed. The orchestra is presented regularly in local concerts and participates in performance of the large works for chorus and orchestra performed by the faculty and students of the Division of Music.

176, 276, 376. CHAMBER ORCHESTRA. *One hour credit.*

A select group of approximately 20 string students chosen by audition from the membership of the Symphony Orchestra. The Orchestra performs and reads literature from the Baroque to the present day, specializing in material specifically designed for chamber orchestra.

177, 277, 377. LABORATORY ORCHESTRA. *One hour credit.*

A laboratory course to provide practice orchestra experience on stringed instruments. Orchestral materials and the use of them for continued development of string students will be discussed and demonstrated.

178, 278, 378. MIXED CONCERT CHOIR. *One hour credit.*

Membership in the concert choir is limited to approximately 60 singers. This organization performs a wide range of choral literature from the classics to the music of contemporary composers. The organization is recognized widely for its excellence as a choral performing group. It is in demand throughout the region for concert appearances.

179, 279, 379. ORATORIO CHORUS. *One hour credit.*

Membership to this group of approximately 150 singers is open to all college students on an audition basis. The choir specializes in the performance of large choral masterworks such as Handel's "Messiah" and the "Creation" by Haydn.

180, 280, 380. CHORUS AND ORCHESTRA WORKSHOP. *Maximum of three hours credit per quarter.*

Conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

181, 281, 381. WOMEN'S CONCERT CHOIR. *One hour credit.*

The women's choir is open to all women students who enjoy singing the literature for women's voices. This group performs for many local community and college events. Elementary education majors are especially urged to apply for membership.

182, 282, 382. VARSITY MEN'S GLEE CLUB. *One hour credit.*
 Membership is open to the entire male student body. A love of singing is the main requirement for registration. No formal audition is necessary. The Varsity Men's Glee Club affords an opportunity for men from all schools and divisions to participate in the great tradition of men's ensemble singing while performing a wide range of literature before college and community audiences.

183, 283, 383. CHAMBER SINGERS. *One hour credit.*
 A select group of approximately 20 singers chosen by audition from the membership of the Concert Choir. The choir utilizes in material specifically designed for chamber ensemble.

184, 284, 384. OPERA WORKSHOP. *Three hours credit.*
 Workshop offering practical experience in production of a musico-dramatic show. Techniques of acting, singing, directing, and other facets necessary for preparation of a show for public performance will be offered.

SMALL INSTRUCTIONAL ENSEMBLES

Many small instrumental ensembles are organized and function regularly as a part of the music performance programs. These ensembles include a woodwind quintet, brass ensemble, clarinet ensemble, saxophone ensemble, string quartet, percussion ensemble, French horn ensemble, and piano ensemble.

- 185, 285, 385.** STRING ENSEMBLE. *One hour credit.*
186, 286, 386. BRASS ENSEMBLE. *One hour credit.*
187, 287, 387. WOODWIND ENSEMBLE. *One hour credit.*
188, 288, 388. PERCUSSION ENSEMBLE. *One hour credit.*
189, 289, 389. PIANO ENSEMBLE. *One hour credit.*

1. SIGHT-SINGING AND THEORY I. *Three hours credit.*
 Sight-reading of standard music materials, pitch and rhythmic dictation, symbols of music notation, staff, clefs, scale construction in major and minor keys, and intervals.

2. SIGHT-SINGING AND THEORY II. *Three hours credit.*
 Prerequisite, MUS 1. Continuation of sight-reading, ear training, and dictation; elementary theory to include study of intervals and inversions, triads and inversions, construction of principal and secondary chords, melody writing, and elementary form study.

3. SIGHT-SINGING AND THEORY III. *Three hours credit.*
 Prerequisites, MUS 1 and 2. Continuation of sight-reading, ear training and dictation; chords of seventh and ninth, cadences, analysis, and ear training of standard harmonic materials.

10. BEGINNING CLASS PIANO I. *One hour credit.*
 This is a course designed to fit the needs of the music major who does not have a background in piano. This includes reading skills, technique, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

11. BEGINNING CLASS PIANO II. *One hour credit.*
 This is a course designed to fit the needs of the music major who does not have a background in piano. This includes reading skills, technique and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

12. BEGINNING CLASS PIANO III. *One hour credit.*
 This is a course designed to fit the needs of the music major who does not have a background in piano. This includes reading skills, technique, and style necessary to the playing of simple accompaniments, community songs and other piano music.

13. BEGINNING STRING INSTRUCTION. I. *One hour credit.*
 A study, through performance, of the problems of string playing and the available literature for teaching in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string and their solution.

14. BEGINNING STRING INSTRUCTION II. *One hour credit.*

A study, through performance, of the problems of string playing and the available literature for teaching classes in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string playing and their solution.

15. BEGINNING STRING INSTRUCTION III. *One hour credit.*

A study, through performance, of the problems of string playing and the available literature for teaching classes in heterogeneous and homogeneous groups so that the student will be able, upon graduation, to establish string classes with full knowledge of the problems of string playing and their solution.

20. INTERMEDIATE CLASS PIANO I. *One hour credit.*

This is a course in functional piano designed to fit the needs of the music major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

21. INTERMEDIATE CLASS PIANO II. *One hour credit.*

This is a course in functional piano designed to fit the needs of the music major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music used in the public schools.

22. INTERMEDIATE CLASS PIANO III. *One hour credit.*

This is a course in functional piano designed to fit the needs of the music major who has a slight background in piano. In this course is included the teaching of reading skills, techniques, and style necessary to the playing of simple accompaniments, community songs and other piano music in the public schools.

40. INTRODUCTION TO MUSIC EDUCATION I. *Two hours credit.*

Prerequisite, MUS 3. An introduction course for prospective teachers of music covering the place of music in the school program, recent trends in school music, the qualifications of the music teacher, and a consideration of beginning instructional problems. For music majors only.

41. INTRODUCTION TO MUSIC EDUCATION II. *Two hours credit.*

Prerequisite, MUS 40. A continuation of MUS 40. Methods and materials for the teaching of singing, music reading and related skills, music listening, and rhythm in the public school music program. For music majors only.

42. INTRODUCTION TO MUSIC EDUCATION III. *Two hours credit.*

Prerequisite, MUS 41. A continuation of MUS 41. A study of lesson planning, and classroom techniques in the teaching of music reading, appreciation, creative music, music listening, and rhythm. Techniques in conducting high school music activities. For music majors only.

43. ADVANCED SIGHT-SINGING I. *One hour credit.*

Prerequisites, MUS 1, 2, and 3. This course is a continuation of the first year courses in sight-singing and will provide additional and more advanced training in the techniques of sight-singing and ear training of melodic, harmonic and rhythmic materials.

44. ADVANCED SIGHT-SINGING II. *One hour credit.*

Prerequisite, MUS 43. Continuation of training in sight-singing, ear training, and includes rhythmic, melodic and harmonic dictation. Emphasis will be given to the reading of a wide variety of standard choral works graded to supply reading experiences of progressive difficulty.

45. ADVANCED SIGHT-SINGING III. *One hour credit.*

Prerequisite, MUS 44. A continuation of the sight-singing, ear training, and dictation experiences given in the preceding courses of this series. Reading experience in this course will include standard materials for mixed women's and men's choruses, and the large vocal forms; opera and oratorio.

48. MUSIC APPRECIATION. *Two hours credit.*

A non-technical course aiming to increase the enjoyment and appreciation of music by the listener with little or no previous background. This course will be devoted largely to listening and discussion of the assigned listening.

49. MUSIC FUNDAMENTALS. *Two hours credit.*

A comprehensive study of the rudiments of music for the classroom teacher. Practice is given in simple ear training, music writing through dictation, rhythm work, syllable reading, and group singing. For non-music majors.

52. HARMONY I. *Three hours credit.*

Prerequisite, MUS 3. A review of scales, intervals, triads and their inversions. Correlated studies in ear training, dictation, sight-singing and composition. Normal chord progressions.

53. HARMONY II. *Three hours credit.*

Prerequisite, MUS. 52. A structural harmony unit consisting of seventh chords, inversions, ninth chords and modulations. Correlated studies of ear training, dictation, sight-singing and composition.

54. HARMONY III. *Three hours credit.*

Prerequisite, MUS 53. A structural unit of chromatic harmony, altered chords, embellishing chords, modulations and original compositions.

58. MUSIC LITERATURE AND STYLES I. *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

59. MUSIC LITERATURE AND STYLES II. *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

60. MUSIC LITERATURE AND STYLES III. *Two hours credit.*

The twofold purpose of this course is to foster an appreciation for the best in music and to provide the student with basic music information in the fields of media, terminology, chronology, biography, repertoire and stylistic analysis.

141. INTRODUCTION TO TEACHING ELEMENTARY GENERAL MUSIC. (ATE) *Two hours credit.*

Student attends class three times per week, participating in class discussions and demonstrations of teaching elementary music, and in addition spends a minimum of two hours per week observing in the Laboratory School and in the surrounding public schools.

142. TEACHING MUSIC IN THE SECONDARY SCHOOL. (ATE) *Three hours credit.*

The course consists of presenting to the student methods and materials of teaching general and choral music in the junior-senior high school. Techniques of conducting units and rehearsals in relation to the humanities is stressed.

152. COUNTERPOINT. *Three hours credit.*

Prerequisite, MUS 54. A study of the five species of counterpoint through four parts (or voices); the invention, canon, and fugue; a seminar on the construction and form as applied to contrapuntal technique.

153. FORM AND ANALYSIS. *Three hours credit.*

Prerequisite, MUS 54. The purpose of this course is to acquaint the student with the structure of music, beginning with the single note or figure through to the analysis of the sonata, rondo, and variation forms.

154. INSTRUMENTATION. *Three hours credit.*

Prerequisite, MUS 54. A course planned to develop knowledge and skill in arranging and orchestrating for various combinations of instruments from a few instruments to a full symphony orchestra.

158. HISTORY OF MUSIC I. *Three hours credit.*

Prerequisites, MUS 1, 2 and 3. The historical changes in music from earliest times to the end of the sixteenth century with emphasis on the changes in style.

159. HISTORY OF MUSIC II. *Three hours credit.*

Prerequisite, MUS 158. A study of historical changes which took place in music in the baroque period (1600-1750) and the classic period (1750-1800) with emphasis on changes caused by the new monodic style found in opera, and the beginning of instrumental music.

160. HISTORY OF MUSIC III. *Three hours credit.*

Prerequisite, MUS 159. A study of the musical changes caused by the romantic, post-romantic and impressionistic periods from 1800 to 1920.

