

Community College of Denver

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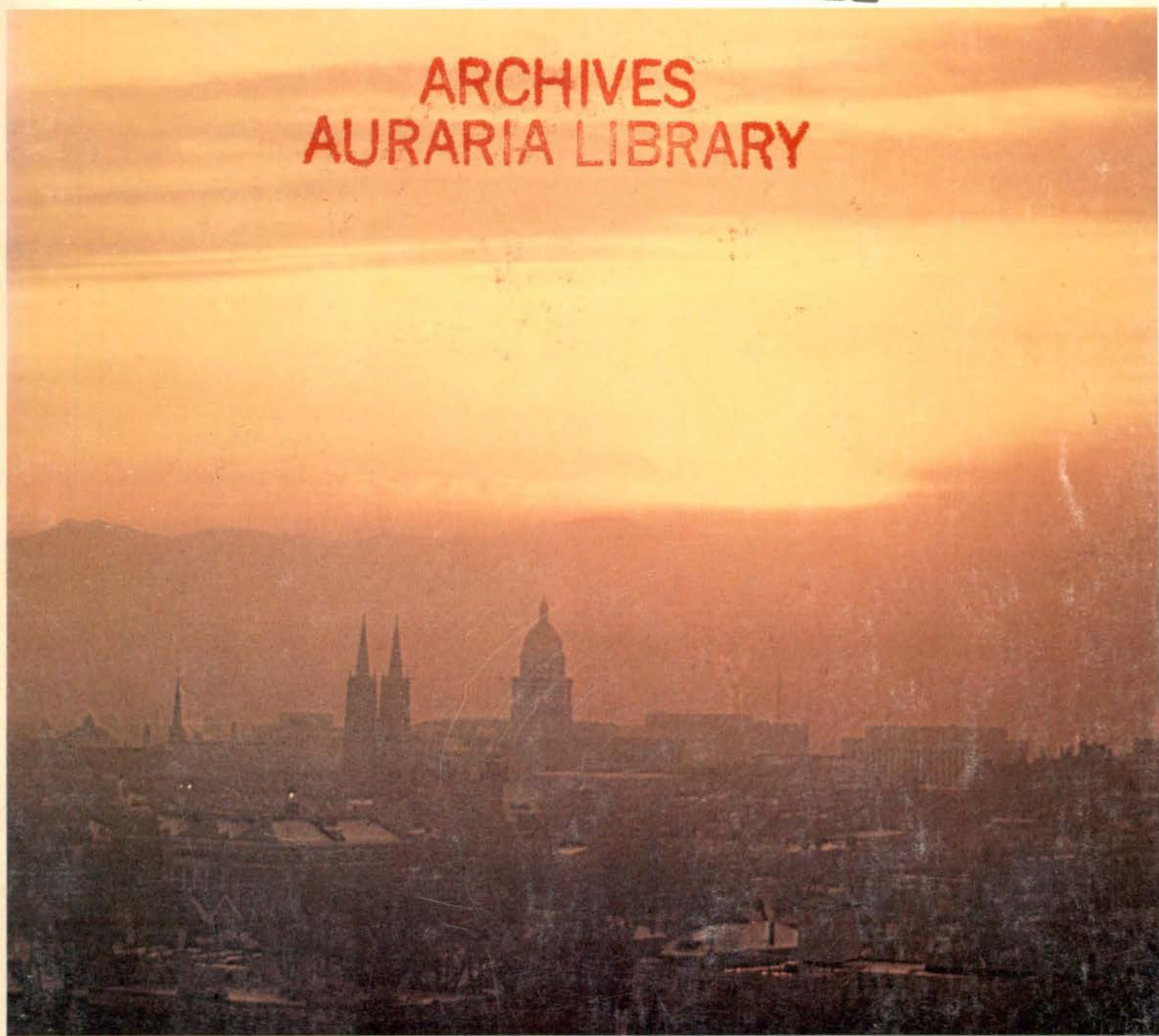


Auraria Campus
North Campus
Red Rocks Campus

73/74

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COMMUNITY COLLEGE OF DENVER

1973-74 *General Catalog*

GENERAL INFORMATION

THE DENVER AREA COUNCIL FOR COMMUNITY COLLEGES

Mrs. H. C. Engdahl, Chairman Jefferson County
 Tracy J. Smith, Vice Chairman Adams County
 Mrs. Harold V. Anderson, Secretary . . . Boulder County
 H. J. Bleakley, Member Arapahoe County
 Mr. Richard W. Wright, Member Denver County



Denver Area Council: Front Row, left to right, Mrs. Lila Engdahl and Mrs. Harold V. Anderson. Back Row, left to right, Tracy J. Smith, Richard W. Wright and H. J. Bleakley.



Dr. Leland B. Luchsinger,
President, Community
College of Denver. Multi-
Campus.



Dr. Donald H. Godbold,
Vice President, Auraria
Campus.



Dr. G. Owen Smith, Vice
President, Red Rocks
Campus.



Dr. John Swenson, Vice
President, North Campus.

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SEE PAGE 16 FOR KEY TO PREFIX LETTERS

CODING FOR LOCATION OF COURSES ON THE RESPECTIVE CAMPUSES IS AS FOLLOWS:

A AURARIA CAMPUS 1201 Acoma Street	N NORTH CAMPUS 1001 E. 62nd Ave.	R RED ROCKS CAMPUS 12600 West 6th Ave.
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1973-74 COMMUNITY COLLEGE OF DENVER STUDENT CALENDAR

1973

JANUARY							JULY						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6	1	2	3	4	5	6	7
7	8	9	10	11	12	13	8	9	10	11	12	13	14
14	15	16	17	18	19	20	15	16	17	18	19	20	21
21	22	23	24	25	26	27	22	23	24	25	26	27	28
28	29	30	31				29	30	31				

FEBRUARY							AUGUST						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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4	5	6	7	8	9	10	5	6	7	8	9	10	11
11	12	13	14	15	16	17	12	13	14	15	16	17	18
18	19	20	21	22	23	24	19	20	21	22	23	24	25
25	26	27	28				26	27	28	29	30	31	

MARCH							SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3						1	2
4	5	6	7	8	9	10	2	3	4	5	6	7	8
11	12	13	14	15	16	17	9	10	11	12	13	14	15
18	19	20	21	22	23	24	16	17	18	19	20	21	22
25	26	27	28	29	30	31	23	24	25	26	27	28	29
							30						

APRIL							OCTOBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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8	9	10	11	12	13	14	7	8	9	10	11	12	13
15	16	17	18	19	20	21	14	15	16	17	18	19	20
22	23	24	25	26	27	28	21	22	23	24	25	26	27
29	30						28	29	30	31			

MAY							NOVEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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13	14	15	16	17	18	19	11	12	13	14	15	16	17
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JUNE							DECEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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10	11	12	13	14	15	16	9	10	11	12	13	14	15
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24	25	26	27	28	29	30	23	24	25	26	27	28	29
							30	31					

1974

JANUARY							JULY						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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6	7	8	9	10	11	12	6	7	8	9	10	11	12
13	14	15	16	17	18	19	13	14	15	16	17	18	19
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27	28	29	30	31			27	28	29	30	31		

FEBRUARY							AUGUST						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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17	18	19	20	21	22	23	17	18	19	20	21	22	23
24	25	26	27	28			24	25	26	27	28	29	30
												30	31

MARCH							SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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17	18	19	20	21	22	23	17	18	19	20	21	22	23
24	25	26	27	28	29	30	24	25	26	27	28	29	30
31							31						

APRIL							OCTOBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
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15	16	17	18	19	20	21	14	15	16	17	18	19	20
22	23	24	25	26	27	28	21	22	23	24	25	26	27
29	30						28	29	30	31			

MAY							NOVEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
					1	2						1	2
5	6	7	8	9	10	11	4	5	6	7	8	9	10
12	13	14	15	16	17	18	11	12	13	14	15	16	17
19	20	21	22	23	24	25	18	19	20	21	22	23	24
26	27	28	29	30	31		25	26	27	28	29	30	

JUNE							DECEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
						1							1
2	3	4	5	6	7	8	2	3	4	5	6	7	8
9	10	11	12	13	14	15	9	10	11	12	13	14	15
16	17	18	19	20	21	22	16	17	18	19	20	21	22
23	24	25	26	27	28	29	23	24	25	26	27	28	29
30							30	31					

SPRING QUARTER — 1973

March 19*	Registration
March 29	Classes Begin
May 28	School Closed — Memorial Day Holiday
June 7	Quarter Ends

SUMMER QUARTER — 1973

June 12*	Registration
June 20	Classes Begin
July 2	School Closed — Independence Day
August 30	Quarter Ends

FALL QUARTER — 1973

September 19-20*	Registration
September 24	Classes Begin
November 21	School Closed — Thanksgiving Recess
December 6	Quarter Ends

WINTER QUARTER — 1974

January 2-3*	Registration
January 7	Classes Begin
March 20	Quarter Ends

SPRING QUARTER — 1974

March 27-28*	Registration
April 1	Classes Begin
May 27	School Closed — Memorial Day
June 12	Quarter Ends

SUMMER QUARTER — 1974

June 18*	Registration
June 20	Classes Begin
July 4	School Closed — Independence Day
August 29	Quarter Ends

*Contact campus of your choice for specific dates. Early registration may take place on some campuses.

GENERAL INFORMATION

History of the College

The 1967 Colorado General Assembly, in the enactment of House Bill 1448, established a state system of community colleges under a State Board for Community Colleges and Occupational Education. The first college to be created under the State Board, by the passage of House Bill 1449, was the Community College of Denver. The new law called for the establishment of three campuses, in successive years beginning in the fall of 1968, to serve primarily the area of Adams, Arapahoe, Boulder, Denver and Jefferson counties.

The five-member governing council of the Community College of Denver, officially named the Denver Area Council for Community Colleges, was appointed by the Governor and held its organizational meeting on September 27, 1967. The initial task of the Council was to engage the services of a president. Dr. Leland B. Luchsinger was appointed by the Council as the first president of the Community College of Denver on November 1, 1967.

The first campus of the Community College of Denver, designated as the North Campus, was established in relocatable buildings on a six and one-fourth acre temporary site at the intersection of East 62nd Avenue and Downing Street in the fall of 1968. Eighteen hundred and sixty one students were registered. The campus was expanded during the summer and fall of 1969 to provide additional facilities for new programs and in anticipation of increased enrollment during the next academic year. In the fall for 1969, 2,800 students were registered. Additional facility expansions were made in 1970 and 1971 to accommodate fall enrollment increases to approximately 3,650 students in the fall of 1972.

A permanent site of 160 acres for the North Campus, located at 112th Avenue between Federal and Sheridan Boulevards, has been procured through an appropriation by the Colorado legislature and the efforts of the Community College of Denver Foundation. Physical planning money for the site is being requested of the legislature.

In the fall of 1969, the West Campus, now named the Red Rocks Campus, was established on a temporary site located at 1209 Quail Street in two relocatable buildings. The initial registration for the fall of 1969 was 780 students. The Red Rocks Campus has expanded its facilities and steadily increased in enrollment to a fall 1972 enrollment of 3,000 students.

Program plans for a permanent campus, which will eventually serve more than 10,000 students, have been developed, and the 1970 session of the Colorado General Assembly has also provided facility planning money for the construction of the first permanent buildings beginning in 1971. The first phase of construction on the new site at West 6th and Indiana was completed in the spring of 1973.

A third campus was opened in downtown Denver in the fall of 1970, now named the Auraria Campus. The campus was initially located in temporary renovated

facilities located at 12th and Acoma Street. Seven hundred and ninety three students were enrolled in the fall of 1970. A steady increase in enrollment has occurred since the opening of the campus. Facilities of the campus were expanded during the summer of 1972. In the fall of 1972, 1,700 students were registered.

The downtown campus received its name as the Auraria Campus in conjunction with its planned permanent location as a part of the Auraria Higher Education Center. The Center is to be located on approximately 167 acres in the Auraria Urban Renewal Subdivision, to be shared by Metropolitan State College and the Denver Center of Colorado University. Plans indicate that occupancy of the first phase of permanent buildings on the site will take place in 1976.

Objectives of the College

The Community College of Denver is a comprehensive state community college established within the five-county area of Adams, Arapahoe, Boulder, Denver and Jefferson Counties to help meet the educational needs of youth and adults. More interested in what the student is ready to do than in what he has done, the College is open to all who can profit from the instruction for which they enroll. The program of offerings includes:

1. Occupational courses and programs of several weeks to two years duration, the satisfactory completion of which may lead to job entry in an occupation of the student's choice or advancement in a current job.
2. Pre-professional and liberal arts courses which, upon completion of the first and second years, will enable a student to transfer to a four-year college or university and earn a baccalaureate degree.
3. Other education opportunities for youth and adults, both credit and non-credit, including developmental programs, cultural opportunities and community services.
4. An emphasis on meeting the individual needs of the learners including the provision of specialized learning laboratories and a student-oriented learning materials center.
5. A comprehensive guidance program staffed by counselors who are genuinely concerned with the educational, vocational and personal welfare of students.

Accreditation

The Community College of Denver is under the jurisdiction of the Colorado State Board for Community Colleges and Occupational Education. The Community Colleges Division of the State Board has received letters from officials of four-year colleges and universities in Colorado stating that transfer credit will be granted to students who have successfully completed appropriate courses at the several colleges operating

under the State Board. Students who plan to transfer to baccalaureate programs at four-year institutions can be confident that college-parallel credits earned at the Community College of Denver will transfer without difficulty if students do acceptable work at the four-year institution.

The campuses now have Correspondent or Recognized Candidacy Status in the North Central Association of Colleges and Secondary Schools, the association which accredits all institutions of higher education in this area. This indicates that the institution has given evidence of sound planning, has the resources to implement these plans, and has indicated an intent to work toward accreditation.

Location of Campuses of the College

The temporary location of the Red Rocks Campus of the Community College of Denver is at 1209 Quail Street in Jefferson County, approximately four miles west of the west central boundary of the City of Denver and just north of the Denver Federal Center.