162. INSTRUMENTAL TECHNIQUES AND CONDUCTING I. *One hour credit.*

Prerequisites, MUS 1, 2, 3. The technique, practice and principles of instrumental conducting. The development of effective hand and baton technique. Drill and examples of the various meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

163. INSTRUMENTAL TECHNIQUES AND CONDUCTING II. *One hour credit.*

Prerequisite, MUS 162. The techniques and practice of instrumental conducting. The development of hand and baton techniques. Meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

164. INSTRUMENTAL TECHNIQUES AND CONDUCTING III. *One hour credit.*

Prerequisite, MUS 163. The techniques and practice of instrumental conducting. The development of hand and baton technique. Meter patterns, tempo, style, dynamics, musical terms, study and preparation of the musical score. Extensive experience in interpretation of materials using the laboratory band and orchestra.

165. TEACHING INSTRUMENTAL MUSIC. (ATE) *Three hours credit.*
This course will endeavor (1) to present the various aspects of instrumental music in the public schools, both physical and musical; (2) to assist the student in making a systematic preparation for the task of developing a well-rounded instrumental music program.**166. CHORAL TECHNIQUES AND CONDUCTING I.** *One hour credit.*

Prerequisites, MUS 1, 2, 3, 58, 59 and 60. This course provides the student with supervised experience in choral conducting. Problems and techniques considered and applied are rehearsal procedures, voice production, diction, tone color, dynamics, intonation, the organization of the high school choral group, the literature for the chorus.

167. CHORAL TECHNIQUES AND CONDUCTING II. *One hour credit.*

Prerequisite, MUS 166. This course provides the student with supervised experience in choral conducting. Problems and techniques considered and applied are rehearsal procedures, voice production, diction, tone color, dynamics, intonation, the organization of the high school choral group, and literature for the chorus.

168. CHORAL TECHNIQUES AND CONDUCTING III. *One hour credit.*

Prerequisite, MUS 167. This course provides the student with supervised experience in choral conducting. Problems and techniques considered and applied are rehearsal procedures, voice production, diction, tone color, dynamics, intonation, the organization of the high school choral group, and literature for the chorus.

190. CLARINET CLASS. *One hour credit.*

To develop a teaching knowledge of the clarinet family, their specific problems, their functions, and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature and to develop sufficient skill to demonstrate the clarinet.

191. TRUMPET AND FRENCH HORN CLASS. *One hour credit.*

A concentrated course in trumpet and French horn to develop a teaching knowledge of the instruments and to develop enough playing skill to demonstrate good tone, technique, and breath control.

192. BRASS CLASS. *One hour credit.*

To develop a teaching knowledge of trombone, baritone, and tuba. To acquire sufficient skill for purposes of demonstration.

193. STRING CLASS. *One hour credit.*

To develop a teaching knowledge of the characteristics of the strings, their resources, their difficulties and how best to overcome them. To study the basic principles of string performance and to acquire some technical facility by daily practice.

194. PERCUSSION CLASS. *One hour credit.*

To develop a teaching knowledge of percussion instruments, their possibilities, their functions, their difficulties and how to best overcome them, to acquire sufficient skill for purposes of demonstration.

195. DOUBLE REED CLASS. *One hour credit.*

To develop a teaching knowledge of the oboe and bassoon, their individual problems, their functions, and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature, to develop an understanding of the reed and to acquire sufficient skill to demonstrate these instruments.

196. VOICE CLASS. *One hour credit.*

For beginning voice students, particularly elementary majors and majors in instrumental music. Course includes fundamentals of singing, interpretation and solo repertoire.

197. FLUTE AND SAXOPHONE CLASS. *One hour credit.*

Prerequisite, MUS 190. To develop a teaching knowledge of the flute and saxophone, their individual problems, their functions, and their possibilities. To acquaint the prospective teacher with the pedagogic and concert literature, to develop an understanding of the problems of tone production and to acquire sufficient skill to demonstrate these instruments.

201. STAGE AND OPERA TECHNIQUES. *Two hours credit.*

Study of proper selection of opera and operetta; its organization and procedures for casting and tryouts. Rehearsal procedures, scenery, lighting, costuming and makeup; advertising, tickets and programs, and other basics necessary to production of a public performance.

203. MUSIC WORKSHOP. *Three hours credit.*

Workshops are conducted by authorities nationally known in their fields of specialization. The purpose of the workshop is to provide information about current important ideas in each field of knowledge.

204. PRINCIPLES OF VIOLIN AND VIOLA TEACHING. *Two hours credit.*

Prerequisite, Student should be technically proficient in the performance of scales and arpeggios in all keys through three octaves. He should also be familiar with the Etudes of Kreutzer and the standard solo repertoire. This is a laboratory course which includes observation and participation and instruction in group and individual violin and viola.

206. MUSIC AND RECREATION. *Two hours credit.*

The following aspects of recreational music will be stressed: singing and leading of community songs; formation, training, and operation of community performance groups; learning to play some of the simple social instruments and becoming proficient in teaching others how to listen to music intelligently. For non-music majors.

207. LITERATURE OF THE PIANOFORTE. *Three hours credit.*

Prerequisite, piano performance Level II or above. This course is designed to provide a systematic examination of keyboard literature from the English and French schools of the 17th century to the contemporary period. Special emphasis will be placed on detailed study of representative works of Bach, Beethoven, and composers of the Romantic and Modern periods.

209. MUSIC METHODS AND MATERIALS FOR ELEMENTARY TEACHERS. *Two hours credit.*

Prerequisite, MUS 1 or 49. A comprehensive methods course for the elementary classroom teacher covering the teaching of singing, rhythm, music reading, creative activities and music listening. A list of recorded music and song literature for each grade will be developed by the class. Grade placement for all aspects of the music program will be studied.

210. MUSIC LITERATURE FOR ELEMENTARY GRADES. *Three hours credit.*

Music major prerequisites, MUS 141. Non-music major prerequisite, MUS 49, 209. A course designed to further acquaint the classroom teacher and music supervisor with the music literature and instructional aids used in the elementary grades. Collections are made of: (1) songs; (2) rhythmic activities; (3) listening lessons; (4) elementary chorus selections; and (5) program and assembly materials. For both elementary classroom teachers and music supervisors.

211. IMPROVEMENT OF INSTRUCTION IN MUSIC READING. *Three hours credit.*

Prerequisites, MUS 40, 41, 42, 49 and 209. A complete analysis of the program in music reading in the elementary grades. Includes an evaluation of basic methods and materials, curriculum building in music reading, and a survey of published materials suitable for classroom use.

212. MUSIC ACTIVITIES FOR CLASSROOM TEACHERS. *Three hours credit.*

Activities in music for children requiring a minimum of musical skill on the part of the teacher. Includes a study of such activities as playing and reading music with simple melody instruments, the use of the autoharp for song accompaniment, the rhythm band, the construction of simple instruments, and the teaching of songs and rhythmic activities through the use of the phonograph.

213. CHORAL LITERATURE TO 1750. *Three hours credit.*

A study of the stylistic trends, musical characteristics and performance practice of choral music written before 1750.

214. CHORAL LITERATURE FROM 1750. *Three hours credit.*

A study of the stylistic trends, musical characteristics and performance practice of choral music written after 1750.

215. INSTRUMENTAL LITERATURE. *Three hours credit.*

A study of instrumental literature for school groups. The high school band and orchestra, materials for class and individual instruction, and small instrumental ensembles.

216. METHODS AND MATERIALS FOR CLASS VOICE INSTRUCTION. *Three hours credit.*

Organization of the voice class, a study of voice production problems, procedures and techniques such as posture, breath control, resonance, and interpretation through proper diction. Attention will be called to certain advantages to be gained through a class type of instruction.

217. METHODS AND MATERIALS FOR CLASS INSTRUMENTAL INSTRUCTION. *Three hours credit.*

A course designed to give the student practical experience in the organization and teaching of heterogeneous wind instrument classes. The course will stress the improvement of teaching methods and the creation of original materials for class work.

219. IMPROVISATION. *Two hours credit.*

Improvisation is one of the most natural forms of musical expression. The course starts with simple vocal and rhythmical improvisations and proceeds to group improvisation, using prepared charts which indicate mood, tempo, form, and the structural role, leading or accompanying, of each instrument.

220. INSTRUMENT REPAIR AND CARE. *Two hours credit.*

Study of the care and repair of band and orchestral instruments. Practical experience in instrument repairs which requires a minimum amount of equipment, skill and time.

223. PRACTICUM IN BAND CONDUCTING AND PERFORMANCE. *Three hours credit.*

A laboratory course in advanced band conducting and performance. Supervised conducting experience under actual conditions is provided. Marching and football band performance will also be covered.

224. PRACTICUM IN CHORAL CONDUCTING AND PERFORMANCE.*Three hours credit.*

A workshop course in advanced choral conducting and performance. Provides opportunity for supervised conducting, analysis of choral materials, problems of choral organization, a study of the literature of choral conducting and practices.

225. PRACTICUM IN ORCHESTRAL CONDUCTING AND PERFORMANCE.*Three hours credit.*

A workshop course in advanced orchestral conducting and performance. Provides opportunity for supervised conducting, analysis of orchestral material, problems of organization, a study of the literature of orchestral conducting and practice.

226. PRINCIPLES OF PIANO TEACHING I.*Two hours credit.*

Prerequisite, piano performance Level II or above. A laboratory course including observation and participation in group and individual piano instruction. The beginning pianist and individual differences. Readiness and normal progress defined. Musicianship and music reading approached through piano study. Basic keyboard techniques. Criteria for selecting teaching materials.

227. PRINCIPLES OF PIANO TEACHING II.*Two hours credit.*

Prerequisite, MUS 226. Studio procedures. Demonstrations of specific musical and technical problems and their possible solutions. Guided teaching. Keyboard experience in the school music program. Individual differences in sight-reading ability, musicianship, and literature and materials.

228. PRINCIPLES OF PIANO TEACHING III.*Two hours credit.*

Prerequisite, MUS 227. Studio management. Piano teaching as a profession. Class members will assume responsibility for teaching one or more pupils at beginning and intermediate levels with clinical study of problems involved. Adjudication. Public performance. Recital planning. Basic teaching repertory and representative styles.

241. MARCHING BAND TECHNIQUES.*Two hours credit.*

A workshop to provide materials and suggestions to band directors and prospective band directors. To assist with the planning of individual football shows and pageantry.

242. VOCAL REPERTOIRE: GERMAN ART SONG.*Two hours credit.*

A course in performance of nineteenth and twentieth century German Art Song, with particular emphasis upon style, technical requirements and diction.

243. VOCAL REPERTOIRE: FRENCH ART SONG.*Two hours credit.*

A course in performance of nineteenth and twentieth century French Art Song, with particular emphasis upon style, technical requirements and diction.

244. VOCAL REPERTOIRE: 17TH AND 18TH CENTURIES.*Two hours credit.*

A course in performance of songs and airs before the nineteenth century, with particular emphasis upon style, technical requirements and diction in English, Italian, French and German.

251. TEACHING SECONDARY SCHOOL MUSIC.*Three hours credit.*

Previous teaching experience important. A study of the total instructional use of music in the junior and senior high school, with special emphasis on the integration of related humanities in the general music classes and in the performing group rehearsals.