The temporary location of the North Campus of the Community College of Denver is at 1001 East 62nd Avenue in Adams County, just outside the north central boundary of the City of Denver, approximately five miles from the State Capitol in the downtown Denver area.

The temporary location of the Auraria Campus of the Community College of Denver is at 1201 Acoma Street, Lincoln and 1200 Broadway, in Denver County, which is in the heart of the central downtown business district of Denver.

Limitations of Catalog Information

This catalog should not be considered a contract between the Community College of Denver and any prospective student. The College must retain the customary right to cancel programs or course offerings where enrollments are insufficient to permit them on an educationally sound and economically efficient basis or to alter them for other reasons. Similarly, published charges for tuition and fees are subject to change as circumstances may require.

Tuition

The tuition for state supported institutions is determined by the Colorado General Assembly and is subject to change.

As of the printing of this catalog, the tuition for 1973-74 has not been determined.

Please call the office of Admissions on any of our three campuses for information pertaining to tuition. Tuition and fees may be altered at any time prior to the first day of registration for any quarter.

Fees

A student Services Fee in the amount of 50 cents per credit hour up to a maximum of \$6.00 is charged to all enrolled students. This money is used for various student activities including student publications, operation of student government, cultural activities, recreational activities, clubs and organizational activities.

Expenditure of student fee monies is generally made with the approval of the student government. Students enrolled in certain courses may be required to purchase individual supplies and materials and to rent uniforms.

Residence Classification for Tuition Purposes

At the time of application for admission, students are classified for tuition purposes as Colorado residents or out-of-state residents according to provisions of Colorado law.

Any student who has been classified as a non-resident and who believes he can qualify as a resident may secure from the Registrar an application form for in-state status. A copy of the regulations governing residence classification is a part of the application.

The final decision regarding tuition status rests with the institution. All questions regarding residency classification should be addressed to the Registrar.

Student Rights and Responsibilities

Admission to the College implies a recognition by the student that he should respect the rights of others, and that he should observe moral and civil laws. Interference with the normal process of education in the classroom or elsewhere on the campus will be regarded as unacceptable conduct which warrants suspension and/or dismissal from the school. The success of the college in attaining its objectives is conditioned by the good will, integrity and honor of its students.

The Denver Area Council has approved a document which contains a Definition of Education, a Joint Statement on Rights, Freedoms and Responsibilities of Students, and Rules of Procedure in Student Disciplinary Matters. This document provides guidelines necessary to insure the rights of all members of the college community. Each campus has its specific "due process" procedures which support the concept of fair play. These procedures are included in the Student Handbook.

Credit Hours

Generally, one credit hour is earned by attending a non-laboratory class for a fifty-minute period, once a week, for a full quarter. In a laboratory course, one credit hour is granted for from two to four, fifty-minute periods per week in a laboratory.

Course Load

The normal course load for a full-time student is fifteen credit hours. Special permission must be obtained from the Dean of Student Services or his authorized representative to register for more than eighteen credit hours.

Counselors are available to consult with students about their course load.

Classification of Students

For record and reporting purposes, students are classified as follows:

Full-time — a student who carries twelve or more credit hours.

Part-time — a student who carries less than twelve credit hours.

First-year (Freshman) — a student who has completed fewer than forty-five credit hours.

Second-year (Sophomore) — a student who has completed forty-five or more credit hours, but has not received an associate degree or has not qualified for upper division classification in a four-year college or university.

Unclassified — a student who has earned a degree (associate, bachelors, etc.) or who has qualified for upper division classification at a four-year college or university.

Financial Obligations of Students

The financial obligations of students to the College — such as payments for tuition, fees, and books — are due and payable on the published specified date or at the times the obligations are incurred. In unusual circumstances of an emergency nature, where it may be impossible for a student to pay the total charges at the proper time, special arrangements may be considered for approval by the Director of Business Services.

A student is not considered officially registered until his class schedule has been processed by the Business Office.

Students who owe money to the college from a previous quarter will not be allowed to register in subsequent quarters until their financial indebtedness is paid.

Attendance

College officials believe that regular class attendance is necessary if a student is to receive maximum benefits from his work. Students are expected to attend all sessions of the classes for which they are registered. Students who anticipate absences are requested to discuss these in advance with instructors.

Adding and Dropping Courses

Students wishing to adjust their schedules should be familiar with the College policy which reads: "The deadline for adds will be the 15th full day of instruction. The deadline for drops will be on the date two weeks prior to the end of the quarter." Exceptions to this policy may be made only upon approval by the appropriate division director and instructional dean.

This policy does not preclude "adjustments" (arranging for change of courses in the interest of the students), nor does it preclude initial enrollment of new students during the course of the quarter in conformity with the continuous registration philosophy of the College.

Foreign Students

The Community College of Denver is authorized by the U.S. immigration Service to admit non-immigrant alien students.

Foreign students who wish to enroll at the Community College of Denver are required to submit the following documents:

1. An official application for admission to the Community College of Denver.
2. Two official copies of the appropriate high school, college or equivalent transcript. (See requirements under transcripts.) One copy must be an English translation. The other transcript should be in the original language.
3. Evidence of proficiency in the English language as documented by verbal discourse, or use of the Test of English as a Foreign Language.

For information on the test write to:

Test of English as a Foreign Language
Educational Testing Service
Box 899
Princeton, New Jersey 08540 U.S.A.

4. A statement of the financial resources to provide for the student's stay in the United States.

Form I-20A will not be issued to any foreign student until all the above documents are on file in the Office of Admissions and Records.

Tuition and fee charges for foreign students are the same as for out-of-state registrants. (See tuition and fee schedule.)

Readmission of Former Students

Former students who are returning to the College after an absence of one or more quarters, summer quarter excepted, must make application for readmission. Students who have attended other colleges since last attending the Community College of Denver may be requested to submit a transcript of all college credits.

Withdrawal Procedure

Students are admitted to the Community College of Denver under the assumption that they will remain until the end of the quarter or longer, unless unforeseen circumstances necessitate their withdrawal from the institution. When the student finds it necessary to initiate a complete withdrawal from the College, he should follow the procedures indicated below:

1. Obtain a withdrawal form from the Office of Admissions
2. Fill in the appropriate information
3. Fulfill all financial obligations to the College incurred with the Business Office, Financial Aid Office, Bookstore, or the Learning Materials Center
4. Conduct an exit interview with a counselor
5. Return withdrawal form to the Office of Admissions
6. Return identification card to the Registrar upon request

A student who is in any way financially obligated to the College through a tuition deferment, emergency student loan, National Defense Loan, etc., or who has failed to account for College property in his possession will be denied a transcript of record and registration for subsequent sessions until he has made a satisfactory settlement with the College.

Tuition Refunds

No refunds are possible after the tenth day of class nor are refunds made if students drop a partial course load at any time.

The student may claim a seventy-five percent refund of tuition paid if a complete withdrawal is made before the eleventh day of classes of the new quarter. Tuition refund request forms are available in the Office of Admissions and Records. No tuition refunds of less than \$1.00 will be made.

Unusual circumstances concerning refunds should be referred to the Dean of Student Services.

Allowance of Credit

Within the strict limitations of an established policy, enrolled students are permitted to apply for an allowance of credit for demonstrated knowledge or competency they have attained through previous study and experience. This procedure includes both the challenging of courses which coincide with the student's major program and career objectives, as well as allowance of credit through the CLEP Examinations.

To challenge a course, the student must be recommended by the division concerned, be subject to a fee, and take a comprehensive examination.

The College recognizes the CLEP Examination as well as selected Subject Examinations. Up to 45 hours of college credit may be awarded through the CLEP General Examinations. Additional credit may be earned by attaining successful scores on CLEP subject matter examinations. The Registrar's Office should be consulted for details concerning College Level Examination Program (CLEP) Examinations.

Evaluation and Grading

The Community College of Denver is philosophically committed to a program that focuses on the student and on activities that foster his learning. Student evaluation, when properly conducted, is regarded as one of these activities. Although the College utilizes continuous and varied means of evaluating a student's progress, it has departed from tradition in adopting a system of grading. The system emphasizes accomplishment rather than penalty for failure and employs only the grade symbols listed below.

Grade Symbol	Quality of Work Denoted by Symbol	Grade Points Per Credit Hour
A	Superior	4
B	Excellent	3
C	Average	2
D	Below Average	1

If a student earns a grade of D, he may elect either to have it recorded on his permanent record or dis-

regarded. Learning accomplishment at a level which is judged to be failing receives no credit and is not recorded on the permanent record. If an incomplete (I) is given it must be made up during the following quarter to earn credit.

Grades are issued at the end of each quarter for all students, and grade slips will be mailed approximately one week after the last day of each quarter.

Grade - Point Average

Under this system, grade points measure the achievement of the student for the number of credit hours he has completed at an accomplished level of D or above. They are determined by multiplying the grade points per credit hour by the credit hour value of the course completed.

The following example will enable the student to compute his grade-point average:

Course	Completed Credit Hours	Final Grade	Grade Points
English	3	B	3 grade points (3x3) equals 9
Mathematics	3	C	2 grade points (3x2) equals 6
Electronics	2	A	4 grade points (2x4) equals 8
Physics	5	C	2 grade points (5x2) equals 10
Physical Education	1	D	1 grade point (1x1) equals 1
	<hr/>		<hr/>
	14		34

Total grade points are divided by total credit hours to compute the grade-point average. For example, 34 divided by 14 equals a 2.43 grade-point average.

The cumulative grade-point average is the total number of grade points recorded divided by the total number of credit hours.

Degrees and Certificates Offered

The Associate Degree is awarded to students successfully completing two-year programs. For shorter programs, Certificates of Achievement and Certificates of Completion are granted.

Graduation Requirements

To receive the ASSOCIATE DEGREE — a student must:

1. Complete a minimum of ninety quarter hours, including the specific subject or course requirements in the selected program. Certain programs may require more than the minimum of ninety quarter hours and these must also be completed.
2. Earn an overall grade point average of 2.0 in all credit counted toward the degree.
3. Complete three quarter hours of English.
4. Complete at least fifteen hours in residence at the Community College of Denver. (In mitigating circumstances, certain portions of this requirement may be waived by the Dean of Student Services.)

5. File the Application for Graduation form at the time when registering for the final quarter. This form is available from the Office of Admissions and Records.

To receive the CERTIFICATE OF ACHIEVEMENT — a student must:

1. Complete the specified subject matter or course requirements of an approved program as set forth in the catalog. For programs longer than one quarter in duration, the last fifteen credit hours must be earned at the Community College of Denver.
2. Earn an overall grade-point average of 2.0 in all credit counted toward the certificate.
3. Complete three credit hours in speech or English in programs of longer than one quarter in duration.
4. File the Application for Graduation form when registering for the final quarter. This form is available from the Office of Admissions and Records.

Certificate of Completion

The College offers many short courses, conferences, workshops and seminars. These will vary in length from one to two meetings of short duration to units necessitating many clock hours accumulated over a period of several weeks. Successful completion of short courses of this type will result in the granting of a Certificate of Completion.

A Certificate of Completion may also be granted upon the successful completion of a course or courses in fulfillment of an educational objective leading to job-entry level employment as developed in conjunction with an advisor or counselor and approved by the respective division director leading to job entry employment. In order to receive this Certificate the applicant must file the Application for Graduation form at the time of registering for the final quarter. This form is available from the Office of Admissions and Records.

Transfer of Credit

If a student wishes to have previous college credits applied toward the degree requirements, he must submit official copies of previous college transcripts to the Registrar's Office no later than the time of registration for the quarter he plans to graduate. Official transcripts are those bearing the official seal of the College and mailed to the Registrar's Office by the sending institution.

Requests for Transcripts by Students

A student requesting that a transcript of his record be sent to an educational institution or to a prospective employer must complete the appropriate form which may be obtained from the Admissions and Records Office. The College assesses no fee for this service; however, no transcript will be provided for a student who has not fulfilled all financial obligations to the

College or who has not provided transcripts as requested by the College.

Course Numbers

Course numbers consist of prefix letters, which constitute an abbreviation of the subject area or program, and a series of three digits, the first of which indicates its classification according to the year it should be taken. Usually, course numbers below 100 are designed for developmental education; numbers from 100-199 are usually taken during the first year of college since they are prerequisite courses. Courses numbered 200-299 are usually taken during the second year of college.

STUDENT SERVICES

In addition to the programs of study available at the College, a number of related or special services are provided for the assistance of students and others who may be interested.

Admissions, Records and Registration

Detailed information and admissions requirements and procedures are given in a previous section of the catalog.

Registration for classes is conducted in a manner which is designed for the convenience of students.

A system of record keeping assures the student of a complete and confidential file of information on previous educational experience, credits earned at the Community College of Denver, test data and other information.

Admissions Policy

The College will admit high school graduates, non-graduates of high school who are eighteen years of age or older, and any other person who can profit from the instruction for which he enrolls. However, admission to the College does not assure acceptance of an individual student in a particular course or program. Some students may be requested to enroll in special courses at the College for correction of scholastic or other deficiencies.

The College does not require a physical examination as a general condition of admission but reserves the right to require evidence of good health in individual instances when such seems appropriate. Physical disabilities and chronic illnesses should be indicated to the Admissions Office.

Entrance examinations are not required as a condition for admission to the College.

Students are served more adequately when applications and transcripts of previously earned credits are submitted in advance of counseling appointments, advising, and registration for classes.

Admissions Procedure:

Submit an official application for admission to the Community College of Denver, available from the



Registrar's Office. Transcripts of previous high school or college credits are not required, except as follows:

1. Persons planning to receive a degree or certificate from the College, who wish previous college credits to be considered, must submit official copies of those previous college transcripts to the Registrar's Office no later than the time of registration for the quarter in which they plan to graduate. Only official transcripts will be accepted. Copies should be mailed directly to the Registrar's Office from the sending institution.
2. The College reserves the right to request transcripts of students in cases where it is felt that the student can be better served through use of his transcripts.
3. Foreign students should refer to Foreign Student requirements on page 5.

These documents become the property of the College and will not be released to the student or transferred to other institutions. The student's subsequent registration is contingent upon receipt of all required documents.