252. SEMINAR IN MUSIC EDUCATION.*Three hours credit.*

Prerequisites, MUS 40, 41, 42, 141, 142; ED 251. A course designed for seniors who have completed student teaching. Each student will work independently on a problem occurring in his student teaching work. The class will be conducted as a seminar with repairs and discussion of the students' problems.

253. MUSIC FOR THE EXCEPTIONAL CHILD.*Three hours credit.*

Prerequisite, MUS 49. No prerequisite for music majors. Music experiences, methods, and materials for retarded, physically handicapped, emotionally maladjusted, academically gifted and the musically talented; discussed from the viewpoint of both music therapy and music education. Observation of music classes in the campus special education school.

258. COMPOSITION I. *Two hours credit.*

Prerequisites, MUS 52, 53, 54, 152, 153, 154. The course aims at giving students who have had some experience in composition and are familiar with basic harmony and forms the opportunity to find the right way to express musical ideas, to increase their power to develop musical material intellectually, and to gain a clearer understanding of contemporary styles and techniques.

259. COMPOSITION II. *Two hours credit.*

Prerequisite, MUS 258. The course aims at giving students who have had some experience in composition and are familiar with basic harmony and forms the opportunity to find the right way to express musical ideas, to increase their power to develop musical material intellectually, and to gain clearer understanding of contemporary styles and techniques.

260. COMPOSITION III. *Two hours credit.*

Prerequisite, MUS 259. The course aims at giving students who have had some experience in composition and are familiar with basic harmony and forms the opportunity to find the right way to express musical ideas, to increase their power to develop musical material intellectually, and to gain a clearer understanding of contemporary styles and techniques.

262. SYMPHONIC LITERATURE. *Three hours credit.*

A study of the literature for the symphony orchestra from the time of Haydn and Mozart to the writings of present-day composers, leading to an understanding and appreciation of the larger works in music.

263. EIGHTEENTH CENTURY HARMONY AND FORMS. *Three hours credit.*

Construction and harmonization of melodies. Review of figured bass and harmonic practices deriving from a study of Bach chorales, part forms, rondo, variation, and sonata principles appearing in eighteenth century music. Altered chords, modulation, non-chordalism, and tonality concepts within Baroque and Classic periods.

264. NINETEENTH CENTURY HARMONY AND FORMS. *Three hours credit.*

Harmonic materials of the nineteenth century, beginning with a brief review of secondary sevenths, diminished sevenths, and continuing with augmented chords, ninth chords, modulation, sequence, and the whole tone scale. Study of simple part forms—song form with trio, rondo forms, variations and the sonata allegro—as used in the nineteenth century. Analysis of compositions in all major forms. Original compositions in shorter forms.

265. TWENTIETH CENTURY HARMONY AND FORMS. *Three hours credit.*

This course is concerned with new compositional techniques employed in twentieth century music as revealed in new concepts of melody, harmony, rhythm and form. When possible, this course should be combined with MUS 385. Seminar: New Music.

266. TEACHING MUSIC APPRECIATION. *Three hours credit.*

Music major prerequisites, MUS 40, 41, 42, 141. Non-music major prerequisite, MUS 209 or 141. Developing a music listening program for schools covering methods of teaching, recorded materials and the construction of a graded program. The published recorded material suitable for both elementary and high school students is studied, as well as reference and textbooks dealing with music appreciation.

267. MUSIC IN AMERICA. *Three hours credit.*

A comprehensive study of the music of our country and the people who have produced it, tracing the development of vocal and instrumental music from the time of the Puritans and Pilgrims to today. Some topics are folk music, symphony orchestra, jazz, and new film music.

268. CHURCH MUSIC. *Three hours credit.*

This course gives a brief survey of music in the history of the Christian church. The philosophy of church music and its real function in worship is studied. The administration of the total music program in the church is outlined. Suitable materials for all occasions are evaluated and classified.

302. PSYCHOLOGY OF MUSIC. *Three hours credit.*

The subjects included in this course are measurements of musical talent, tests and measurements in music, the psychology of musical listening and musical performance.

305. SUPERVISING ELEMENTARY TEACHING OF MUSIC. *Three hours credit.*

Procedures for supervising the music program in the elementary grades, cooperative curriculum building, planning courses of study and units of work, the induction of the beginning teacher, human relations, and in-service education of the classroom music teacher.

306. TEACHER EDUCATION IN MUSIC. *Three hours credit.*

The teacher education program in music including both the pre-service and in-service education of the elementary classroom teacher, the teacher's college music curriculum, the administration of college music, the junior college, and the music program in general education.

307. ADMINISTRATION AND SUPERVISION OF THE MUSIC PROGRAM. *Three hours credit.*

A course designed to acquaint the school administration with the problems of the administration and supervision of the music program. The content includes the place of music in the school program, music equipment, schedules, budget, instructional problems, and public relations in music.

310. PROBLEMS OF INSTRUMENTAL SUPERVISION. *Three hours credit.*

A discussion and study of the problems of instrumental supervision based upon an analysis of the professional problems found to exist in the field of teaching instrumental music.

311. IMPROVEMENT OF INSTRUCTION IN INSTRUMENTAL MUSIC. *Three hours credit.*

A study of the instrumental approach in the development of pitch, rhythm, melody and sight reading. Special emphasis will be given to the development of instrumental performance and musicianship.

317. INSTRUMENTAL TECHNIQUES AND MATERIALS (VIOLIN AND VIOLA). *Three hours credit.*

Prerequisite, MUS 193. A discussion and presentation of the methods used in both class violin and viola teaching and private lessons and a study of the materials used in class teaching. Continued proficiency in actual performance by student.

318. INSTRUMENTAL TECHNIQUES AND MATERIALS (CELLO AND BASS). *Three hours credit.*

Prerequisite, MUS 193. This course provides an opportunity for the graduate student to study the techniques of cello and string bass, to gain additional proficiency in playing, to study materials suitable for all levels of instruction, and to become familiar with the solo and small ensemble literature for these instruments.

319. INSTRUMENTAL TECHNIQUES AND MATERIALS (WOODWINDS). *Five hours credit.*

Prerequisite, MUS 190, 195 or 197. This course provides an opportunity for the graduate student to study the techniques peculiar to instruments of the woodwind family; to gain additional proficiency in playing; to study teaching materials suitable for both individual and group instruction; and to become familiar with the standard solo and small ensemble literature for these instruments.

320. INSTRUMENTAL TECHNIQUES AND MATERIALS (BRASS). *Five hours credit.*

Prerequisite, MUS 191 or 192. An advanced course in the techniques, theories and problems of teaching and playing brass instruments.

323. PRINCIPLES OF THE TEACHING OF VOICE. *Three hours credit.*

A survey of the development of singing through the centuries, classifying the known theories and teaching concepts. Correlation of available sources of bibliographic information provides a core of organized information and orientation for research in this and related fields. The student should have had the study of voice as his undergraduate area of applied music emphasis.

324. COMPARATIVE STRING METHODS AND MATERIALS. *Three hours credit.*

A comparison of the materials used in string teaching. The various methods for student requirements as they apply to individual cases.

325. COMPARATIVE PIANO TEACHING METHODS AND MATERIALS. *Three hours credit.*

A review of past and present piano methods, combined with the fundamentals of piano teaching and playing. Demonstrations of methods and techniques.

350. PRACTICAL ARRANGING. *Three hours credit.*

Prerequisite, MUS 154. A project course in arranging for school instrumental and vocal groups. Projects include arranging for small ensembles in both standard and unusual combinations. transcription of instrumental and vocal descants for the enrichment of song literature.

351. ADVANCED CONDUCTING. *Three hours credit.*

Prerequisites, MUS 162, 163, 164 or 166, 167 and 168. A laboratory course in advanced problems of instrumental and choral conducting. Supervised conducting experience is provided.

360. HISTORICAL ANALYSIS OF MUSIC STRUCTURE. *Three hours credit.*

Prerequisites, MUS 158, 159, 160. A detailed study of the structure of music from the period of plain song to the works of Palestrina. A thorough study of the cadential, harmonic, melodic and rhythmic changes which take place in this period.

361. AESTHETICS AND CRITICISM. *Three hours credit.*

A study of the standard literature of aesthetics. A consideration of art in its relation to experience with specific reference to the function of music in an educational program.

362. HISTORY OF OPERA. *Three hours credit.*

A survey of the history of opera from 1600 to the present. This will include a study of the aesthetic climate, stylistic, musical and dramatic development and methods of character delineation within the various periods of music history.

363. SURVEY OF MUSIC HISTORY. *Three hours credit.*

A survey of music history beginning with Greek music and continuing to the present, designed specifically as a comprehensive review for the new graduate student. Emphasis is placed on styles and characteristics of the music of the Renaissance and succeeding periods. Study of musical scores and outside listening assignments are required.

364. SEMINAR: THE BAROQUE PERIOD. *Three hours credit.*

Music from 1600 to 1750. Beginning and development of opera from its Florentine beginnings through Venetian, Neapolitan and French styles; growth of chamber, orchestral and solo instrumental music; religious vocal music; principal forms, including sonata, suite, concerto, concerto grosso, oratorio, motet, fugue, toccata, prelude. Emphasis placed on compositions of Handel and J. S. Bach.

365. SEMINAR: THE CLASSIC PERIOD. *Three hours credit.*

Historical and cultural influences bearing upon the emergence of eighteenth century classicism in music. The composers, representative works, forms, styles, and media of the Classic Era. Haydn, Mozart, and Beethoven and their treatment of the sonata principle.

366. SEMINAR: THE ROMANTIC PERIOD. *Three hours credit.*

The course will be devoted to the analysis of representative music works of the Romantic period; scores and recorded music will be studied. Related literary movements will be discussed and research projects will be carried out concerning the aesthetic theories and musical criticism of the time.

367. SEMINAR: BEETHOVEN. *Two hours credit.*

The life and works of Beethoven. Readings will be assigned as a basis for study and discussion of Beethoven's life and times. Special topics will be developed by individual students. A general review of the composer's complete works will be complemented by score and record study and analysis of representative compositions.

368. SEMINAR: NEW MUSIC. *Two hours credit.*

This course is primarily concerned with new content and new media as revealed in music of the twentieth century. Literature and biography will be stressed in this course while the actual technical practices of modern composers will be more thoroughly investigated in the companion course, MUS 265, Twentieth Century Harmony and Forms.

369. SEMINAR: CHORAL MUSIC. *Three hours credit.*

A seminar designed to allow discussion of a variety of subjects related to choral literature. Individual projects will be assigned calling for creative research.

401. RESEARCH SEMINAR IN MUSIC EDUCATION. *Three hours credit.*

Analysis of studies in music education; writing and research techniques for dissertations and field studies; a survey of critical problems in music education; the preparation of the research outline.

402. FOUNDATIONS OF MUSIC EDUCATION. *Three hours credit.*

A critical analysis of instructional procedures in teaching aural, rhythmic, and theoretical concepts in music. A study of philosophical, psychological, and sociological backgrounds of education as related to the arts. Symposium of advanced graduate students and music education faculty in addition to the regularly scheduled class meetings.