Counseling Services

The Counseling Division is dedicated to helping people. A qualified professional staff is available both days and evenings for exploration with students individually or in groups, of such areas as educational planning, measurement of aptitudes, interests and abilities, career plans, academic difficulties, marriage adjustment and interpersonal relationships.

The counseling staff is committed to the confidentiality of information on any student. NO CONFIDENTIAL INFORMATION IS EVER GIVEN TO ANY INDIVIDUAL OR ORGANIZATION without the written consent of the student.

Any student desiring assistance from the Counseling Staff is encouraged to contact the counseling office.

Orientation:

New students are invited to attend an Orientation Session. At the session, the group is given a short general over-view of the college, the staff, the instructional divisions, and the various programs available.

Advising:

The entire faculty of the College is guidance oriented and has a major commitment to help each individual student pursue a course of study planned to fulfill his goals.

Students are assisted by the instructional staff and/or counselor in developing his program of study and selection of classes each quarter.

It is the student's responsibility to:

1. Meet with an instructor or counselor to discuss the most appropriate classes for his career objective.
2. Discuss his program and classes prior to each registration and work out his class schedule.
3. Contact an instructor or counselor when problems arise in the program. The instructor or counselor should also be informed if he changes his program of study.
4. Make certain he is fulfilling the department's requirements for graduation.

STUDENTS WHO HAVE NOT SELECTED A PROGRAM OF STUDY, OR ARE UNCERTAIN OF THE PROGRAM THEY WANT TO FOLLOW, ARE URGED TO CONTACT THE COUNSELING OFFICE.

Testing:

No entrance examinations or tests are required for admission to the College. Individuals contemplating transfer to another college are encouraged to take the ACT or SAT required by such institutions and have a copy of the results sent to the Community College. The college provides a testing program to assist students in determining their interests, aptitudes, and level of competency in certain subject matter areas. With these data, counselors are able to aid the individual student in planning his educational program and to make appropriate use of the resources available to him.

Career Center:

Within the Student Services complex, a Career Center is maintained. This area has available occupational information, a collection of college catalogs, and materials to assist students in making informed career decisions. A counselor who has major responsibility in assisting students with career plans is in charge of the Center.

Housing:

Students who attend the Community College of Denver commute. The College does not operate a residence hall program. Students are expected to arrange their own housing. Those desiring help may contact the Counseling Office.

Self-Exploration:

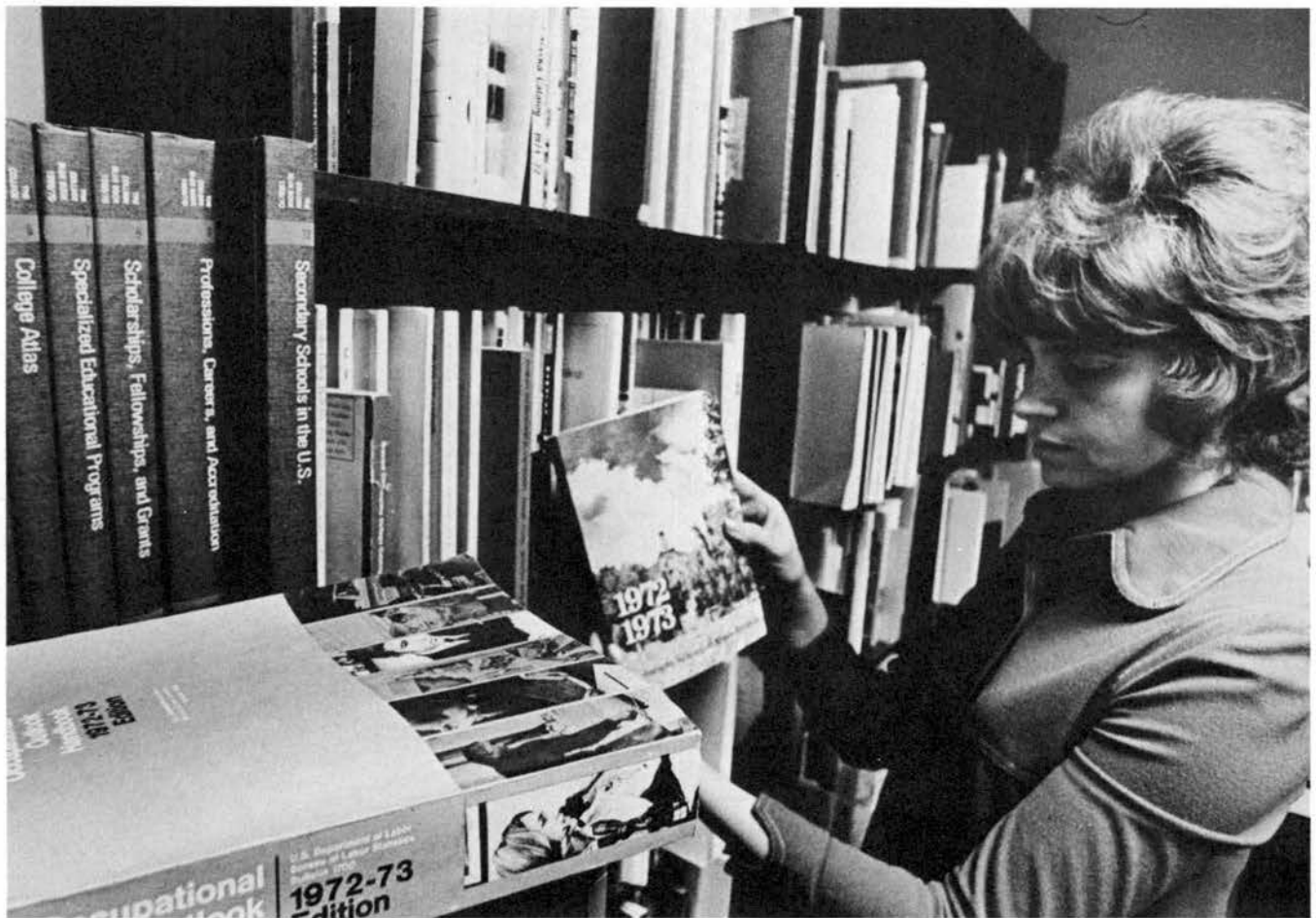
A three-credit seminar is offered to assist students in self-exploration and understanding and interpersonal relationships. The content will depend in part on the needs and desires of the students.

Financial Aid

The Offices of Financial Aid on each campus of the College endeavor to help deserving students obtain financial assistance in meeting their college related expenses. The College participates in several federal, state and institutional financial aid programs including loans, grants and work-study jobs. The College uses the American College Testing Program Financial Needs Analysis in determining the financial need of students applying for aid.

Student loans are available through the National Direct Student Loan Program, Federal Nursing Student Loan Program and the Guaranteed Loan Program. Each represents a long-term, low-interest loan repayable after the student completes his education or terminates his student status.

Grants are available through the Educational Opportunity Grant (EOG) Program, Federal Nursing Scholarship Program and the Colorado Student Grant (CSG) Program. EOG grants are awarded to students from low-income families demonstrating financial need. Grants range from \$200 to \$1,000 per academic year.



Federal Nursing Scholarship Funds are available only on North Campus to full-time nursing students and range up to \$1,500 depending upon need and availability of funds. CSG grants are awarded to students from low to medium income families to pay for tuition and books.

Part-time jobs are available through the College Work-Study and the Colorado Work-Study Programs. These programs are for students from low-income families and permit the student to earn a portion of his educational expense through part-time employment on the campus.

Health Services

College officials recognize the importance of good health for happy and productive study. The Student Health Service is designed to foster and maintain proper attitudes and habits of personal and community health. Various programs and activities related to current health problems are planned each quarter. These programs are designed to educate students, faculty, and staff of today's health problems and the means of preventive health measures.

A registered nurse is available to assist students with minor emergencies, treatment of minor illnesses, referrals, health information and other health related problems. A consulting physician is also available to students once a week.

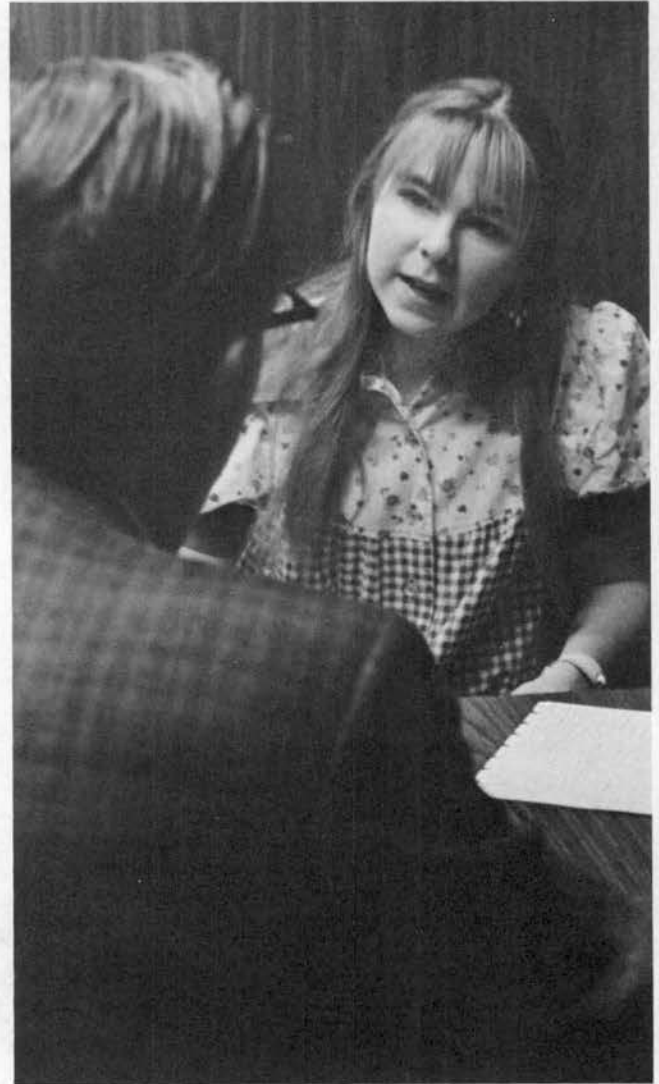
No group accident and sickness insurance program is available to students. Students should make arrangements for individual coverage with their own insurers. Students are encouraged to utilize the health services of the college.

Job Development and Placement

The Job Development and Placement Offices on the respective campuses, instructors, and division directors in the area of Occupational Studies maintain close contact with business and industry concerning job opportunities and training needs, and a record of available positions, both full and part-time, is kept in the Job Development and Placement Offices. This office coordinates all of the College's efforts to assist students in obtaining suitable full-time employment in occupations for which they have been prepared at the College. The Services include assistance in resume development. Other services are: application aids, job interview aids, summer employment, and volunteer listings. Students interested in full-time and part-time jobs should contact the Job Development and Placement Office on their Campus and complete an application for employment.

Student Activities

The College cooperates in the development of those student-initiated activities which supplement the more formal instructional program. Such activities are expected to provide constructive experiences which will stimulate personal growth and social development and add to the student's enjoyment of life. Opportunities for the development of leadership, cooperative plan-



ning and special interests are fostered through participation in these activities. All student activities are coordinated through the Office of Student Activities.

The student activity programs involve students in self-government, participation in the College decision-making process, student leadership programs and conferences, student-selected clubs and organizations, and an intramural program in physical education and recreation.

Veterans Educational Benefits

The Community College of Denver is approved for education and training under various Veterans Administration programs. Students who are eligible for Veteran's benefits should make application for benefits at the Veterans Administration Regional Office. A student approved for educational benefits by the Veterans Administration will be issued a Certificate of Eligibility which he should bring to the Office of Admissions and Records at the time of his initial registration.

Students using Veteran's benefits must report immediately to the Office of Admissions and Records any changes in their program of studies.



If a veteran fails to notify the Registrar's Office of a reduction in his credit hours during a given quarter, he will automatically be reduced at the end of the quarter and recertified to the Veterans Administration, effective the first day of the quarter in question. For further information, contact the Registrar's Office, Division of Veteran's Affairs.

Students receiving G.I. benefits are required to notify the Registrar's Office, Division of Veteran's Affairs, of any change in their training status.

Selective Service

It is the responsibility of enrolled students to keep the Selective Service Local Boards informed of their current status. The Office of Admissions and Records has selective service information for the student. No student status information is sent to the Selective Service Boards unless requested by the student.

Business Services

The Office of Business Services of the College is responsible for a number of functions which support the instructional and other services provided by the College. Included among these are assistance with budget preparation, collection of tuition and fees, financial accounting and reporting, preparation of payrolls, purchasing of equipment and supplies, and maintenance and operation of buildings and grounds.

Bookstore

The College Bookstores market books, stationery, supplies, accessory items, and a minimal variety of nonprescription medicines (aspirins, etc.). At the completion of each quarter, books are repurchased if they

are to be used the following quarter. All prices on texts offered for sale are determined by the publisher.

Food Services

Automated food service is provided on all campuses in the food vending area. The North Campus provides cafeteria service as well.

Community Services

The style and emphasis of Community Services is determined by those community needs and interests which the college can develop resources to serve. Through Community Services, the resources of the college are extended to meet community needs and to help in the solution of community and individual problems. In turn, the needs and know-how of the community are channeled to college programs so they may better reflect current community conditions. This double-door action between college and community will enhance the growth of both by decreasing the boundaries between instruction and service, between classroom and community-based learning, and between paper and human problem-solving. The long range goals of the Community Services Program include:

1. *Educational Expansion Function.* Programming a variety of educational, upgrading and new career opportunities which reach beyond the traditional limitations of college credit restrictions; e.g., institutes, seminars, tours, short courses, contractual in-plant training, etc.
2. *Educational Extension Function.* Increasing the accessibility of the regular courses and curricula of the college by extending their availability to the community at large; e.g., evening classes, TV courses, "Weekend college," neighborhood extension centers.

3. *Social Outreach Function.* Organizing programs to increase the earning power, educational level, and political influence of the disadvantaged; e.g., ADC mothers, unemployed males, educationally deprived youth, and welfare recipients.
4. *Civic Action Functions.* Participating in cooperative efforts with local government, business, industry, professions, religious and social groups to increase the resources of the community to deal with major problems confronting the community; e.g., community self-studies, urban beautification, community chest drives, and air pollution.
5. *Leisure-time Activity Function.* Expanding opportunities for community members to participate in a variety of recreational activities, e.g., sports instruction, outdoor education, summer youth programs, and senior citizen activities.
6. *Community Analysis Function.* Collecting and analyzing significant data which reflect existing and emerging needs of the community and which can serve as a basis for developing the community service program of the college; e.g., analyzing census tracts, analyzing man-power data, conducting problem-oriented studies, identifying roles and goals of organizations.
7. *Staff Consultation Function.* Identifying, developing and making available the consulting skills of the faculty in community development activities; e.g., consulting with small business, advising on instructional materials, designing community studies, instruction in group leadership, and laboratory testing.
8. *Public Forum Function.* Developing activities designed to stimulate interest in understanding of local, national, and world problems; e.g., public affairs pamphlets, "town" meetings, and TV symposia.
9. *Cultural Development Function.* Expanding opportunities for community members to participate in a variety of cultural activities; e.g., fine arts series, art festivals, artists in residence, and community theater.
10. *Conference Planning Function.* Providing professional assistance to community groups in the planning of conferences, institutes and workshops; e.g., registration procedures, program development, and conference evaluations.
11. *Facility Utilization Function.* Encouraging community use of college facilities by making them readily accessible, by facilitating the scheduling process, and by designing them for multi-purpose activities when appropriate; e.g., campus tours, centralized scheduling office, conference rooms, and auditorium design.
12. *Developmental Counseling Function.* Providing community members with opportunities for self-discovery and development through individual and group counseling processes, e.g., aptitude-interest testing, individual interviews, career information, job placement, and family life.

Evening Classes

The instructional program of the College includes a large number of evening course offerings, scheduled between 5:00 and 11:00 p.m. five evenings a week. These often make it possible for adults to help satisfy cultural and hobby interests which they may have, in addition to pursuing the regular degree and certificate programs through evening study.

The Denver MDTA Skill Center

The Denver MDTA Skill Center is integrated into the Community College of Denver.

The Skill Center is authorized under the Manpower Development and Training Act of 1962 as amended. It is funded by H.E.W. through the State Board for Community Colleges and Occupational Education.

Unemployed and underemployed individuals are referred to the Skill Center for training to job entry level through regular Community College classes.

LEARNING MATERIALS CENTER

As an instructional and supportive division to the total curriculum of the College, the Learning Materials Center (LMC) functions simultaneously as a learning center, instructional/resources laboratory, and a library.

To realistically serve the many different needs and interests of students and faculty, the LMC is designed to circulate a wide range of educational print and non-print media.

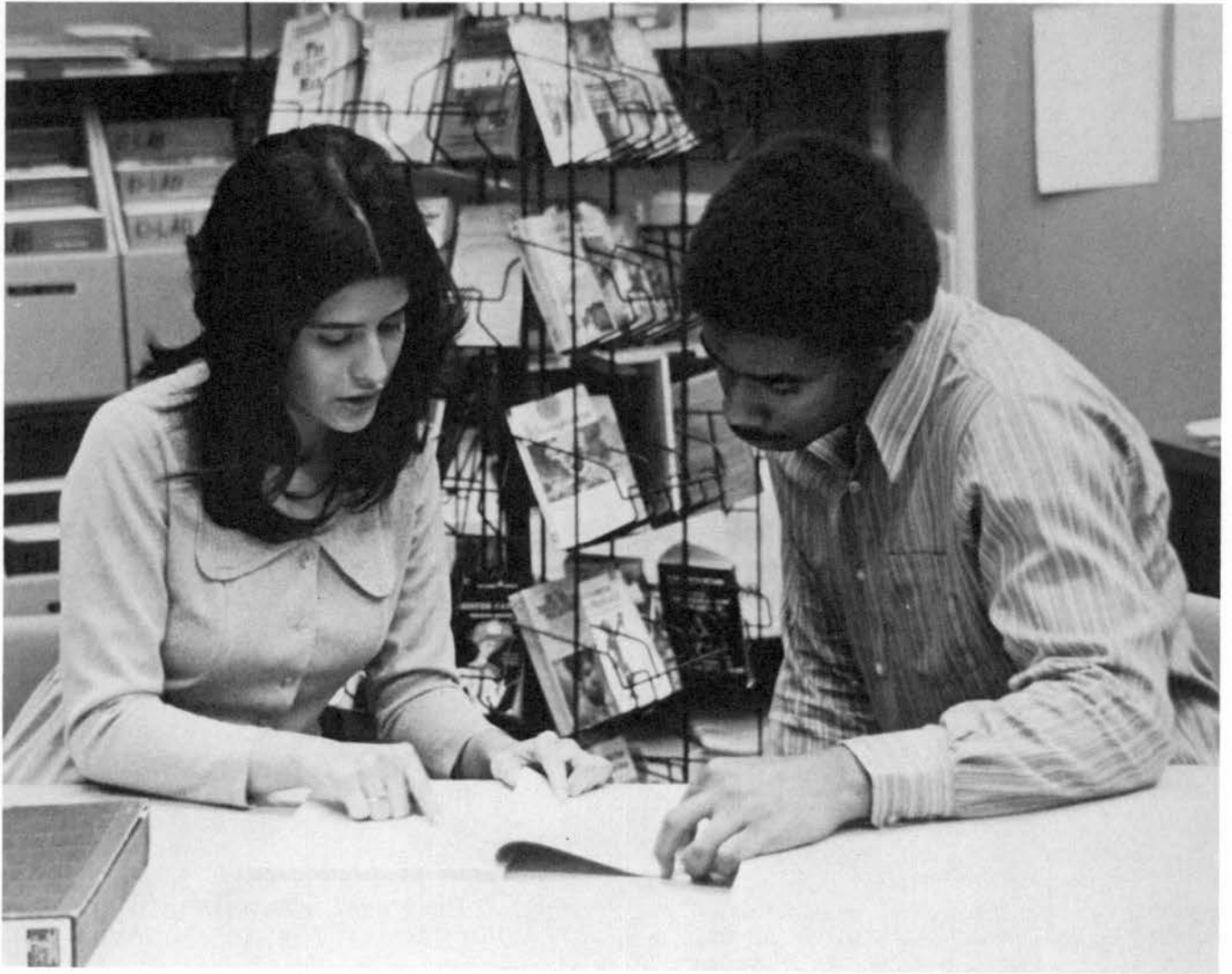
Inter-library loans are available through the LMC from the Denver Bibliographical Center for Research and other educational institutions. The Book Catalog of the Jefferson County Public Libraries is available for use by students and faculty on the Red Rocks Campus.

Professional and supportive personnel are available for consultation and media production services.

INSTRUCTIONAL LABORATORIES

To serve the needs of all CCD students and to assure success in career training, the Community College of Denver provides specialized instructional laboratories at all three campuses. These laboratories offer instruction through specialized equipment thereby enabling students to develop basic learning skills. Mastery of these skills will assure students of successful completion of course assignments as well as high school diplomacy equivalency requirements. Moreover, the instructional laboratories will enable students to qualify for and maintain productive employment. Instruction in such basic skills as writing, reading, spelling, or arithmetic in addition to tutorial support supplementing various instructional programs is provided by the College. Instructional laboratories are open to all students at CCD whether enrolled in occupational or general studies programs.

The procedure in the instructional laboratory is to diagnose the student's skill deficiency and pre-



scribe a plan to bolster the lack of basic skills. Thereafter, the student will participate in a highly individualized program in close contact with instructors qualified to help with his specific problem. For example, should a student in carpentry lack a proficiency in math or reading which inhibits his ability to perform simple mathematical computations or to read and translate measurements, the lab will analyze and diagnose this skill problem. Then, through individualized planned instruction, the student will be helped by trained instructors until his lack of knowledge and skill is rectified.

There is no established timetable for completion in the instructional laboratory. The achievement of proficiency in basic learning skills cannot be related to academic quarters, clock hours or traditional forms of scheduling. Enrolled students are permitted to use the instructional laboratories frequently and for as long as they wish during each time of use.

The following program opportunities for all CCD students are available according to individual needs:

COMMUNICATIONS (READING, WRITING, SPEAKING, LISTENING)

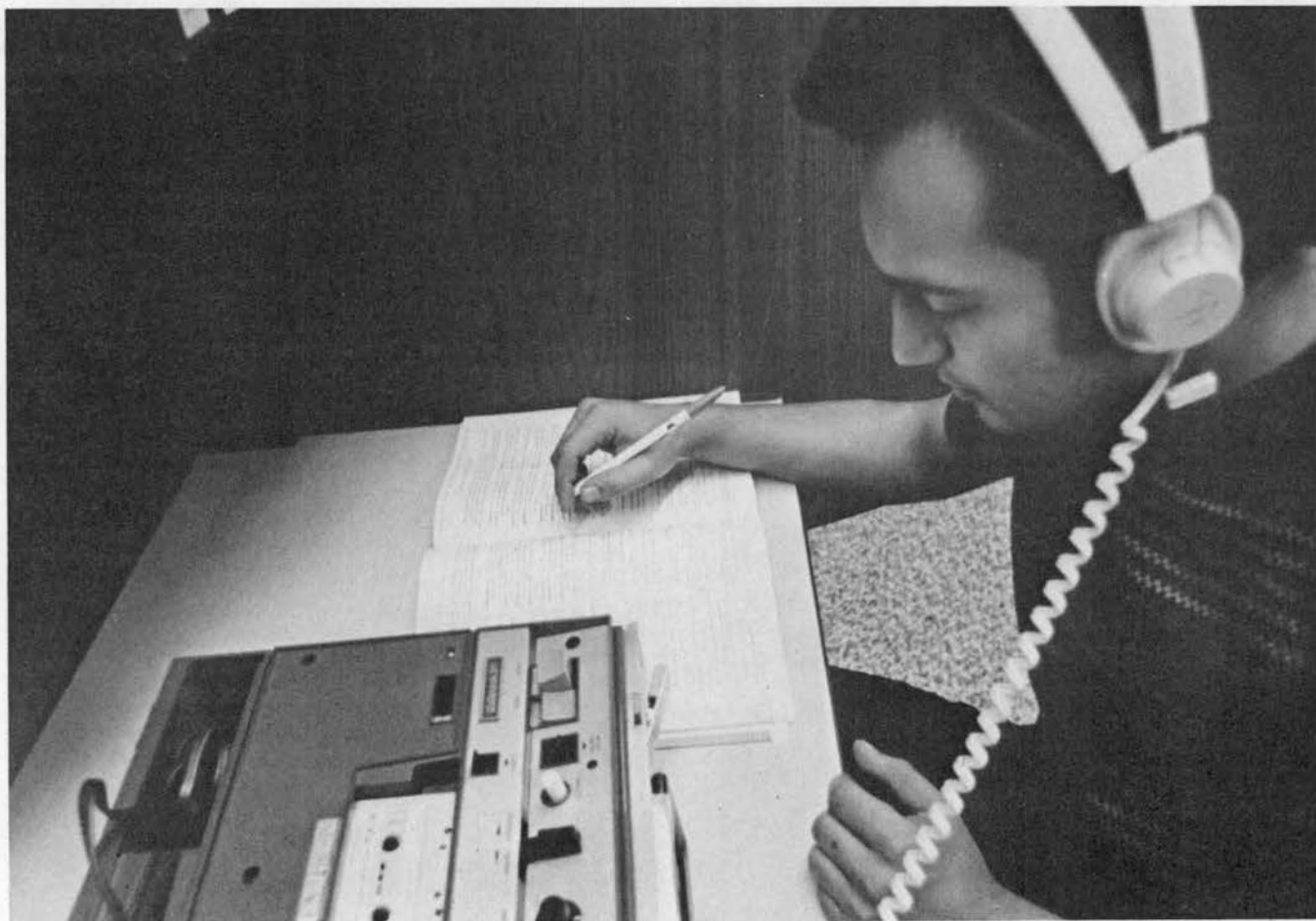
MATHEMATICS (FUNDAMENTALS OF ARITHMETIC, ALGEBRA, AND GEOMETRY)

SCIENCE (BASIC LIFE SCIENCES AND PHYSICAL SCIENCE)

SOCIAL SCIENCES (FUNDAMENTALS OF WORLD AND U.S. HISTORY, U.S. GOVERNMENT, GEOGRAPHY, AND CONSUMER ECONOMICS)

COMMUNITY SERVICES

The Community Service Programs of the Community College of Denver are determined largely by the needs and interests of residents in the service areas of the three campuses. The Community Service Offices are responsible for identifying community problems which can be met with education and community development resources of the College. Functions of this outreach of campus resource responsibility include: (1) community analysis including development of advisory groups to identify needs; (2) the extension of credit courses and supportive services into the community to make them more accessible to residents; (3) the development of programs such as non-credit courses, workshops, public forums, conferences, and in-plant contractual training which reach beyond traditional credit offering limitations; (4) the organization of programs which respond to the needs of new



constituencies and groups lacking resources such as women, senior citizens, institutionalized persons, minority and low income groups, etc.; (5) cooperating with local agencies, businesses, churches, and other community organizations to increase resources aimed at community problem-solving.

SERVICEMEN'S OPPORTUNITY COLLEGE

In recognition of the unique educational problems confronting active duty servicemen in obtaining their educational goals, the Community College of Denver has been officially designated as a Servicemen's Opportunity College. By completing 15 quarter hours in a degree program at the Community College of Denver, the serviceman may transfer the remaining 75 hours from other Servicemen's Opportunity Colleges, other accredited institutions, CLEP examinations and/or institutional challenge examinations completed prior to or after attending the Community College of Denver. Before transferring to another institution, the serviceman may contract for a degree from the Community College of Denver for any work remaining beyond the initial 15 hours. This work may be completed at other Servicemen's Opportunity Colleges, or other accredited institutions.

Each campus of the Community College of Denver has a counselor who serves as a Servicemen's Counselor. This counselor's prime responsibility is to assist servicemen in achieving their educational goals.