420. CRITERIA FOR MUSIC ANALYSIS AND COMPARISON. *Four hours credit.*

MUS 420 is designed as an introductory course to acquaint the candidate with the subtleties of analytical and comparative music problems.

421. PRACTICUM IN ARRANGING AND PERFORMANCE. *Three hours credit.*

Prerequisite, MUS 420. This course will deal with transcribing, editing, and performing of valuable music from unusable original forms to useful available material for pedagogic, historic and concert occasions. Stylistic practices will be given major consideration. Music of the Baroque and Pre-Baroque eras will be the chief sources of material.

DIVISION OF NURSING

Miss L. Elaine McMinn, Chairman

Associate Professors: Huber, McMinn, O'Neal, Rubenstein.

Assistant Professors: Sawatzky, Self, Thiele, Woods.

Instructors: Carlson, Hallan, Payton.

Description of Courses

10. INTRODUCTION TO NURSING. *Three hours credit.*

An introduction to the broad field of nursing in the present social order. Historical and contemporary social forces are studied in relation to their influence on the development of nursing. Emphasis is on the unique responsibilities of the professional nurse in an increasingly complex system of health and medical care.

100. BASIC PRINCIPLES OF NURSING. *Ten hours credit.*

An introduction to clinical nursing. Considers environmental psychosocial and individual needs for optimum health. Designed to give students beginning understanding and ability to identify and meet basic nursing needs common to all patients. Application of principles from natural and social sciences emphasized.

101. PHARMACOLOGY. *Three hours credit.*

A study of the nature, action, therapeutic uses, toxicology, and desired therapeutic effects of drugs in common use. Concurrent with NURS 100.

102. MATERNITY NURSING. *Ten hours credit.*

Prerequisites, NURS 100, 101. A study of concepts basic to effective nursing care of mothers and infants. A developmental and family centered approach which places emphasis on normal aspects of the reproductive cycle. Physiological, psychological and cultural factors affecting maternal and infant health are considered. Supervised practice in the nursing care of selected mothers and infants.

103. MEDICAL-SURGICAL NURSING. *Ten hours credit.*

Prerequisites, NURS 100, 101. A study of concepts essential for effective nursing care of adults requiring medical or surgical treatment because of illness or accident. Includes nursing measures used in prevention, treatment and rehabilitation. Guided participation in the operating room and medical and surgical units. Emphasis is on the application of appropriate knowledge and skills in identifying and meeting individual nursing needs.

104. PSYCHIATRIC NURSING. *Ten hours credit.*

Prerequisites, NURS 100, 101. A study of the principles of nursing care of the mentally ill. Content includes causes, behavior patterns, treatment, and prevention of mental illness. Continues the study of emotional needs of patients, dynamics of personality development and interpersonal relationships introduced in other courses. Major emphasis is on the therapeutic role of the nurse in the care of psychiatric patients. Supervised clinical practice.

200. PUBLIC HEALTH NURSING. *Ten hours credit.*

Prerequisites, NURS 102, 103, 104. An introduction to the philosophy and principles of Public Health Nursing. Responsibilities and activities of the nurse in a generalized Public Health Nursing program are studied. Emphasis is given to the role of the Public Health Nurse in family and community health service. Guided Public Health Nursing field practice.

201. PREVENTIVE MEDICINE AND PUBLIC HEALTH. *Three hours credit.*

A study of concepts derived from the field of Public Health which includes an introduction to Public Health Administration, environmental sanitation, biostatistics, and epidemiology. Concurrent with NURS 200.

202. NURSING OF CHILDREN. *Ten hours credit.*

Prerequisites, NURS 102, 103, 104. A study of the child as an individual as a member of a family unit, and as a contributing member of society. In discussing disorders peculiar to children, the emphasis is placed upon the effects of illness on normal growth and development. Utilizing the developmental approach, the course discusses the individual from infancy through adolescence. Includes supervised clinical practice.

203. ADVANCED MEDICAL-SURGICAL NURSING. *Twelve hours credit.*

Prerequisites, NURS 102, 103, 104. Designed to increase the student's ability to identify and analyze problems of selected medical-surgical patients and to evolve and implement a plan of nursing care. Also introduces administrative skills applicable to nursing. Guided participation in planning for, directing, and evaluating the nursing care of groups of patients.

204. TRENDS IN NURSING. *Two hours credit.*

Prerequisites, NURS 102, 103, 104, or permission of instructor. A study of trends, problems and issues in present day nursing. Examines purpose, structure and function of nursing organizations. Explores opportunities in various fields of nursing. Emphasis is on responsibilities of the graduate to herself, to society, and to the nursing profession.

ADMINISTRATION

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The first figure in parentheses shows the date of the first appointment; the second figure is the date when the present term expires.

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Temporary Instructor in Elementary Education

ARCHIE D. HESS, A.B., M.A., Colorado College; Ph.D., Cornell University.

Research Professor; Chief, Encephalitis Laboratory, Public Health Service

MILDRED C. HILLESTAD, B.Ed., Wisconsin State College; M.Bus. Ed., University of Colorado; Ph.D., University of Minnesota.

Associate Professor of Business Education

On Leave, Fall Quarter, 1966.

TYRUS HILLWAY, B.A., Willamette University; M.A., University of California; Ph.D., Yale University.

Professor of Higher Education

JOSEPH E. HIMMEL, B.A., North Central College; M.Mus., Northwestern University.

Associate Professor of Music

SAM LEE HOFER, A.B., M.S., Kansas State Teachers College; M.A., University of Denver.

Instructor in Library Science

KENNETH EDGAR HOGAN, B.A., Ottawa University; M.A., Ed.D., Colorado State College.

Associate Professor of Education

PRESTON HOLDEN, M.P.H., D.P.H., University of Pittsburgh.

Research Associate Professor; Chief, Virology Section, Public Health Service

DONALD LEAGUE HOLLEY, B.Ed., Illinois State Normal University; M.A., University of Illinois; Ed.D., Colorado State College.

Associate Professor of Speech

DARRELL HOLMES, B.A., M.A., Ph.D., Ohio State University.

Professor of Education

RONNALIE JOANNE HOWARD, A.B., M.A., Montana State University.

Instructor in English

ANGELA SUN HSI, A.B., National Taiwan University; M.A., University of California at Berkeley.

Instructor in Asian History

HELEN MARY HUBER, B.S., College of Mt. Saint Joseph; M.S.N. in Psychiatric Mental Health Nursing, Catholic University of America.

Associate Professor of Psychiatric Nursing; Director of Nursing, Fort Logan Mental Health Center

CHESTER C. HUFF, JR., B.S., Indiana University; M.A., DePaul University.

Assistant Professor of English

LILLIAN HUFFMAN, A.B., Taylor University; M.A., San Jose State College.

Instructor in Elementary Education

LEROY DENNIS HUMPHREY, B.S., Colorado State University; M.S., North Dakota State University.

Instructor in Health and Physical Education

BERNICE ELEANOR HUNN, B.S., Kansas State Teachers College, Emporia; M.A., Ed.D., Colorado State College.

Assistant Professor of Elementary Education

HUDINE C. HUNT, A.B., M.A., University of Denver.

Instructor in Special Education

JAMES HURD, A.B., M.A., Colorado State College.

Instructor in Social Studies

RITA JOHNSON HUTCHERSON, A.B., Culver-Stockton College, Missouri; Certificate in Theory, Yale University School of Music; M.A., Ph.D., State University of Iowa.

Professor of Music

JOSEPH MILLS HUTCHINSON, B.F.A., M.A., University of Denver.

Instructor in Fine Arts

QUAIN JAHRMAN, B.S., Dickinson State Teachers College; M.A., Colorado State College; Ed.D., University of Arkansas.

Professor of Industrial Arts, Pakistan Project

MARLYNN REES JAMES, B.S., M.S., Brigham Young University; Ph.D., University of Utah.

Assistant Professor of Chemistry

ROBERT S. JAMES, B.M.E., M.Mus., Northwestern University.

Assistant Professor of Music

FRANK RAYMOND JAMISON, B.A., University of Kansas City; M.S., Syracuse University.

Instructor in Radio and Television

ALEX JARDINE, A.B., M.A., Indiana State Teachers College; Ed.D., Teachers College, Columbia University.

Associate Professor of Education

DAVID L. JELDEN, A.B., Nebraska State Teachers College, Kearney; M.A., Colorado State College; Ed.D., University of Missouri.

Associate Professor of Industrial Arts

DANA FRANCES JOHNSON, B.F.A., Ed.D., University of Kansas.

Assistant Professor of Fine Arts

F. MORRIS JOHNSON, A.B., M.A., Colorado State College; Ed.D., University of Denver.

Professor of Industrial Arts

GERMAINE ROSE JOHNSON, B.S. in Ed., Midland College; M.M., University of Michigan.

Instructor in Music

JOHN MORROW JOHNSON, A.B., Colorado State College; M.A., University of Denver.

Instructor in Education

ROBERT LEO JOHNSON, A.B., M.A., Colorado State College; M.S., University of Illinois.

Assistant Professor of Mathematics

HILLIARD AUDRIE JOHNSTON, A.B., Kansas Wesleyan University; M.A., Fort Hays State College.

Instructor in Mathematics

DOROTHY CAMERON JONES, A.B., M.A., Wayne State University.

Assistant Professor of English

ZAHİ SUDQİ KAMAL, B.S., M.A., Colorado State University.

Instructor in Sociology

M. CAROLYN KAVANAGH, A.B., Principia College; M.A., Northwestern University.

Instructor in English

EDWARD ARNOLD KEARNS, A.B., M.A., University of Arizona.

Instructor in English

KEVIN CORRIGAN KEARNS, B.S., Washington University; M.A., Ph.D., St. Louis University.

Assistant Professor of Geography

EDWARD JAMES KELLY, B.A., Defiance College, Ohio; M.A., Ph.D., State University of Iowa.

Professor of Elementary Education

LYLE L. KELSEY, Capt., U.S. Air Force; B.A., Colorado State College.

*Assistant Professor of
Aerospace Studies*

CALVIN EDWARD KENNEDY, B.S., Southeastern State College; M.S., Oklahoma State University; Ph.D., University of Nebraska. C.P.A.

Assistant Professor of Business

LEROY RAYMOND KERNS, A.B., M.A., Colorado State College; Ed.D., University of Colorado.

Professor of Education

BAHEEJ KHLEIF, M.A., International Institute of Social Studies, The Hague, Holland.

*Temporary Instructor in
Sociology*

LEWIS KIDDER, B.S., Kansas State University; M.D., University of Kansas.

*Associate Professor of Medical
Technology; Director, Department
of Pathology, Weld County
General Hospital*

RALPH ROY KING, A.B., M.A., Colorado State College; Ed.D., University of Denver.

Professor of Music

BERNARD CONRAD KINNICK, A.B., St. John's University; M.A., University of North Dakota; Ed.D., Auburn University.

*Assistant Professor of Psychology,
Counseling and Guidance*

LORENE I. KNAPP, A.B., M.A., Los Angeles State College.

Temporary Instructor in Education

RAY B. KNAPP, A.B., Los Angeles State College; Ph.D., University of Southern California.

*Assistant Professor of Political
Science*

WILLIAM GEORGE KOCH, B.S., University of Notre Dame; M.A., Montana State University; Ph.D., University of Illinois.

*Professor of Chemistry
On Leave Summer Quarter, 1967.*

CAROL L. KOEHMSTEDT, B.A., College of St. Scholastica; M.A., University of Minnesota.

*Instructor in Library Science;
Assistant Reference Librarian*

OLIVER PAUL KOLSTOE, A.B., State Teachers College, North Dakota; M.A., University of North Dakota; Ph.D., State University of Iowa.

Professor of Special Education

EUGENE DE VERE KOPLITZ, B.S., Wisconsin State College; M.S. Ph.D., University of Wisconsin.

*Professor of Psychology,
Counseling and Guidance*

GABOR KOVACS, B.A., Air Force Academy, Hungary; M.A., Western Michigan University.

*Instructor in Library Science;
Circulation Librarian*

JOHN MOTT KRUGER, B.S., Western Michigan University; M.A., Colorado State College.

Instructor in Industrial Arts

JACK JOSEPH LABONDE, A.B., M.A., Colorado State College.

*Assistant Professor of Health
and Physical Education*

PAUL C. LABORNE, A.B., North Texas State College; M.A., Colorado State College.

Instructor in Foreign Languages

FRANK P. LAKIN, A.B., M.A., Colorado State College; Ed.D., Oregon State University.

*Assistant Professor of
Psychology, Counseling and
Guidance*

ROBERT WALTER LARSON, B.A., M.A., University of Denver; Ph.D., University of New Mexico.

Associate Professor of History

JESSIE EMILY LATHAM, A.B., M.A., Colorado State College.

*Associate Professor of Health
Education*

On Leave Summer Quarter, 1967.

GEORGE LEACH, A.B., M.A., M.S., Texas University.

Assistant Professor of Education

ROSE AILEEN LEACOCK, B.S., M.A., George Peabody College for Teachers.

Associate Professor of Art

PAUL LINDNER LEHRER, B.S., University of Cincinnati; M.A., Ohio State University; Ph.D., University of Nebraska.

Associate Professor of Geography

ALICE JUANITA LEWIS, B.S., West Texas State College; M.A., Ph.D., University of Iowa.

*Associate Professor of
Elementary Education*

CARL G. LILLIEQUIST, B.A., Earlham University; M.S., University of Wisconsin.

Part-time Instructor in Earth Science

VIRGIL Y. LINDAHL, A.B., Nebraska State College, Wayne; M.A., Colorado State College; P.E. Dir., Indiana University.

Associate Professor of Physical Education

IVO E. LINDAUER, B.S., Colorado State University; M.A., Colorado State College.

Assistant Professor of Science
On Leave Fall, Winter, Spring and Summer Quarters, 1966-67.

SANFORD ABEL LINSCOME, B.M.E., McNeese State College; M.Mus., University of Illinois.

Instructor in Music

JEAN FRANCES LONG, B.S., Oklahoma State University; M.S., Texas Woman's University.

Instructor in Home Economics

ROBERT LEROY LONGWELL, A.B., Kearney State College; M.A., Colorado State College.

Assistant Professor of English and Speech

MARY HELEN LOPEZ, A.B., Colorado State College.

Instructor in Foreign Languages

GEORGE HENRY LOWIN, A.B., University of California; M.A., University of California at Los Angeles.

Temporary Instructor in History

BETTY LUCILLE LOWRY, A.B., M.A., Colorado State College; Ph.D., University of Iowa.

Associate Professor of Elementary Education

J. MAX LUBBERS, A.B., M.A., Colorado State College.

Associate Professor of Industrial Arts

On Leave Summer Quarter, 1967.

JEANE L. LUERE, B.A., B.S., M.A., Ohio State University.

Instructor in English

ARNO HENRY LUKER, LL.B., B.S., University of South Dakota; A.M., Michigan State University; Ed.D., Colorado State College.

Professor of Psychology, Counseling and Guidance; Chairman, Department of Psychology, Counseling and Guidance

DONALD M. LUKETICH, B.S.E., Arkansas State College; M.S.E., Illinois University; Ed.D., Colorado State College.

Assistant Professor of Education

CAROL L. LUTEY, B.S., M.A., University of Minnesota; Ph.D., Michigan State University.

Professor of Psychology, Counseling and Guidance

ORALIE D. MCAFEE, A.B., Oklahoma State University; M.A., Colorado State College.

Temporary Instructor in Education

DANIEL C. MCALEES, A.B., Albright College, Pennsylvania; M.A., Ed.S., Ph.D., Michigan State University.

Assistant Professor of Special Education

HAROLD LEROY MCKAIN, JR., B.S., Central Missouri; M.Ed., University of Oklahoma; Ph.D., State University of Iowa.

Assistant Professor of Physical Education

WARREN JEROME McMILLEN, A.B., M.A., Colorado State College.

Instructor in Physical Education

L. ELAINE McMINN, B.S., University of Tulsa; M.S., Western Reserve University.

Associate Professor of Nursing

JOHN MARBERRY, B.S., M.S., University of Wisconsin.

Instructor in English

JOHN IRVING MARIANI, A.B., University of Nevada; B.F.A., Chicago Art Institute; M.A., Colorado State College.

Professor of Art

ANTHONY MARIA-ROSSI, B.S., New York University; M.A., Colorado State College.

Associate Professor of Physical Education

STANLEY MATOREN, B.A., Brooklyn College; M.A., New York University; M.A., University of Missouri.

Assistant Professor of History

JOHN HENRY MEIER, B.A., Regis College; M.A., Ph.D., University of Denver.

Assistant Professor of Psychology, Counseling and Guidance

ANTHONY MENK, A.B., M.A., Colorado State College.

Assistant Professor of Music

CHARLES AUGUST MEYER, A.B., Wagner College; M.A., University of Arizona.

Instructor in English

HOWARD M. MICKENS, B.S., Bowling Green State University; M.M., Northwestern University.

Assistant Professor of Music

BARBARA H. MICKEY, B.A., M.A., Ph.D., Indiana University.

Assistant Professor of Anthropology

JOHN ROBERT MICKEY, B.S., Kansas State Teachers College, Emporia.

Assistant Professor of Anthropology; Chairman, Department of Anthropology—Sociology

GARY EVAN MILLER, A.B., M.A., Colorado State College.

Assistant Professor of Education

JAMES EARL MILLER, B.M., Michigan State University; M.A., Colorado State College; M.F.A., Ph.D., State University of Iowa.

Professor of Instrumental Music

On Leave Summer Quarter, 1967.

ROGER W. MILLER, B.A., Arizona State University; M.A., State University of Iowa.

Instructor in Spanish; Chairman, Department of Foreign Languages

JOHN MILLS, B.S., M.D., University of Nebraska.

Assistant Professor of Medical Technology; Pathologist, Weld County General Hospital

ESTELL E. MOHR, B.S., Teachers College, Columbia University; M.A., Colorado State College; Ed.D., Stanford University.

Professor of Public School Music

ARTHUR DAVID MOINAT, B.S., Colorado State University; M.S., Oregon State College; Ph.D., University of Illinois.

Professor of Botany

Will retire September 30, 1967.

LOLA J. MONTGOMERY, A.B., University of Kansas; M.A., Colorado State College; Ed.D., Teachers College, Columbia University.

Assistant Professor of Psychology, Counseling and Guidance

ROBERT A. MONTGOMERY, A.B., Pepperdine College; M.S., University of Southern California; Ed.D., Colorado State College.

Associate Professor of Physical Education

HOLLIS R. MOOMAW, Lt. Col., U.S. Air Force; B.A., M.A., Arizona State University.

Professor of Aerospace Studies

KENYON B. MORGAN, B.M., Western Michigan University; A.M., University of Michigan.

Instructor in Psychology, Counseling and Guidance

ROBERT E. MORGENSTERN, A.B., University of Montana; M.A., Michigan State University.

Temporary Instructor in Psychology, Counseling and Guidance

GAYLORD DEAN MORRISON, B.S., Northwest Missouri State College; M.A., University of Nebraska; Ed.D., University of Missouri.

Professor of Education

ALVIN O. MOSBO, A.B., Luther College; M.A., State University of Iowa; Ed.D., Colorado State College.

Professor of Elementary Education; Chairman, Department of Elementary Education

ROBERT H. MOSS, B.S., Utah State University; M.S., Ed.D., Brigham Young University.

Assistant Professor of Education

L. CAROL MOSSER, B.S., East Stroudsburg State College; M.A., Colorado State College.

Assistant Professor of Physical Education

LOUISE S. MUELLER, A.B., M.A., Colorado State College.

Instructor in Library Science

DONALD LEE MYERS, B.A., Washburn University; M.A., Kansas State University.

Assistant Professor of Education

GRACE D. NAPIER, A.B., Douglas College; M.A., New York University; M.Ed., Ed.D., Temple University.

Assistant Professor of Special Education

LOUISE ADELAIDE NEAL, A.B., Friends University, Wichita, Kansas; A.M., University of Colorado; Ed.D., Colorado State College.

Professor of Elementary Science

THEODORE MURRY NELSON, B.S., M.A., Ph.D., University of Minnesota.

Associate Professor of Psychology

JOE NICHOLS, B.S., M.S., Kansas State College; Ed.D., University of Colorado.