COLLEGIATE CENTER FOR THE PHYSICALLY DISADVANTAGED

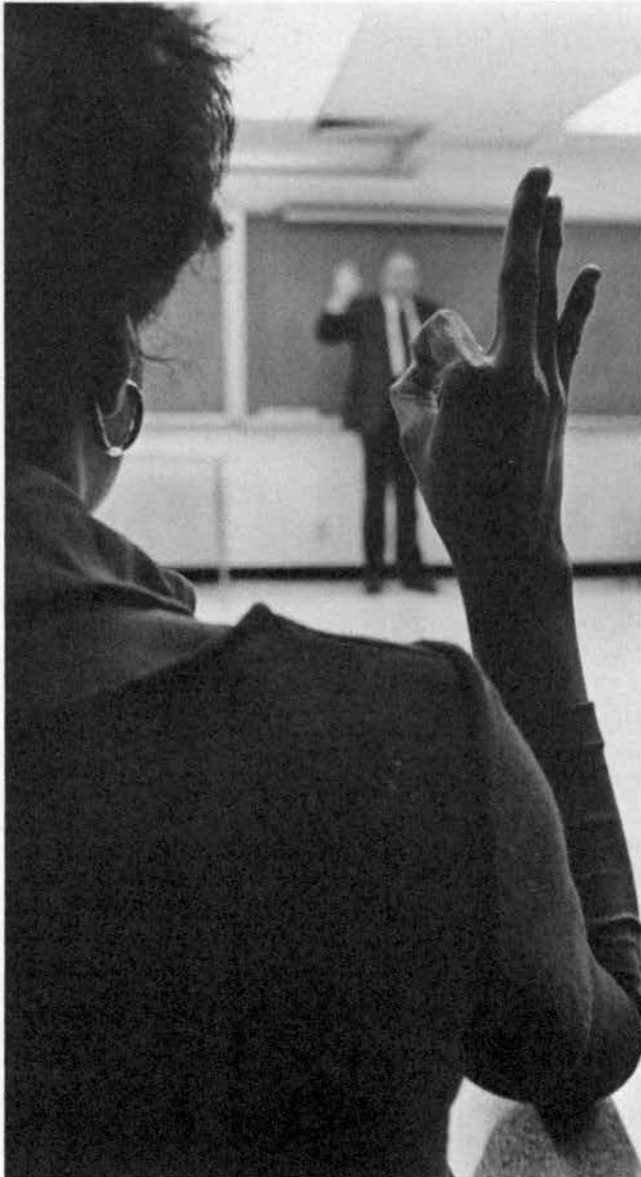
Proposed Program

Currently plans are being developed to establish a comprehensive support-service for all physically handicapped Community College of Denver students. The proposed facility will be situated at the Red Rocks Campus. Projected plans indicate that effective January 1974, all physically handicapped students will have an opportunity to pursue any existing CCD program. Satisfactory completion will lead to one of the following certifications: Associate Degree, Certificate of Achievement, or Certificate of Completion. If adequate finances for this Center are not provided, only the current programs for the Hearing Impaired will be maintained at the North Campus.

Disability Groups Served

This new program will be directed towards secondary and post-secondary candidates, and will provide educational services for the following physical disabilities:

- AMPUTATIONS
- BLINDNESS/VISUAL PROBLEMS
- PARAPLEGIA
- DEAFNESS
- CARDIAC AND VASCULAR
- CEREBRAL PALSY



MULTIPLE SCLEROSIS
DEFORMITIES
SPEECH DISORDERS
ASTHMA/RESPIRATORY
DISABLING CONDITIONS
SELECTED MULTIPLE HANDICAPS

Support Services Offered

Depending upon the candidate's disability, the following support services will be offered:

TUTORIAL ASSISTANCE
READERS AND BRAILLE TRANSCRIBERS
SPECIAL COUNSELORS
NOTETAKERS AND TESTORS
SPECIALIZED MEDIA
EQUIPPED RESOURCE CENTERS
PERIPHERAL THERAPY AND NURSING SERVICE
PSYCHOLOGICAL TESTING SERVICE
INTERPRETING (FOR THE DEAF)
PARAPROFESSIONAL AID
CURRICULUM ADAPTATION
MODIFICATION OF ARCHITECTURAL BARRIERS
PLACEMENT SERVICE FOR THE HANDICAPPED
LIAISON WITH REHABILITATION CENTERS
ON-SITE PROSTHETIC REPAIR SERVICE
INTER-CAMPUS BUS SERVICE FOR THE
HANDICAPPED

Educational Objectives

The thrust of this proposed project is to direct handicapped candidates toward the greatest degree of employable competency that the physical limitations of their particular disability will allow.

An in-depth analysis of all occupational programs available at the three-campus complex will be undertaken to identify programs suitable to each kind of handicapping condition. Curriculum modification will be implemented to meet each candidate's specific potential. Equipment adaptation or the provision of supplementary equipment will be arranged.

Conceptual Basis for the Program

It is the philosophy of the Community College of Denver that handicapped adults should be given the same opportunities for occupational training as their able-bodied counterparts. In addition, CCD maintains the belief that many more handicapped individuals should and could be employed than are in the present labor market. CCD maintains also that the physically handicapped can be trained more effectively, at less expenditure, in the same classroom with their non-handicapped peers, rather than in isolated special schools. To facilitate this philosophy, CCD is making certain that ancillary classroom services are available for all physically handicapped students.

KEY TO COURSE PREFIX LETTERS

AB — Auto Body Service	LI — Literature
AC — Accounting	LT — Library Technology
AE — Appliance and Refrigeration Mechanics	M — Mathematics
AM — Automotive Mechanics	MG — Management
AN — Anthropology	MI — Mineral Industry Technology
AR — Art	MO — Medical Insurance Clerk
AT — Architectural Technology	MS — Machine Shop
AV — Audio-Visual Technology	MU — Music
B — Biology	N — Nursing
BE — Biomedical Equipment Technology	NA — Nurse Assisting
BI — Building Inspection	NT — Nuclear Medicine Technology
BL — Bricklaying	OA — Optometric Assisting
C — Chemistry	OM — Business Machine Technology
CA — Carpentry	P — Physics
CC — Early Childhood Education and Management	PE — Physical Education
CH — Chinese	PH — Philosophy
CI — Classroom Instructional Assisting	PL — Plumbing
CJ — Criminal Justice	PR — Public Relations
CM — Commercial Art	PS — Political Science
CT — Civil Technology	PT — Commercial Photography
D — Drafting	PY — Psychology
DA — Dental Assisting	QA — Quality Assurance
DM — Diesel Mechanics	R — Radiation Therapy Technology
DP — Data Processing	RA — Radio and Television Service
EC — Economics	RD — Reading
EG — English	RE — Real Estate
EG — (Manual Communication)	RL — Recreational Leadership
EH — Institutional Housekeeping	RT — Radiologic Technology
EM — Appliance and Refrigeration Mechanics	RU — Russian
EO — Heavy Equipment Operation	S — Speech
ET — Electronics Technology	SC — Secretarial Science
EV — Environmental Control Technology	SE — Sports Crafts and Specialty Area Mechanics
F — Food Service	SI — Science
FP — Fluid Power	SK — Skill Center
FR — French	SO — Sociology
FS — Fire Science Technology	SP — Spanish
G — Earth Science	SR — Senior Citizen Activity Assisting
GA — Graphic Arts	SS — Social Science
GC — Counseling	ST — Surgical Technology
GE — Geography	SU — Surveying
GR — German	SW — Social Worker Assisting
HE — Health Education	TE — Traffic Engineering Technology
HI — Hearing Impaired	TI — Technical Illustration
HM — Hotel-Motel Management	TT — Traffic and Transportation
HS — History	TV — Television Service Technology
HU — Humanities	UH — Urban Horticulture
I — Information Media Technology	UP — Urban Planning Technology
IC — Inventory Control	VM — Vending Machine Technology
IE — Commercial Industrial Electricity	VN — Practical Nursing
IM — Industrial Management	WC — Ward Clerk
IN — Insurance	WE — Welding and Fabrication
IT — Respiratory (Inhalation) Therapy Technology	WW — Water-Wastewater Technology
JL — Journalism	XT — General Diagnostic (X-Ray)
LA — Para-Legal	

GENERAL STUDIES PROGRAMS

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Division of Science and Mathematics	35
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GENERAL STUDIES PROGRAMS

The General Studies Programs are intended to provide educational opportunities in support of a student's selected career emphasis in Occupational Studies, in preparation for transfer to a four-year college or university and in general and developmental education interests.

Students enrolled in Occupational Studies Programs may enroll in General Studies courses to meet the specific requirements of a particular occupational curriculum and to select desired elective courses.

Students who intend to transfer to a four-year college or university should review the catalog of the particular institution to which they plan to transfer in order to determine specific course requirements. Copies of catalogs for other Colorado colleges, universities, and out-of-state schools may be obtained through the Office of Student Services. Students are urged to seek the advice of the division directors and faculty members in the selection of transfer courses in their areas of interest.

The Associate Degree is awarded by the Community College of Denver upon the successful completion of the requirements for the degree. The general requirements for the Associate Degree are listed on Page 6. In addition, a General Studies student must meet the specific requirements in one of the four areas of emphasis listed below:

1. Arts—This is designed for the student whose major emphasis of study is in Communication and Arts and/or Social Sciences and is intended for transfer to a four-year college or university in his area of interest.

Degree Requirements

Successful completion of a minimum of ninety (90) quarter hours of credit in transfer course work including the following:

- a. EG 111, 112, and 113..... 9 hours
 - b. Nine (9) quarter hours of course work in the Division of Communication and Arts* (in addition to EG 111, 112, and 113) 9 hours
 - c. Twelve (12) quarter hours of course work in the Division of Science and Mathematics12 hours
 - d. Twelve (12) quarter hours of course work in the Division of Social Sciences12 hours
 - e. Electives that fit in with the student's transfer program.....48 hours
- TOTAL90 hours**

*Excluding course work in physical education.

2. Science—This is designed for the student whose major emphasis of study is in Science or Mathematics and is intended for transfer to a four-year college or university in his area of interest.

Degree Requirements

Successful completion of a minimum of ninety (90) quarter hours of credit in transfer course work including the following:

- a. EG 111, 112, and 113..... 9 hours
 - b. Nine (9) quarter hours of course work in the Division of Communication and Arts* (in addition to EG 111, 112, and 113).....9 hours
 - c. Thirty (30) quarter hours of course work in the Division of Science and Mathematics30 hours
 - d. Twelve (12) quarter hours of course work in the Division of Social Sciences12 hours
 - e. Electives that fit in with the student's transfer program.....30 hours
- TOTAL90 hours**

*Excluding course work in physical education.

3. Business—This is designed for the student whose major emphasis of study is in Business and may be used for transfer to a four-year college or university school of business.

Degree Requirements

Successful completion of a curriculum designed for transfer to a four-year college or university (see page 106 in the Division of Business and Management Occupations Section of the catalog).

4. General Education—This is designed for the student who completes a broad program of courses without the constraints of specialization characteristic of the other programs in General Studies and is not designed for transfer.

Degree Requirements

Successful completion of a minimum of ninety (90) quarter hours of credit in course work including the following:

- a. Six (6) quarter hours of course work in the Division of Communication and Arts* 6 hours
 - b. Six (6) quarter hours of course work in the Division of Science and Mathematics 6 hours
 - c. Six (6) quarter hours of course work in the Division of Social Sciences 6 hours
 - d. Electives in General Studies.....30 hours
 - e. Electives of the student's choosing42 hours
- TOTAL90 hours**

*Excluding course work in physical education.

NOTE: Students who can submit evidence that their successful completion of ninety (90) quarter hours of course work constitutes a completely transferable curriculum for transfer into a specific program at a four-year college or university need not complete the specific requirements listed above in order to be considered for the Associate Degree.

DIVISION OF COMMUNICATION AND ARTS

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Art	A, N, R
Chinese	A, N, R
English	A, N, R
Beginning Manual Communications	A, N, R
French	A, N, R
German	A, N, R
Humanities	A, N, R
Instructional Labs	A, N, R
Journalism	A, N, R
Literature	A, N, R
Music	A, N, R
Physical Education	A, N, R
Reading	A, N, R
Russian	A, N, R
Speech	A, N, R
Skill Center Instructional Program	A, N, R
Spanish	A, N, R
Independent Study	A, N, R

DIVISION OF COMMUNICATION AND ARTS

COURSE DESCRIPTIONS

Where a course description does not indicate the campus by the key A, N or R, we would suggest you call the campus of your choice for information.

AR 100 Art Appreciation (A, N, R) 3 credit hours

A study of the world's art masterpieces, various aspects and types of art works as a basis for broadening knowledge and appreciation of the subject.

AR 101 Basic Drawing (A, N, R) 3 credit hours

Freehand drawing covering a selection of subject, proportion, perspective, line, texture, value and composition. Media includes pencil, conte crayon, charcoal and ink. (6 hours per week)

AR 102 Basic Drawing (A, N, R) 3 credit hours

Prerequisite: AR 101 or permission of instructor

Drawing fundamentals with a stronger emphasis on the idea or concept of drawing, introduction of color into drawing and a wider selection of drawing media. (6 hours per week)

AR 103 Basic Drawing (A, N, R) 3 credit hours

Prerequisite: AR 101 or 102 or permission of instructor

Drawing in varied and mixed media, emphasizing experimentation. Broad range of size and material stressing composition and concept. Introduction to drawing human figure. (6 hours per week)

AR 105 Basic Design (A, N, R) 3 credit hours

Fundamentals of form, color, visual perception, principles of composition, organization and structure introduced with experimentation in two-dimensional problems in design. (6 hours per week)

AR 106 Basic Design (A, N, R) 3 credit hours

Prerequisite: AR 105 or permission of instructor

Continuation of AR 105 with problems in form, color, visual perception, principles of composition, organization and structure in both two and three dimensional design. (6 hours per week)

AR 107 Basic Design (A, N, R) 3 credit hours

Prerequisite: AR 105 or 106 or permission of instructor

Advanced problems in two and three dimensional design. (6 hours per week)

AR 110 Art of the Southwest (A, N, R) . . 3 credit hours

The architecture, painting and sculpture of the American Southwest from pre-Colombian civilization to present times. Emphasis is on regional adaptation and assimilation of art forms brought about by the different cycles of conquest.

AR 111 Introduction to Art, A Survey of Masterpieces of the World (A, N, R) 3 credit hours

The course is designed for students interested in general awareness of art and art appreciation. A study of the world's masterpieces from Prehistoric to Gothic period with brief exposure to some studio experiences if appropriate.



AR 112 Introduction to Art, A Survey of Masterpieces of the World (A, N, R) 3 credit hours

A continuation of AR 111, from Early Renaissance through Rococo periods.

AR 113 Introduction to Art, A Survey of Masterpieces of the World (A, N, R) 3 credit hours

A continuation of AR 112, from New Classic through Contemporary periods.

AR 181 Ethnic Studies in Art, The American Southwest (A, N, R) . . 3 credit hours

Special studies of the Art of the American Southwest from pre-Colombian civilizations to present times as it relates to the Chicano.

AR 182 Ethnic Studies in Art, The Art of Africa and Black Americans (A, N, R) 3 credit hours

Special studies of the Art of Africa from ancient to present times as it relates to contemporary Black American artists.



AR 183 Ethnic Studies in Art, The Art of the Orient and the American Oriental (A, N, R) 3 credit hours

Special studies of Oriental Art from ancient to present times as it relates to contemporary American Oriental artists.

AR 184 Ethnic Studies in Art, The American Indians (A, N, R) 3 credit hours

Special Studies of the Art of the American Indian from ancient to present times as it relates to contemporary American Indian artists.

AR 201 Second Year Drawing (A, N, R) . 3 credit hours
Prerequisite: AR 103 or permission of instructor
Advanced problems in freehand drawing. Emphasis on experimentation using a variety of media and greater emphasis on drawing the human figure. (6 hours per week)

AR 202 Second Year Drawing (A, N, R) . 3 credit hours
Prerequisite: AR 201 or permission of instructor
Continuation of AR 201. (6 hours per week)

AR 203 Second Year Drawing (A, N, R) . 3 credit hours
Prerequisite: AR 202 or permission of instructor
Continuation of AR 202. (6 hours per week)

AR 211 Basic Water Colors and Watermedia (A, N, R) 3 credit hours
Introduction to transparent and opaque water color media through problems in creative design involving landscape and still life. (6 hours per week)

AR 212 Basic Water Colors and Watermedia (A, N, R) 3 credit hours
Prerequisite: AR 211 or permission of instructor
Continuation of AR 211. (6 hours per week)

AR 213 Basic Water Colors and Watermedia (A, N, R) 3 credit hours
Prerequisite: AR 212 or permission of instructor
Continuation of AR 211 and 212. (6 hours per week)

AR 215 Figure Drawing I (A, N, R) 3 credit hours
Beginning drawing of the human figure with a variety of drawing media and an introduction to human anatomy. (6 hours per week)

AR 216 Figure Drawing II (A, N, R) 3 credit hours
Prerequisite: AR 215 or permission of instructor
Continuation of AR 215. (6 hours per week)

AR 217 Figure Drawing III (A, N, R) 3 credit hours
Prerequisite: AR 216 or permission of instructor
Continuation of AR 216. (6 hours per week)

AR 221 Oil and Acrylic Painting (A, N, R) 3 credit hours
Introduction to oil or acrylic painting with basic investigation of the materials of the painter and their employment in control of form and space through the use of color and other elements of design. (6 hours per week)

AR 222 Oil and Acrylic Painting (A, N, R) 3 credit hours
Prerequisite: AR 221 or permission of instructor
Continuation of AR 221. (6 hours per week)

AR 223 Oil and Acrylic Painting (A, N, R) 3 credit hours
Prerequisite: AR 222 or permission of instructor
Continuation of AR 221 and 222. (6 hours per week)

AR 231 Ceramics I (A, N, R) 3 credit hours
Opportunity for students to discover their potential in design as applied to pottery. Various methods of building and glazing ceramic forms are made possible through laboratory experiences. (6 hours per week)

AR 232 Ceramics II (A, N, R) 3 credit hours
Prerequisite: AR 231 or permission of instructor
(6 hours per week)

AR 233 Ceramics III (A, N, R) 3 credit hours
Prerequisite: AR 232 or permission of instructor
(6 hours per week)

AR 235 Textile Design and Weaving I (A, N, R) 2 credit hours
Historical development of looms, weaving and textile design techniques, studio experience in weaving, batik and other textile design. (4 hours per week)

AR 236 Textile Design and Weaving II (A, N, R) 2 credit hours
Prerequisite: AR 235 or permission of instructor
Continuation of AR 235. (4 hours per week)

AR 237 Textile Design and Weaving III (A, N, R) 2 credit hours
Prerequisite: AR 236 or permission of instructor
Continuation of AR 236. (4 hours per week)

AR 241 History of Art (A, N, R) 3 credit hours
Earliest Stone Age to the Roman Era: Painting, sculpture, architecture, minor arts.

AR 242 History of Art (A, N, R) 3 credit hours
Beginning of the Roman Era to the 18th Century: Architecture, painting, sculpture, minor arts.

AR 243 History of Art (A, N, R) 3 credit hours
Eighteenth Century to Contemporary. European and American, Primitive African and Oceanic: Architecture, painting, minor arts.

AR 245 Printmaking I (A, N, R) 3 credit hours
Prerequisite: AR 105, 106, 107 Basic
Design or permission of instructor
A study of basic hand printing techniques: Lithography, etching, wood engraving, block printing and silkscreen printing. (6 hours per week)

AR 246 Printmaking II (A, N, R) 3 credit hours
Prerequisite: AR 245 or permission of instructor
Continuation of AR 245. (6 hours per week)

AR 247 Printmaking III (A, N, R) 3 credit hours
Prerequisite: AR 246 or permission of instructor
Continuation of AR 246. (6 hours per week)

AR 251 Metalsmithing and Jewelry I (A, N, R) 3 credit hours
Jewelry design, basic construction and surface treatment techniques in sterling silver. (6 hours per week)

AR 252 Metalsmithing and Jewelry II (A, N, R) 3 credit hours
Prerequisite: AR 251 or permission of instructor
Continuation of AR 251. (6 hours per week)

AR 253 Metalsmithing and Jewelry III (A, N, R) 3 credit hours
Prerequisite: AR 252 or permission of instructor
(6 hours per week)

AR 255 Basic Sculpture I (A, N, R) 3 credit hours
Prerequisite: One year of basic design or permission of instructor
A creative approach to three dimensional design in sculpture; modeling, assembling, and construction in a variety of materials. (6 hours per week)

AR 256 Basic Sculpture II (A, N, R) 3 credit hours
Prerequisite: AR 255 or permission of instructor
Continuation of AR 255. (6 hours per week)

AR 257 Basic Sculpture III (A, N, R) 3 credit hours
Continuation of AR 256. (6 hours per week)

AR 261 Second Year Painting (A, N, R) . 3 credit hours
Prerequisite: AR 213 and 223 or permission of instructor
A continuation of AR 213 and 223. This course provides an opportunity for the advanced student to work with water color, oil and acrylic, or mixed media through problems involving landscape, still life, abstraction and non-objective painting. (6 hours per week)

AR 262 Second Year Painting (A, N, R) . 3 credit hours
Prerequisite: AR 261 or permission of instructor
Continuation of AR 261. (6 hours per week)

AR 263 Second Year Painting (A, N, R) . 3 credit hours
Prerequisite: AR 262 or permission of instructor
Continuation of AR 262. (6 hours per week)

AR 271 Second Year Ceramics I (A, N, R) 3 credit hours
A continuation of AR 233. This course provides an opportunity for advanced ceramics in second year, creative design in wheel thrown pottery forming processes and glaze compositions. (6 hours per week)

AR 272 Second Year Ceramics II (A, N, R) 3 credit hours
Prerequisite: AR 271 or permission of instructor
(6 hours per week)

AR 273 Second Year Ceramics III (A, N, R) 3 credit hours
Prerequisite: AR 272 or permission of instructor
(6 hours per week)

CHINESE

CH 100 Basic Applied Chinese (A, N, R) 2 credit hours
Course designed for those who wish to learn basic conversational patterns for enjoyment and travel or for simple business needs. Language background helpful but not essential. (2 hours per week, plus laboratory)

CH 111 First Year Chinese (A, N, R) . . . 5 credit hours
Designed to develop basic principles of grammar and syntax; reading and writing of simple Chinese, correct pronunciation and rudimentary conversation.

CH 112 First Year Chinese (A, N, R) . . . 5 credit hours
Prerequisite: CH 111

CH 113 First Year Chinese (A, N, R) . . . 5 credit hours
Prerequisite: 112
Continuation and Expansion of CH 112 & additional reading materials.

CH 211 Intermediate Chinese (A, N, R) . 3 credit hours
This course will (1) review and reinforce skills and knowledge gained in first year Chinese, (2) develop fur-

ther skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary and (4) provide readings in plays, short stories and poems.

CH 212 Intermediate Chinese (A, N, R) .3 credit hours
Prerequisite: CH 211

Continuation and Expansion of CH 211.

CH 213 Intermediate Chinese (A, N, R) .3 credit hours
Prerequisite: CH 211

Continuation and Expansion of 212.

CH 214 Conversation and Composition Chinese (A, N, R) .3 credit hours

Prerequisite: CH 213 or demonstration of sufficient language skills

Conversation and Composition Chinese is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports and situation dialogues.

CH 215 Conversation and Composition Chinese (A, N, R) .3 credit hours

Continuation and Expansion of CH 214.

CH 216 Conversation and Composition Chinese (A, N, R) .3 credit hours

Continuation and Expansion of CH 215.

CH 241 Contemporary Chinese Short Stories (A, N, R) 3 credit hours

Selected examples of most representative authors.

CH 242 Contemporary Chinese Theatre (A, N, R) 3 credit hours

Selected plays representative of the Chinese stage today.

CH 243 Contemporary Chinese Novel (A, N, R) 3 credit hours

Selected contemporary novels.

ENGLISH

IL 090 Communications Laboratory (A, N, R)

This program is designed to guide and assist students who have difficulty in any of the communication skills — especially in reading, spelling, written composition and oral communication (including listening). Through counseling and tests these laboratory experiences help the student recognize his problem, define it, and then, through highly individualized teaching, work toward some meaningful solution of that problem in order to prepare him to go on with his college work.

EG 095 Comprehensive Business Communications (A, N, R) 3 credit hours

A special course designed for the short-term business students who must improve their skill in the mechanics of transcribing business letters. Intensive practice in proofreading and correcting business correspondence will be provided. (5 class hours per week, plus lab assignments as directed by the instructor).

EG 096 English as a Second Language (A, N, R) 5 credit hours

This course is designed to lead the student to mastery of the sound system of English along with the mastery of the devices which English uses structurally and the fundamental matters of word order and the patterns of form. (5 hours per week)

EG 100 Study Skills (A, N, R) 1 credit hour
Objectives are to introduce basic study skills.

EG 102 Workshop in Language Fundamentals (A, N, R) 3 credit hours

The course is designed to give the student basic writing skills. The course will cover basic grammar, punctuation and syntax. Ample exercise and individualized instruction will ensure student progress in the development of fundamental writing skills needed in college or work world.

EG 106 Occupational Communication (A, N, R) 3 credit hours

Designed to develop the occupational student's skills and understanding in reading and writing. Special emphasis is placed on business and industrial needs. EG 106 develops these skills in written communication and focuses on the student's abilities to read and write within his chosen field.



**EG 107 Occupational
Communication (A, N, R) 3 credit hours**

Designed to develop the student's abilities in oral communication (speaking and listening) in his chosen field.

**EG 108 Occupational
Communication (A, N, R) 3 credit hours**

The focus is on introductory technical writing and will cover letters, progress reports and informal technical reports.

EG 111 English Composition (A, N, R) . . 3 credit hours

Designed to introduce the student to the broad field of communication and to develop ability in the writing of short papers and reports through the application of the techniques of clear thinking: definition, classification, structure and process analysis, and comparison/contrast.

EG 112 English Composition (A, N, R) . . 3 credit hours

Prerequisite: EG 111 or equivalent

Designed to teach the student to write reports and research papers. The emphasis is on the library paper: (1) defining the problem, (2) collecting data, (3) organizing logical sequence, (4) recording (footnoting, editing, typing, etc.).

EG 113 English Composition (A, N, R) . . 3 credit hours

Designed to develop the student's understanding of creative forms in all areas of communication. This includes (1) introduction to the characteristics of creativity, (2) meaningful forms of creative expression and application and (3) experiences in the search for personal expression, with particular emphasis on contemporary involvement. EG 111 and 112 are not prerequisites for EG 113.

EG 114 Creative Writing (A, N, R) 3 credit hours

The writing of creative papers and the creative process generally. Students are exposed to a variety of techniques primarily applicable to creative forms; poetry, essays, short stories, and others.

**EG 131 Business
Communications I (A, N, R) 3 credit hours**

Presents essential principles involved in preparing business letters and other types of business communications — purpose, style, structure and use of correct, forceful English. Intensive practice in the mechanics of language and vocabulary used by management and office personnel is provided.

**EG 132 Business
Communications II (A, N, R) . . . 3 credit hours**

Prerequisite: EG 131 or equivalent

Applies the business technique to communications that require problem solving and an understanding of human relations in a business situation. Students will compose and evaluate the various kinds of business letters that are commonly used by businessmen. Business reports, inter-office bulletins, news releases and other forms of business composition will receive attention. The legal and ethical responsibilities involved in written communication will be discussed.

**EG 133 Business
Communications III (A, N, R) . . . 3 credit hours**

Prerequisite: EG 132 or equivalent

Applications of the writing, speaking and listening skills learned in EG 131 and 132 (Business Communications) are covered in this course. Oral business reporting for staff meetings, public speaking, correct telephone usage, techniques in business dictation, listening for notetaking and other business facets of written and oral communications are practiced.

**EG 200 Advanced
Composition (A, N, R) 3 credit hours**

The techniques of clear thinking and organization as implemented by the basic concepts of EG 111 and EG 112 applied to expository writing with special attention to syntactic and rhetorical development.