Assistant Professor of Education

- GLENDON P. NIMNIGHT, B.A., M.A., University of Wyoming; Ed.D., Stanford University.
Professor of Education
- HOWARD DANIEL NINEMIRES, A.B., M.A., Colorado State College.
Associate Professor of Education
- DWIGHT E. NOFZIGER, B.S. in Ed., Bowling Green State University; M.A., Teachers College, Columbia University.
Assistant Professor of Music
- ORLOW P. NOKKEN, B.S., Moorhead State College; M.A., Colorado State College.
Temporary Instructor in Physical Education
- LLOYD A. NORTON, A.B., M.A., Colorado State College.
Instructor in Speech
- CAROLE YVONNE NOTTO, B.S., Northern Illinois University; M.A., Texas Woman's University.
Instructor in Physical Education
- JUANITA W. NYE, B.S., East Central State College; M.A., Oklahoma State University.
Instructor in Home Economics
- RETA O'NEAL, B.S. in Nursing, University of Colorado; M.P.H., University of North Carolina.
Associate Professor of Public Health Nursing; Director of Nursing, Weld County Health Department
- DAVID OLIN OLSON, B.S., Northern Illinois University; M.A., Colorado State College.
Associate Professor of Industrial Arts
On Leave Fall, Winter and Spring Quarters, 1966-67.
- KENNETH V. OLSON, B.A., Augsburg College; M.A., Ph.D., University of Minnesota.
Associate Professor of Science Education
- NORMAN T. OPPELT, B.S., Colorado State University; M.A., Colorado State College; Ph.D., Michigan State University.
Associate Professor of Psychology, Counseling and Guidance
- TERUTOMO OZAWA, A.B., Tokyo University of Foreign Studies; M.B.A., Ph.D., Columbia University.
Assistant Professor of Economics
- ARTHUR R. PARTRIDGE, A.B., M.S. in Ed., University of Kansas; Ed.D., Stanford University.
Associate Professor of Education; Chairman, Department of Educational Administration
- RITA J. PAYTON, B.S., St. Mary's College; M.S., Indiana University.
Instructor in Nursing Children
- GEORGE BRUBAKER PEARSON, B.S., Lock Haven State College; M.Ed., Springfield College; Ed.D., University of Oregon.
Professor of Physical Education
- RUSSELL GEORGE PECKENS, A.B., Drake University; M.A., University of South Dakota; Ed.D., University of Tennessee.
Professor of Psychology, Counseling and Guidance, Pakistan Project
- RICHARD ADOLPH PERCHLIK, B.S. in Bus., B.S. in Ed., M.A., Ohio State University; Ed.D., University of Colorado.
Associate Professor of Social Studies; Chairman, Department of Political Science
- KENNETH FREDERICK PERRY, A.B., M.A., Colorado State College; Ph.D., Columbia University.
Professor of Industrial Arts
- DWAYNE DOUGLAS PETERSON, B.A., Pacific Lutheran University; M.A., San Francisco State College.
Assistant Professor of Special Education
- RICHARD W. PEYTON, B.A., Occidental College; M.A., Los Angeles State College.
Instructor in English
- KEITH ALLYN PIERCE, A.B., Wheaton College; M.Ed., Ed.D., University of Oregon.
Assistant Professor of Psychology, Counseling and Guidance
- RONALD KEITH PLAKKE, A.B., Colorado State College; Ph.D., University of Montana.
Assistant Professor of Zoology
- PAULINE CRAIG POGUE, A.B., M.A., Colorado State College.
Associate Professor of History; Chairman, Department of History
- ROBERT E. POLLEY, A.B., Moorhead State College; M.A., Northern Illinois University.
Temporary Instructor in Social Studies

WILLIAM DEAN POPEJOY, B.S. in Ed., M.A. in Ed. Illinois State Normal University; Ed.D., Colorado State College.

Associate Professor of Mathematics

STEPHEN TALLICHET POWERS, B.S., U.S. Naval Academy; M.A., Rice University; Ph.D., University of Notre Dame.

Assistant Professor of History

WALTER FRANK PRINCIC, B.A., Baldwin-Wallace College; M.A., University of Illinois.

Assistant Professor of English

FRANCIS RUSHFORD QUAMMEN, A.B., M.A., Colorado State College.

Associate Professor of Sociology

CLAIRE A. QUINLAN, B.A., University of Rhode Island; M.A., Ph.D., Colorado State College.

Assistant Professor of Psychology

KUNHUNNI RAGHUNANDANAN, B.S., University of Kerala, India; M.Sc., Central Research Institute; M.S., University of Wyoming; Ph.D., Colorado State University.

Assistant Professor of Mathematics

JERRY L. RATLIFF, A.B., M.A., Colorado State College.

Instructor in Business Education and Physical Education

NICHOLAS FRANK RAYDER, A.B., Lycopom College; M.S., Colorado State University.

Temporary Instructor in Education

WILLARD F. REESE, A.B., University of Wisconsin; M.A., Ed.D., Colorado State College.

Professor of Science Education, Pakistan Project

MARILYN LAREE REEVES, B.S., Colorado State University; M.S., Oregon State University.

Instructor in Home Economics

WILLIAM R. REID, A.B., Missouri Valley College; M.A., Ph.D., State University of Iowa.

Professor of Special Education

ARTHUR RAE REYNOLDS, A.B., Nebraska State Teachers College, Peru; M.A., Ph.D., University of Minnesota.

Professor of History

ROYAL ALLEN RICH, B.S., University of Nebraska; M.S., Ph.D., Utah State University.

Assistant Professor of Zoology

PAUL W. RICHARD, A.B., M.A., Colorado State College.

Temporary Part-time Instructor in Biology

WINNIFRED S. RICHARDSON, B.A., M.A. in Library Science, University of Denver.

Instructor in Library Science; Assistant Reference Librarian

MARY E. RIDER, B.A., Miami University, Oxford, Ohio; B.S. in Library Science, University of Illinois.

Assistant Professor of Library Science; Assistant Reference Librarian

FRED A. RIETBROCK, B.Ed., Wisconsin State College; M.A., Ed.D., Colorado State College.

Professor of Educational Administration, Pakistan Project

NORMAN GAYLE RING, A.B., Colorado State College.

Instructor in Physical Education

EMMETT ALLISON RITTER, A.B., M.A. Ed.D., University of Oregon.

Assistant Professor of Education

DONALD T. ROBINSON, B.M., Colorado State University; M.A., University of Denver.

Instructor in Music

JOHN THOMAS ROSCOE, B.E., Colorado State University; M.A., Ph.D., Colorado State College.

Assistant Professor of Education

BARRY ROTHBAUS, A.B., Hunter College; M.S., University of Wisconsin.

Assistant Professor of History

FRANK J. RUBENSTEIN, B.S., University of Illinois; M.S.W., Ph.D., University of Pittsburgh.

Assistant Professor of Sociology

VERA MARIE RUBENSTEIN, B.A., University of New Mexico; M. Litt., University of Pittsburgh.

Associate Professor of Mental Health Nursing

FRED K. RUMFORD, B.S., M.S., Kansas State University.

Assistant Professor of Mathematics

GEORGE H. SAGE, A.B., M.A., Colorado State College; Ed.D., University of California at Los Angeles.

Assistant Professor of Physical Education

- GEORGE FRANKLIN SANDERSON, A.B., M.A., Colorado State College.
Associate Professor of Education
On Leave Fall Quarter, 1966.
- GORDON HOWARD SAWATZKY, B.A., Bethel College; M.N., Yale University; M.S., University of Colorado.
Assistant Professor of Psychiatric Nursing
- EVALYN VIRGINIA SCAMELL, B.F.A., B.A.E., University of Kansas; M.Ed., Pennsylvania State University.
Instructor in Fine Arts
- TEDDY C. SCHAFFER, Capt., U.S. Air Force; B.S., University of Wyoming.
Assistant Professor of Aerospace Studies
- WALTER ALLEN SCHENKMAN, A.B., Harvard University; Diplome d'Etudes, Paris Conservatory; M.Mus., Yale Music School; D.Mus., Indiana University.
Professor of Music
- ROBERT W. SCHMEDING, A.B., Wittenberg University; M.A., Ed.D., Ohio University.
Professor of Education, Pakistan Project
- JOHN SCHMID, B.S., M.A., Ph.D., University of Wisconsin.
Professor of Education
- DONALD LEE SCHMIDT, A.B., Bethel College; M.A., Ph.D., Iowa State University.
Associate Professor of Mathematics
- GERALD D. SCHMIDT, A.B., Colorado State College; M.S., Ph.D., Colorado State University.
Assistant Professor of Zoology
- CLAUDE MATTIAS SCHMITZ, A.B., M.A., Colorado State College.
Associate Professor of Music
On Leave Fall Quarter, 1966.
- JAMES OTTO SCHRECK, A.B., University of St. Thomas; M.S., Ph.D., Texas A&M University.
Assistant Professor of Chemistry
- HERBERT C. SCHUMACHER, B.F.A., M.F.A., University of Kansas.
Instructor in Fine Arts
- REX R. SCHWEERS, JR., A.B., M.A., Colorado State College.
Assistant Professor of Mathematics
- DANIEL ALBERT SEAGER, B.A., Oklahoma Baptist University; A.B., M.A., University of Oklahoma.
Associate Professor of Library Science; Director of Library Services
- DONALD EDWARD SEAGER, A.B., Geneseo State Teachers College; M.S., Syracuse University.
Instructor in Audio-Visual Education
- EVELYN LATIMER SELF, B.S., M.S., Montana State College.
Assistant Professor of Public Health Nursing
- LYNN SETTJE, A.B., Midland College; M.A., Colorado State College.
Instructor in Arts
- JACK SHAW, A.B., University of Saskatchewan; B.Ed., M.Ed., University of Manitoba; Ph.D., University of Minnesota.
Professor of Educational Psychology and Guidance; Chief-of-Party, Pakistan Project
- RUTHANN SHAY, A.B., M.A., University of Minnesota.
Temporary Instructor in Anthropology
- JOHN MAX SHIRLEY, B.S., M.A., University of New Mexico; Ed.D., Colorado State College.
Associate Professor of Physical Education
- JOSEPH LESLIE SHOEMAKER, A.B., M.A., Colorado State College; Ed.D., University of Colorado.
Professor of Science
- KENNETH LEE SHROPSHIRE, B.A., Miami University.
Assistant Professor of Geology
- HOWARD M. SKINNER, B.A., Sterling College, Kansas; B.Mus., M.Mus., McPhail College of Music; D.Mus., Northwestern University.
Assistant Professor of Music
- ROBERT SMITH, L.R.A.M., Royal Academy of Music; M.M.E., Ed.D., Florida State University.
Assistant Professor of Music
- DONALD W. SMITHERMAN, B.S., Fort Hays State College; M.A., University of Wichita; Ph.D., University of Kansas.
Associate Professor of Special Education
- GRACE E. SPECKMANN, A.B., M.A., University of Colorado.
Instructor in English
- MAYNARD N. STAMPER, B.S., Eastern Kentucky State College; M.A., Colorado State College; Ph.D., Ohio State University.
Professor of Zoology; Chairman, Department of Biological Science

WENDELL R. STARR, A.B., Ottawa University; M.A., University of Colorado; Ph.D., University of Minnesota.
Associate Professor of English

WESLEY MORGAN STATON, B.S., University of Alabama; Ed.M., Ed.D., Boston University.
Professor of Health Education
On Leave Summer Quarter, 1967

DORIS CAROL STEFFY, B.A., State College of Iowa; M.A., State University of Iowa.
Associate Professor of Physical Education
On Leave Summer Quarter, 1967

JAMES A. STOFFLER, B.S., Southern Illinois University; M.A., Marquette University; Ph.D., Southern Illinois University.
Assistant Professor of Education

JUNE ELIZABETH STUCKEY, A.B., B.S. in Ed., Wilmington College; M.A., Ph.D., Ohio State University.
Associate Professor of Psychology; Chairman, Department of College Student Personnel Work

DOUGLAS LEE STUTLER, A.B., M.A., Colorado State College.
Instructor in Education

ROBERT B. SUND, B.A., Reed College; M.S., Oregon State University; M.A., Ed.D., Stanford University.
Associate Professor of Science Education

GERALD E. TANNER, A.B., M.A., Colorado State College.
Assistant Professor of Psychology, Counseling and Guidance

JO ANN TAYLOR, B.S., Northwest Missouri State College; M.A., Colorado State College.
Instructor in Home Economics

JAMES PENDLETON THAMES, B.B.A., M.B.A., University of Texas.
Instructor in Business

JOAN ELIZABETH THIELE, B.S., Texas Woman's University; M.S., Western Reserve University.
Assistant Professor of Medical-Surgical Nursing

BERT O. THOMAS, B.S., M.S., Colorado State University; Ph.D., University of Minnesota.
Associate Professor of Zoology

VIVIAN B. TILDEN, A.B., Hastings College; M.A., Colorado State College.
Assistant Professor of Library Science; Assistant Catalog Librarian

ROBERT ADEN TOLAR, B.S., Lamar College; M.A., University of Texas.
Instructor in Mathematics

OSCAR WILLIAM TOLLEFSON, B.S., Huron College; M.A., Ph.D., University of Colorado.
Professor of Geology; Chairman, Department of Earth Science

GORDON ERNEST TOMASI, A.B., M.A., Colorado State College; Ph.D., University of Louisville.
Associate Professor of Chemistry
On Leave Summer Quarter, 1967.