**EG 201 Survey of
Communication (A, N, R) 3 credit hours**

Focuses on the development of basic communication habits as aids to better communication. The communication model, levels of communicative interdependence, empathy, origin of meanings, general semantics, dimensions of observations and judgments — are studied as a new approach to human understanding and improvement of human relations.

**EG 214 Advanced Creative
Writing (A, N, R) 3 credit hours**

An advanced course in creative writing. The course will channel individual student potential into advanced creative expression, self-enrichment with resultant publishable materials.

**EG 220 The Rhetoric of Social
Protest (A, N, R) 3 credit hours**

An analytical and critical study of the rhetoric of social protest in America with special emphasis on activism.

EG 250 Technical Writing (A, N, R) 3 credit hours

Prerequisite: Successful completion of a sequence of 3 quarters of Occupational Communication, or Business Communications or English Composition or equivalent

Designed as a professional introductory course in technical writing. This course will teach the student to prepare a formal technical report for the printer through (1) the development of definition and analyses, (2) the definition of problems, (3) collection and organization of data, (4) mastery of structure, style and mechanics of the written report, and (5) the use of graphics.

EG MANUAL

**EG 151 Beginning Manual
Communications (A, N, R) 3 credit hours**

A beginning course in the language of signs. Emphasis is on the development of receptive and expressive skills in the use of the manual alphabet, together with practice in the use of basic signs.

**EG 152 Intermediate Manual
Communications (A, N, R) 3 credit hours**

Refinement of skills developed in the beginning Manual Communications course. Extensive practice in the use

of the sign language, with development of colloquial expressions. Increased practice in the reading of signs and fingerspelling.

EG 153 Advanced Manual Communications (A, N, R) 3 credit hours

Introduction to the role of sign languages as a medium for interpreting. Simulated interpreting situations will provide the vehicle for the development of fluid manual communication skills.

EG 251 Specialized Manual Communications (A, N, R) 3 credit hours

This course, designed for students already familiar with the language of signs, will provide a number of different interpreting situations for observation and practice in order to develop a broad scope of interpreting skills.

EG 252 Supervised Practicum in Interpreting-I (A, N, R) 3 credit hours

Using actual classroom situations, students will have the opportunity to apply their interpreting skills by translating lectures for deaf students enrolled in a variety of courses; observation and evaluation will be conducted by professional interpreters. (5 hours per week)

EG 253 Supervised Practicum in Interpreting-II (A, N, R) 6 credit hours

A concluding course to bring together all of the many facets of interpreting; continuation of professionally guided classroom and laboratory interpreting for the deaf. (12 or more hours per week as determined by the Coordinator)

FRENCH

FR 100 Basic Applied French (A, R, N) . 2 credit hours

Designed for those who wish to learn basic conversational patterns for enjoyment and for travel or for simple business needs. Language background helpful but not essential. (2 hours per week, plus laboratory)

FR 101 Basic Applied French (A, N, R) . 2 credit hours

Continuation of FR 100.

FR 102 Basic Applied French (A, N, R) . 2 credit hours

Continuation of FR 101.

FR 111 First Year French (A, N, R) 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple French, correct pronunciation and rudimentary conversation.

FR 112 First Year French (A, N, R) 5 credit hours

Prerequisite: FR 111

Continuation and Expansion of FR 111.

FR 113 First Year French (A, N, R) 5 credit hours

Prerequisite: FR 112

Continuation and Expansion of FR 112 and additional reading materials.

FR 211 Intermediate French (A, N, R) . . 3 credit hours

Prerequisite: FR 113 or equivalent

This course will (1) review and reinforce skills and knowledge gained in first year French, (2) develop

further skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary and (4) provide readings in plays, short stories and poems.

FR 212 Intermediate French (A, N, R) . . 3 credit hours

Prerequisite: FR 211

Continuation and Expansion of FR 211.

FR 213 Intermediate French (A, N, R) . . 3 credit hours

Prerequisite: FR 212

Continuation and Expansion of FR 212.

FR 214 Conversation and Composition French (A, N, R) . . 3 credit hours

Prerequisites: FR 213 or demonstration of sufficient language skills

Conversation and Composition French is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports, and situation dialogues.

FR 215 Conversation and Composition French (A, N, R) . . 3 credit hours

Continuation and Expansion of FR 214.

FR 216 Conversation and Composition French (A, N, R) . . 3 credit hours

Continuation and Expansion of FR 215.

FR 241 Contemporary French Short Stories (A, N, R) 3 credit hours

Selected examples of most representative authors.

FR 242 Contemporary French Theatre (A, N, R) 3 credit hours

Selected plays representative of the French Stage.

FR 243 Contemporary French Novel (A, N, R) 3 credit hours

Selected contemporary novels.

GERMAN

GR 100 Basic Applied German (A, N, R) 2 credit hours

This course is for those who wish to learn basic conversational patterns for enjoyment, for travel, or for simple business needs.

GR 101 Basic Applied German (A, N, R) 2 credit hours

Continuation of GR 100.

GR 102 Basic Applied German (A, N, R) 2 credit hours

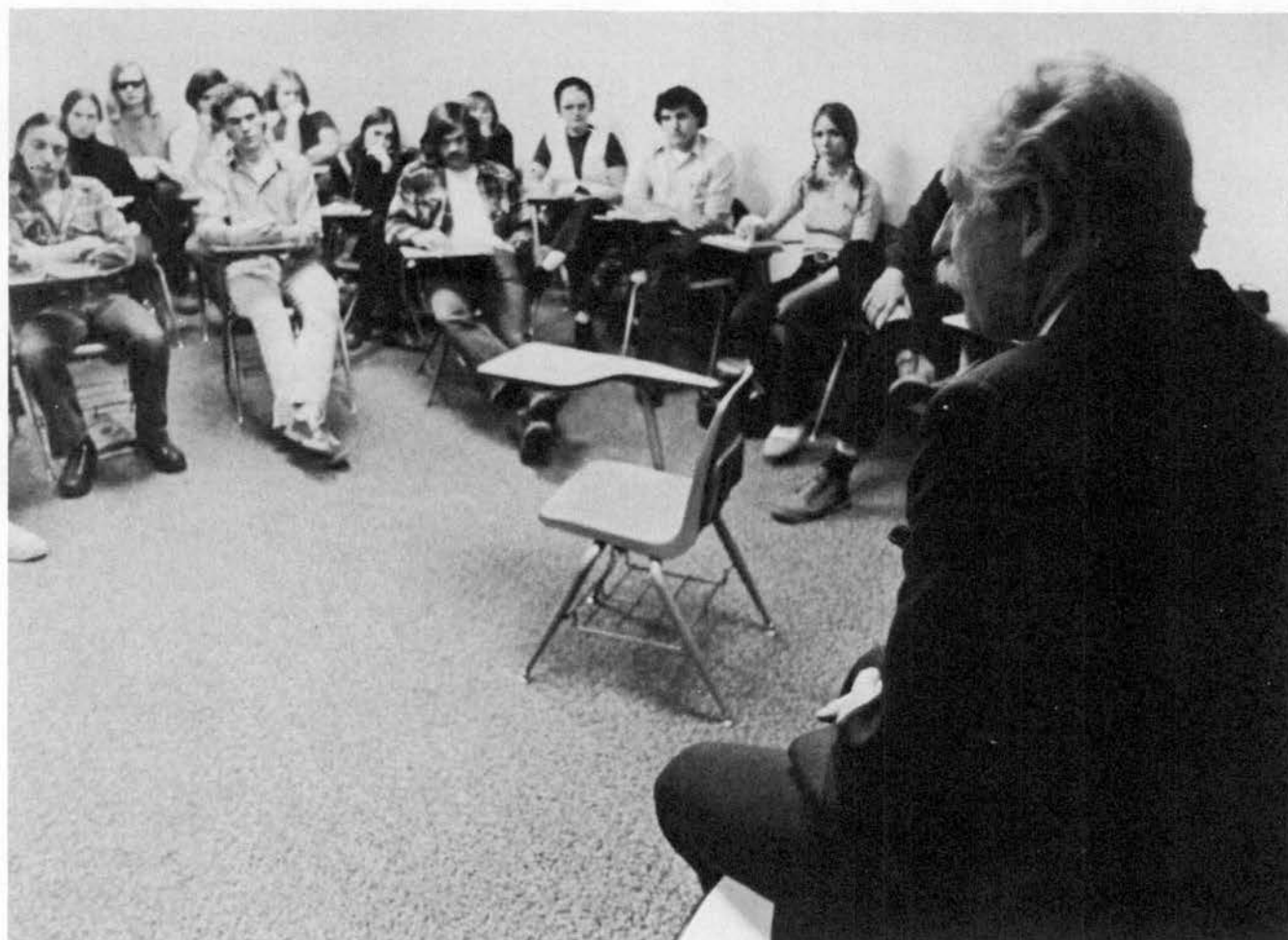
Continuation of GR 101.

GR 111 First Year German (A, N, R) . . . 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple German, correct pronunciation and rudimentary conversation.

GR 112 German II (A, N, R) 5 credit hours

Continuation and Expansion of GR 111.



GR 113 German III (A, N, R) 5 credit hours
Continuation and Expansion of GR 112 and additional reading materials.

GR 211 Intermediate German (A, N, R) . 3 credit hours
This course will (1) review and reinforce skills and knowledge gained in first year German, (2) develop further skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary and (4) provide readings in plays, short stories and poems.

GR 212 Intermediate German (A, N, R) . 3 credit hours
Continuation and Expansion of GR 211.

GR 213 Intermediate German (A, N, R) . 3 credit hours
Continuation and Expansion of GR 212.

GR 214 Conversation and Composition German (A, N, R) 3 credit hours
Prerequisite: 213 or demonstration of sufficient language skills

Conversation and Composition German is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports, and situation dialogues.

GR 215 Conversation and Composition German (A, N, R) . 3 credit hours
Continuation and Expansion of GR 214.

GR 216 Conversation and Composition German (A, N, R) . 3 credit hours
Continuation and Expansion of GR 215.

GR 241 Contemporary German Short Stories (A, N, R) 3 credit hours
Selected examples of most representative authors.

GR 242 Contemporary German Theatre (A, N, R) 3 credit hours
Selected plays representative of the German stage today.

GR 243 Contemporary German Novel (A, N, R) 3 credit hours
Selected contemporary novels.

HUMANITIES

HU 145 Chicano Culture (A, N, R) 3 credit hours
Story of the Chicano from pre-Colombian to contemporary times. Includes the study of the social, cultural, political, and economic heritage of the Chicano and his contribution to American society.

HU 146 Black Culture (A, N, R) 3 credit hours
Role of the Black man in American culture and traditions which give rise to current dilemma confronting the American community.

HU 147 Folklore of Mexico and the Southwest (A, N, R) 3 credit hours

Study of the Indian Folklore of Mexico and the Southwest and its fusion with Hispanic Folklore. (3 hours per week)

HU 201 Pop Culture (A, N, R) 3 credit hours

A close look at the assumptions made by mass-produced artifacts: movies, TV, magazines, comics, books and an effort to judge them. Students find out what's really going on by means of field trips, individual projects, and discussions.

HU 202 The Movies (Cinema) (A, N, R) 3 credit hours

This course provides intensive study of the movies — considered the newest art, as a unique 20th century form of communication, and as a reflection of the values and problems of our time. Students will see short movies weekly, will attend several features, and will conduct a research project.

HU 211 Humanities (A, N, R) 5 credit hours

Based on a comparative study of world mythology, religion, and symbolism and the arts that they have produced.

HU 212 Humanities (A, N, R) 5 credit hours

A comparative study of the arts and crafts of the world and the ways in which they influenced human development and the ways in which human development has influenced them.

HU 213 Humanities (A, N, R) 5 credit hours

A comparative study of the general themes and methodology of Western and Eastern philosophies and the cultural patterns that form their matrix.

HU 215 Ideas in a Changing Society (A, N, R) 3 credit hours

An inter-disciplinary course dealing with current issues placed in historical and ideological perspective. The instructor will be aided by qualified guest speakers and specialists who will discuss various intellectual disciplines, including religion, philosophy, psychology, sociology, education, politics and civil rights.

HU 241 Comparative Culture — Spanish (A, N, R) 3 credit hours

Study of Spain from the Middle Ages to the 19th Century through the media of slides, records, art books, tapes, films and lectures.

HU 242 Comparative Culture — Spanish (A, N, R) 3 credit hours

A continued study of Spain, stressing the 19th and 20th Centuries. Early Latin-American development will be investigated. This course will stress the multi-media approach.

HU 243 Comparative Culture — Spanish (A, N, R) 3 credit hours

A continued study with emphasis on Latin-American independence and the course of development to the present time. Multi-media approach will be used.

JOURNALISM

JL 221 Introduction to Journalism (A, N, R) 3 credit hours

An introduction to the basic principles of journalism. This is an applied course and will involve work on a college publication or a minimum of 3 hours of class, plus 3 hours of laboratory per week.

JL 222 Introduction to Journalism (A, N, R) 3 credit hours

Prerequisite: JL 221
A continuation of JL 221.

JL 223 Introduction to Journalism (A, N, R) 3 credit hours

Prerequisite: JL 222
A continuation of JL 222.

LITERATURE

LI 125 The Black Writer in America (A, N, R) 4 credit hours

A beginning course in the study of Black literature, which includes the methods of evaluation and analysis essential for understanding and appreciating the literary contribution of the Black writer in America.

LI 141 Introduction to Literature (A, N, R) 3 credit hours

Short story — an overview and selected readings.

LI 142 Introduction to Literature (A, N, R) 3 credit hours

Novel — an overview and selected readings.

LI 143 Introduction to Literature (A, N, R) 3 credit hours

Poetry — an overview and selected readings.

LI 144 Afro-American Literature (A, N, R) 3 credit hours

Study of the contribution of Afro-American writers to American literature and civilization.

LI 145 Literature for Children (A, N, R) 3 credit hours

A general survey of prose and poetry suitable for young people.