SYLVESTER ROY TOUSSAINT, A.B., Ripon College; A.M., University of Michigan; Ph.D., University of Wisconsin.
Professor of Speech; Chairman, Department of Speech and Theatre Arts
Will retire September 30, 1967.

ORVEL LEROY TRAINER, A.B., M.A., Ph.D., University of Colorado.
Associate Professor of Economics; Chairman, Department of Economics

DORRIS E. TRIGG, B.S., M.S., Kansas State College, Pittsburg.
Instructor in Elementary Education

LESLIE WALTER TROWBRIDGE, B.S., Central State College, Wisconsin; M.S., University of Chicago; M.S., University of Wisconsin; Ph.D., University of Michigan.
Associate Professor of Science; Chairman, Department of Science Education

DEAN EDSON TURNER, A.B., Centro Estudios University, Mexico; M.Ed., Adams State College; Ph.D., Texas University.
Assistant Professor of Education

GLEN CORBIN TURNER, A.B., Pomona College; M.B.A., Harvard University.
Professor of Business Administration

KINSLOE ALBERT UNDERWOOD, A.B., M.A., Colorado State College.
Instructor in Economics

RICHARD HAROLD USHER, B.S., Murray State College; M.Ed., Ed.D., University of Florida.
Assistant Professor of Psychology, Counseling and Guidance

NANCY VAN ANNE, A.B., State College of Iowa; M.A., State University of Iowa; Ph.D., University of Oregon.
Professor of Physical Education
On Leave Summer Quarter, 1967.

HENRY A. VAN KIRK, A.B., Wayne State College; M.A., Colorado State College.

Instructor in Guidance and Counseling

EVERETT HENRY VAN MAANEN, B.S., Northern State Teachers College; M.A., Colorado State College; Ed.D., University of Oregon.

Associate Professor of Elementary Education

TONY DALE VAUGHAN, A.B., Northeastern State College, Oklahoma; M.Ed., Ed.D., University of Oklahoma.

Professor of Special Education; Chairman, Department of Special Education

E. DEAN VEST, A.B., Weber College; M.A., Ph.D., University of Utah.

Assistant Professor of Botany

WAYMAN E. WALKER, B.M.E. University of Colorado; M.Mus., University of Southern California.

Associate Professor of Instrumental Music

DENNIS ERWIN WARNEMUNDE, A.B., Wayne State Teachers College; M.A., University of Nebraska.

Instructor in Speech

RONALD ROSS WARNER, A.B., Abilene Christian; M.A., Colorado State College.

Temporary Instructor in Education

ROLAND CORNELL WATERMAN, B.S., New York State College for Teachers; M.A., Ed.D., Columbia University.

Professor of Business Education

JERRY WEIL, B.A., University of Colorado; M.D., University of Colorado Medical School.

Assistant Professor of Medical Technology; Pathologist, Weld County General Hospital

MEL W. WEISHAHN, A.B., M.A., Colorado State College.

Instructor in Special Education

MARILYN KAY WEISS, A.B., North Texas State University; M.A., Colorado State College.

Instructor in Health and Physical Education

LORENA M. WERTZ, A.B., M.A., Colorado State College.

Instructor in Business Education

LEE R. WEST, B.S., Southwestern State Teachers College, Oklahoma; M.A., George Peabody College for Teachers.

Professor of Geography; Chairman, Department of Geography; Coordinator of Social Sciences

GLADYS PUGH WHORTON, A.B., Cleveland College; M.A., Ph.D., Western Reserve University, Cleveland.

Assistant Professor of Special Education

Will retire September 30, 1967.

RALPH TEDROW WILL, A.B., Colorado State College; M.B.A., Stanford University; D.B.A., University of Colorado.

Assistant Professor of Business

JOHN WEIR WILLCOXON, III, B.A., Washington and Lee University; M.A., Ph.D., University of Minnesota.

Associate Professor of Drama

ELMER DEAN WILLIAMS, B.S., Chadron State College; M.A., Colorado State College.

Temporary Instructor in Elementary Education

JOHN ANDERSON WILLIAMSON, B.B.A., University of Texas; M.Ed., Stephen Austin State College; Ed.D., University of Arkansas.

Assistant Professor of Education

GARY G. WILLOUGHBY, B.A., M.A., University of Colorado.

Assistant Professor of Sociology

MARY LOIS WILSON, B.S., Northeast Missouri State College; M.A., Northwestern University.

Part-time Instructor in English

ALBERT MCCOMBS WINCHESTER, A.B., Baylor University; M.A., Ph.D., University of Texas.

Professor of Biology

MARIAN WITWER, B.A., University of Michigan; M.A., University of Colorado.

Temporary Instructor in English

DALE EARL WOERNER, B.S., Kansas State College; M.S., Ph.D., University of Illinois.

Professor of Chemistry

RICHARD RUSSELL WOLFE, B.S., Thiel College; M.S., Westminster College; Ph.D., University of Pittsburgh.

Assistant Professor of Special Education

WELBY B. WOLFE, A.B., M.A., Colorado State College; Ed.D., Teachers College, Columbia University.

Professor of Art

CHARLES DAVID WOOD, B.A., B.S., University of Denver; M.A., San Diego State College; Ed.D., Indiana University.

Assistant Professor of Education

ERNEST JUDSON WOODS, A.B., Ottawa University; M.A., Colorado State College.

*Associate Professor of
Mathematics Education*

GENEVA B. WOODS, B.S., University of Colorado.

*Assistant Professor of Nursing;
Director of Nursing, Weld
County General Hospital*

THURMAN N. WRIGHT, A.B., Colorado State College; M.S., Dir. of P.E., Indiana University.

*Assistant Professor of
Physical Education*

ALICE MARY YETKA, B.S., University of Minnesota; M.A., Ed.D., Colorado State College.

*Assistant Professor of
Business Education*

MINA LEE ZENOR, B.F.A., Drake University; M.A., Bowling Green University.

Instructor in Physical Education

DONALD E. ZIMMERMAN, B.S. in Ed., M.S., Kansas State Teachers College, Emporia.

Assistant Professor of English
On Leave Fall, Winter, and Spring
Quarters, 1966-67.

ROBERT A. ZIMMERMAN, B.S., Purdue University, M.S., Ph.D., Oregon State University.

*Research Associate Professor;
Chief of Streptococcal Unit,
Public Health Service*

Laboratory School Assignments

Ernest Horn Elementary School—College High School

LEROY RAYMOND KERNS, Ed.D., Director of the Laboratory School; Chairman of Curriculum Development for Laboratory School; Supervisor and Instructor in Secondary School Science and Mathematics.

DONALD WAYNE CHALOUFKA, Ed.D., Secondary School Principal; Chairman of Curriculum Development for the Secondary School.

CHARLES HOWARD BENSON, M.A., Elementary School Principal; Chairman of Curriculum Development for the Elementary School; Instructor in Elementary Education.

DOUGLAS M. BROWN, M.A., Supervisor and Instructor in Secondary School English.

JOSEPHINE MAE BRUCE, M.A., Kindergarten Supervisor and Instructor.

SHIRLEY MAY CARRIAR, Ed.D., Supervisor and Instructor in Secondary School English.

JOHN S. GIRAULT, M.A., Chairman of Curriculum Development in Dramatics; Supervisor and Instructor in Dramatics.

THOMAS LEE GROOM, M.A., Supervisor and Instructor in Secondary School Social Studies.

LELLOINE GUNNING, M.A., Third Grade Supervisor and Instructor.

MARJORIE LOU HARKNESS, Ed.D., Fourth Grade Supervisor and Instructor.

LILLIAN HUFFMAN, M.A., Supervisor and Instructor in Fifth Grade.

BERNICE ELEANOR HUNN, Ed.D., Second Grade Supervisor and Instructor.

JAMES EDMUND HURD, M.A., Supervisor and Instructor in Secondary School Social Studies.

HILLIARD AUDRIE JOHNSTON, M.A., Supervisor and Instructor in Secondary School Mathematics.

JOHN MOTT KRUGER, M.A., Chairman of Curriculum Development in the Arts; Supervisor and Instructor in Industrial Arts.

PAUL LABORNE, A.M., Supervisor and Instructor in the Foreign Languages.

JEAN FRANCES LONG, M.S., Supervisor and Instructor in Home Economics.

ROBERT LEROY LONGWELL, M.A., Supervisor and Instructor in Secondary School Speech and English.

MARY HELEN LOPEZ, A.B., Supervisor and Instructor in Spanish.

HOWARD M. MICKENS, M.M., Supervisor and Instructor in Intermediate and Secondary School Instrumental Music.

LOUISE S. MUELLER, M.A., Elementary and Secondary School Librarian.

LOUISE ADELAIDE NEAL, Ed.D., Chairman of Curriculum Development in Elementary School Science; Supervisor and Instructor in Elementary School Science.

DWIGHT E. NOFZIGER, M.A., Supervisor and Instructor in Intermediate School and Secondary School Vocal Music.

ROBERT E. POLLEY, M.A., Supervisor and Instructor in Secondary School Social Studies.

JERRY L. RATLIFF, M.A., Supervisor and Instructor in Physical Education and Business Education.

NORMAN RING, A.B., Director of Athletics; Instructor in Health and Boys' Physical Education, Intermediate Grades and High School.

LYNN SETTJE, M.A., Supervisor and Instructor in Fine Arts.

JOSEPH LESLIE SHOEMAKER, Ed.D., Chairman of Curriculum Development in Secondary School Science; Supervisor and Instructor in Secondary School Science.

DORRIS E. TRIGG, M.A., First Grade Supervisor and Instructor.

HENRY VAN KIRK, M.A., Director of Counseling and Guidance in the Laboratory School.

MARILYN KAY WEISS, M.A., Supervisor and Instructor in Girls' Health and Physical Education for the Intermediate Grades and High School.

LORENA M. WERTZ, M.A., Chairman of Curriculum Development in Business Education; Supervisor and Instructor in Secondary School Shorthand, Bookkeeping and Accounting.

ELMER D. WILLIAMS, M.A., Sixth Grade Supervisor and Instructor.

MARY LOIS WILSON, M.A., Supervisor and Instructor in Secondary School English.

ERNEST JUDSON WOODS, A.M., Chairman of Curriculum Development in Secondary School Mathematics; Supervisor and Instructor in Secondary School Mathematics.

Emeritus Faculty

- WINFIELD DOCKERY ARMENTROUT, A.B., A.M., Ed.D., LL.D. Appointed, 1920; Emeritus since 1955.
Vice President Emeritus
- GRACE MAE BAKER, B.Art Ed., B.S., A.M. Appointed, 1917; Emeritus since 1941.
Professor Emeritus of Art
- RALPH THOMAS BISHOP, A.B., A.M. Appointed, 1917; Emeritus since 1955.
Professor Emeritus of Industrial Arts
- IRENE ENGLE BOGAN, A.B., B.S. Appointed, 1946; Emeritus since 1964.
Associate Professor Emeritus of Library Science
- EDITH B. BRUMMER, B.S. Appointed, 1956; Emeritus since 1965.
Assistant Professor Emeritus of Library Science
- MARGARET ELIZABETH BRYSON, A.B., A.M., M.D. Appointed, 1921; Emeritus since 1942.
Professor Emeritus of Health Education
- JOHN WILLIAM BUNN, B.S., A.M. Appointed, 1956; Emeritus since 1963.
Professor Emeritus of Health Education
- MARTIN CANDELARIA, A.B., A.M., Ed.D., Appointed, 1948; Emeritus since 1963.
Professor Emeritus of Spanish
- EUGENE SHAW CARTER, A.B., A.M. Appointed, 1936; Emeritus since 1962.
Professor Emeritus of Industrial Arts
- JEAN CAVE, B.S., A.M. Appointed, 1921; Emeritus since 1961.
Professor Emeritus of Physical Education
- JOHN ELBERT CHADWICK, A.B., A.M., Ph.D. Appointed, 1924; Emeritus since 1962.
Professor Emeritus of Music
- LUCY ROSENQUIST CHAMBERLAIN, Ph.B., A.M. Appointed, 1923; Emeritus since 1949.
Associate Professor Emeritus of Elementary Education
- AMBROSE OWEN COLVIN, B.C.S., A.M., Ph.D. Appointed, 1918; Emeritus since 1947.
Professor Emeritus of Business Education
- RICHARD G. ELLINGER, A.B., A.M. Appointed, 1927; Emeritus since 1962.
Professor Emeritus of Art
- ROSE WILMA FARRAR, A.B., A.M. Appointed, 1938; Emeritus since 1962.
Professor Emeritus of Business Education
- CATHERINE CRATES GIBERT, A.B., A.M. Appointed, 1922; Emeritus since 1959.
Professor Emeritus of Foreign Languages
- HENRY TRUSTMAN GINSBURG, B.Mus., A.B., A.M., D.Mus. Appointed, 1931; Emeritus since 1958.
Professor Emeritus of Music
- LYMAN BEECHER GRAYBEAL, B.S., A.M., Ed.D. Appointed, 1950; Emeritus since 1960.
Professor Emeritus of Education
- JOHN WILLIAM HANCOCK, A.B., M.A. Appointed, 1932; Emeritus since 1966.
Professor of Physical Education
- EZRA CLARENCE HARRAH, A.B., A.M., Ph.D. Appointed, 1926; Emeritus since 1954.
Professor Emeritus of Zoology
- M. LUCILE HARRISON, Ph.B., A.M. Appointed, 1926; Emeritus since 1963.
Professor Emeritus of Elementary Education
- JOSEPHINE MARY HAWES, A.B., A.M. Appointed, 1917; Emeritus since 1946.
Professor Emeritus of English
- FRED LOUIS HERMAN, A.B., A.M. Appointed, 1922; Emeritus since 1960.
Professor Emeritus of Physics
- EDNA MARY HOYDAR, B.M., M.M. Appointed, 1937; Emeritus since 1962.
Professor Emeritus of Public School Music
- HELEN BARBARA HUNT, B.S., M.S. Appointed, 1949; Emeritus since 1959.
Associate Professor Emeritus of Home Economics
- GEORGE A. IRVIN, A.B., A.M. Appointed, 1928; Emeritus since 1960.
Director Emeritus of Special Services

FRANK COVERT JEAN, A.B., A.M.,
Ph.D., Sc.D. Appointed, 1921; Emeritus
since 1945.

Professor Emeritus of Biology

WINFIELD LEROY KNIES, A.B., M.B.A.
Appointed, 1922; Emeritus since 1957.

*Associate Professor Emeritus of
Business Education*

HELEN LANGWORTHY, A.B., M.A.,
Ph.D. Appointed, 1933; Emeritus since
1965.

*Professor Emeritus of Speech
and Drama*

ELIZABETH LEHR, B.A., A.M. Appoint-
ed, 1926; Emeritus since 1959.

*Associate Professor Emeritus of
Elementary Education*

ANNIE MARGARET McCOWEN, A.B.,
B.S., A.M., Ph.D. Appointed, 1921;
Emeritus since 1958.

*Professor Emeritus of
Elementary Education*

CHARLES WILLIAM McLAIN, B.S.,
M.S., Ed.D. Appointed, 1951; Emer-
itus since 1963.

*Professor Emeritus of
Educational Psychology and
Guidance*

FLORENCE MARGUERITE MEYER, A.B.,
A.M. Appointed, 1930; Emeritus
since 1960.

*Associate Professor Emeritus of
English*

VERA LANORE NEWBURN, B.S., M.S.
Appointed, 1926; Emeritus since 1964.

*Professor Emeritus of Home
Economics*

ANNA EVELYN NEWMAN, Ph.B., Ph.M.,
Ph.D. Appointed, 1920; Emeritus
since 1946.

Professor Emeritus of English

DALE ORIOUS PATTERSON, A.B., M.A.,
Ph.D. Appointed, 1947; Emeritus
since 1965.

*Professor Emeritus of
Mathematics*

ORA BROOKS PEAKE, A.B., A.M., Ph.D.
Appointed, 1919; Emeritus since 1949.

Professor Emeritus of History

ALBERTA ELOISE REITZE, A.B., M.S.
Appointed, 1950; Emeritus since 1966.

*Associate Professor Emeritus
of Education*

WILLIAM ROBERT ROSS, B.S., M.S.,
Ph.D., Sc.D., LL.D. Appointed, 1942;
Emeritus since 1964.

President Emeritus

EARLE UNDERWOOD RUGG, A.B., A.M.,
Ph.D. Appointed, 1923; Emeritus
since 1957.

*Professor Emeritus of
Education*

EDITH MARIE SELBERG, A.B., A.M. Ap-
pointed, 1926; Emeritus since 1962.

Professor Emeritus of Biology

OLIVER LEONARD TROXEL, B.S., A.M.,
Ph.D. Appointed, 1929; Emeritus
since 1958.

*Professor Emeritus of
Education*

EDITH GALE WIEBKING, A.B., A.M.
Appointed, 1918; Emeritus since 1949.

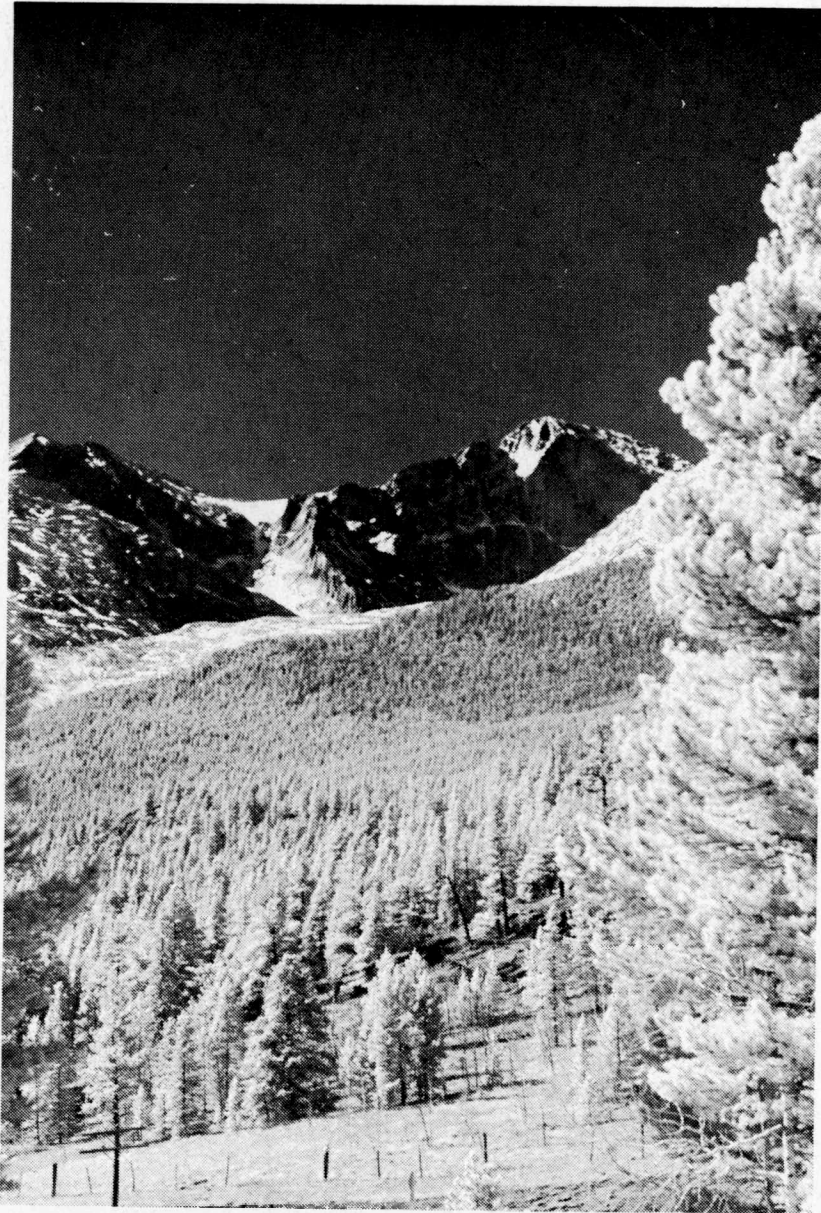
*Professor Emeritus of Home
Economics*

GRACE HANNAH WILSON, A.B., A.M.,
Ph.D. Appointed, 1915; Emeritus
since 1953.

*Professor Emeritus of
Education*

LESLIE DAY ZELENY, B.S., A.M., Ph.D.
Appointed, 1946; Emeritus since 1963.

Professor Emeritus of Sociology



COLORADO STATE COLLEGE