LI 147 Contemporary Chicano Literature in Translation (A, N, R) 3 credit hours

A contemporary look at the Southwest through the works of its authors. Attention to the writings of the present and how they underline the Chicano's search for an identity.

LI 231 Ethnic Literature in America (A, N, R) 3 credit hours

Concentration on the literature of Black writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

**LI 232 Ethnic Literature
in America (A, N, R) 3 credit hours**

Concentration on the literature of Chicano writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

**LI 233 Ethnic Literature
in America (A, N, R) 3 credit hours**

Concentration on the literature of Oriental writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

**LI 234 Ethnic Literature
in America (A, N, R) 3 credit hours**

Concentration on the literature of the American Indian. The approach will be through general themes, chronological considerations and genre.

**LI 241 Survey of American
Literature (A, N, R) 3 credit hours**

By study of major authors, this quarter will emphasize representative themes and works that reflect the literature of the American Experience from the beginning through the Civil War.

**LI 242 Survey of American
Literature (A, N, R) 3 credit hours**

By in-depth study of major authors, this quarter will emphasize representative themes and works that reflect the literature of the American Experience from the Civil War to World War I.

**LI 243 Survey of American
Literature (A, N, R) 3 credit hours**

By in-depth study of major authors, this quarter will emphasize representative themes and works that reflect the literature of the American Experience from World War I to the present.

LI 247 English Literature (A, N, R) 3 credit hours

Critical insights into the major works from the Anglo-Saxon up to the Elizabethan Period.

LI 248 English Literature (A, N, R) 3 credit hours

This quarter concentrates on major works of the Elizabethan Period to the Romantic Period.

LI 249 English Literature (A, N, R) 3 credit hours

This quarter concentrates on the Romantic Period to the present.

**LI 261 World Literature —
Asia (A, N, R) 3 credit hours**

A study of development of Asiatic literature.

**LI 262 World Literature — Western
Europe (A, N, R) 3 credit hours**

A study of development of Western European literature.

**LI 263 World Literature — Eastern
Europe (A, N, R) 3 credit hours**

A study of development of Eastern European literature.

**LI 264 World Literature —
Africa (A, N, R) 3 credit hours**

A study of development of African literature.

**LI 265 World Literature — Latin
America (A, N, R) 3 credit hours**

A study of development of Latin American literature.

MUSIC

MU 100 Music Appreciation (A, N, R) . . 3 credit hours

General overview of music from its inception to the present day. Some general and detailed knowledge of composers, compositions, periods, styles, etc.

MU 111 Theory and Harmony (A, N, R) .5 credit hours

Study of theory and harmony of music dealing with scales, meter, rhythm, intervals, chord structure, voice leading, chord succession and part writing. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time. (4 hours lecture, 3 hours laboratory) *A basic music test will be administered. Those students with a deficiency will be REQUIRED TO COMPLETE AN INTENSIVE 4-WEEK WORKSHOP (no credit) concurrently.*

MU 112 Theory and Harmony (A, N, R) .5 credit hours

Prerequisite: MU 111
Continued study of harmony and theory with emphasis on diatonic and secondary seventh chords. Sight-singing aptitude and ability to take musical dictation. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time. (4 hours lecture, 3 hours laboratory)

MU 113 Theory and Harmony (A, N, R) .5 credit hours

Prerequisite: MU 112
Continued work with the materials of the first two quarters with emphasis on harmonizing sopranos, beginning modulation and some creative writing. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time. (4 hours lecture, 3 hours laboratory)

**MU 120 Music of Mexico and
the Southwest (A, N, R) 3 credit hours**

An examination of selected works in Mexican music from pre-Colombian time to present, concentrating on regional works and on Twentieth Century composers and their relationship to Chicano society.

MU 130 Band (A, N, R) 1 credit hour

Study of instrumental styles and literature from marches to large contemporary works. Can be repeated up to six hours credit.

MU 140 Chorus (A, N, R) 1 credit hour

Study of choral literature from the classics to the modern day and from religious through secular music. Special emphasis on rhythm and tone. Can be repeated up to 6 hours credit.

MU 145 Music for Children (A, N, R) . . . 3 credit hours

Introductory study of the fundamentals of music. Emphasis is placed on selection of activities and methods for musical participation by the children rather than on perfection of performance skills. (A general survey of materials, activities and instruments pertinent to the area.)



MU 151, 152, 153 Piano Class for the Keyboard Beginner (A, N, R) . . . 1 credit hour

For students with no formal keyboard training. Will lead to an understanding of the instrument, its limits, its possibilities. Appropriate literature will be used. Will require at least three hours outside practice per week.

MU 155 Woodwind Methods (A, N, R) . . . 1 credit hour

A course designed to introduce the methods of playing standard woodwind instruments. Fingering, tone production, care of instrument and representative literature will be stressed. At least two hours of outside practice per week is required.

MU 156 Brass Methods (A, N, R) 1 credit hour

A course designed to introduce the methods of playing standard brass instruments. Fingering, tone production, care of instrument and representative literature will be stressed. At least two hours of outside practice per week is required.

MU 157 String Methods (A, N, R) 1 credit hour

A course designed to introduce the methods of playing standard string instruments. Fingering, tone production, care of instrument and representative literature will be stressed. At least two hours of outside practice per week is required.

MU 158 Percussion Methods (A, N, R) . . 1 credit hour

A course designed to introduce the methods of playing standard percussion instruments. Fingering, tone production, care of instrument and representative literature

will be stressed. At least two hours of outside practice per week is required.

MU 161, 162, 163 Voice Class (A, N, R) . . 1 credit hour

For students with no formal vocal training. Will lead to an understanding of the vocal instrument, its limits, its possibilities. Appropriate literature will be used. Will require at least three hours outside practice per week.

MU 165, 166, 167 Guitar Class (A, N, R) . . 1 credit hour

For students with no formal guitar training. Will lead to an understanding of the instrument, its limits, its possibilities. Appropriate literature will be used. Will require at least three hours outside practice per week.

MU 171, 172, 173 Applied Music (A, N, R) 2 credit hours

Emphasis on an instrument, to increase or maintain individual's ability to perform. Literature pertinent to the chosen instrument will be studied and performed. One-half hour lessons will necessitate at least 6 hours individual practice per week. Weekly class session may be required of all applied music students.

MU 205 Elementary Conducting (A, N, R) 2 credit hours

Introduction to conducting patterns and techniques.

MU 206 Instrumental Conducting (A, N, R) 2 credit hours

Prerequisite: MU 205
Further work on conducting emphasizing individual work on instrumental music.

MU 207 Choral Conducting (A, N, R) . . . 2 credit hours

Prerequisite: MU 205

Further work on conducting, emphasizing individual work on choral music.

NOTE: MU 205, 206, 207 (needed for those transfer students preparing for music major or minor) may also be used for teacher aides.

MU 211 Advanced Theory and Harmony (A, N, R) 5 credit hours

Prerequisite: MU 113 or equivalent

A continuation of Theory and Harmony MU 113 emphasizing traditional harmonies, chromatic harmony and embellishments. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time.

MU 212 Advanced Theory and Harmony (A, N, R) 5 credit hours

Prerequisite: MU 211 or equivalent

Continuation of MU 211 emphasizing modern harmonies. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time.

MU 213 Advanced Theory and Harmony (A, N, R) 5 credit hours

Prerequisite: MU 212 or equivalent

Continuation of MU 212 emphasizing original composition and analysis. Course completion will require keyboard work and laboratory work in sight-singing and ear-training, outside of class time.

MU 241 Introduction to Music (A, N, R) . 3 credit hours

A study of musical styles, forms, developments, literature and composers by historical periods. Outside listening to records required. For music majors and qualified non-music majors, by consent of instructor. Antiquity through Baroque.

MU 242 Introduction to Music (A, N, R) . 3 credit hours

Prerequisite: MU 241

Continuation of MU 241, emphasizing Classical and Romantic.

MU 243 Introduction to Music (A, N, R) . 3 credit hours

Prerequisite: MU 242

Continuation of MU 242, emphasizing Impressionistic and Contemporary.

MU 251 Piano Class for Advanced Keyboard Beginner (A, N, R) 1 credit hour

Prerequisite MU 151, 152, and 153 or equivalent.

Completion will lead to more technical expertise and development of confidence and style. Ensemble playing will be stressed with work in transposition and improvisation. Will require at least 3 hours outside practice per week.

MU 252 Piano Class for Advanced Keyboard Beginner (A, N, R) 1 credit hour

Prerequisite: MU 251 or equivalent.

Completion will lead to more technical expertise and development of confidence and style. Ensemble playing will be stressed with work in transposition and improvisation. Will require at least 3 hours outside practice per week.

MU 253 Piano Class for Advanced Keyboard Beginner (A, N, R) 1 credit hour

Prerequisite: MU 252 or equivalent.

Completion will lead to more technical expertise and development of confidence and style. Ensemble playing will be stressed with work in transposition and improvisation. Will require at least 3 hours outside practice per week.

MU 271, 272, 273 — 2nd Year Applied Music (A, N, R) 2 credit hours

Emphasis on an instrument, to increase or maintain individual's ability to perform. Literature pertinent to the chosen instrument will be studied and performed. One-half hour lessons will necessitate at least 6 hours individual practice per week. Weekly class session may be required of all applied music students.

PHYSICAL EDUCATION

PE 101 First Aid (A, N, R) 1 credit hour

The Standard American Red Cross First Aid Course; a basic course stressing the prevention of accidents and proper care of accident victims. The student will qualify for the Standard American Red Cross Certificate (card) upon satisfactory completion of the course.

PE 110 Group Activities Men (A, N, R) 1 credit hour

This course is designed to offer participation and instruction in such activities as soccer, touch football and basketball.

PE 112 Group Activities Women (A, N, R) 1 credit hour

Participation in activities designed to develop poise, improve physical fitness and teach skills of various team sports.

PE 120 Beginning Conditioning Activities (A, N, R) 1 credit hour

A slimnastics program with emphasis on fundamental movements, body mechanics and conditioning exercises on mats.

PE 121 Intermediate Conditioning Activities (A, N, R) 1 credit hour

Continuation of PE 120.

PE 122 Beginning Archery (A, N, R) 1 credit hour

Class designed to teach basic skills and techniques including target competition, field shooting, equipment used and terminology.

PE 123 Intermediate Archery (A, N, R) . . 1 credit hour

Continuation — prerequisite PE 122.

PE 124 Beginning Bowling (A, N, R) 1 credit hour

Designed to instruct students in basic skills of bowling. This course will provide instruction in the recreational activity.

PE 125 Intermediate Bowling (A, N, R) . . 1 credit hour

Continuation — Prerequisite PE 124.

PE 126 Beginning Golf (A, N, R) 1 credit hour

Introduction to golf, its origin and development, with emphasis on basic skills and techniques.

PE 127 Intermediate Golf (A, N, R) 1 credit hour

Continuation — Prerequisite PE 126.

PE 128 Swimming (A, N, R) 1 credit hour

Emphasis is on skill and proficiency in beginning, intermediate and advanced swimming.

A. Lifesaving and Water Safety 1 credit hour

Red Cross lifesaving and water safety instructor's certification. Prerequisites: PE 128 and 128 B.

B. Water Related Activities 1 credit hour

Emphasis is on skill and proficiency in a variety of aquatic activities; including water polo, water basketball and other water contests. Prerequisite: PE 128.

PE 129 Tennis (A, N, R) 1 credit hour

A course offering instruction in beginning tennis techniques.

PE 130 Modern Dance (A, N, R) 1 credit hour

Emphasis on modern dance techniques. Vocabulary of movement and skills to develop elasticity, balance and coordination of the body.

PE 131 Social and Folk Dance (A, N, R) . 1 credit hour

Emphasis on fundamental rhythms and basic structure of social and folk dances.

PE 132 Skiing (A, N, R) 1 credit hour

Course will offer basic instruction in skiing, including beginning, intermediate and advanced lessons. Classes will be held at major ski areas, and rental charge will be required for this course.

PE 133 Intermediate Skiing (A, N, R) . . 1 credit hour

Prerequisite: PE 132

Continuation of PE 132.

PE 134 Scuba Diving (A, N, R) 1 credit hour

Course designed to offer basic instruction in scuba diving. Aqua charges will be required for participants in this class and individuals must furnish own scuba diving equipment or rent.

PE 135 Ice Skating (A, N, R) 1 credit hour

A course providing instruction in the recreational activity of ice skating.

PE 136 Self-Defense (A, N, R) 1 credit hour

Class offered to teach basic skill and technique on the art of self-defense.

PE 137 Horsemanship (A, N, R) 1 credit hour

Beginning instruction in Western style riding and horsemanship.

PE 138 Canoeing (A, N, R) 1 credit hour

Course will offer basic strokes of canoeing, principles of water safety and self-rescue.

PE 139 Yoga (A, N, R) 1 credit hour

Basic concepts of ancient Eastern training of body, mind and spirit through physical culture, proper breathing and meditation techniques.

PE 140 Tumbling-Gymnastics (A, N, R) . 1 credit hour

Practical experience and sequential development of stunts, tumbling and apparatus activities.

PE 142 Basic Mountaineering (A, N, R) . 1 credit hour

Basic instruction in mountain climbing safety and survival.

NOTE: PE courses may be repeated to gain and develop proficiency.

READING

RD 101 Skills for College Reading I (A, N, R) 3 credit hours

Promote reading efficiency through development of skills and improved comprehension.

RD 102 Skills for College Reading II (A, N, R) 3 credit hours

Emphasis on practicing various skills of efficient reading. Individual and group needs will be recognized in comprehension skills, study reading techniques, vocabulary development, skimming/scanning skills and flexibility.

RD 120 Speed Reading (A, N, R) 2 credit hours

Speed reading is designed to increase speed, develop a more flexible reading pace and promote better comprehension.

RD 200 College Reading (A, N, R) 3 credit hours

This course is designed for students who have normal reading ability or better than normal but would like to improve their speed and comprehension as well as develop analytical techniques.

RUSSIAN

RU 100 Basic Applied Russian (A, N, R) 2 credit hours

To learn basic phrases and terms enabling the student to function minimally in specific situations.

RU 111 First Year Russian (A, N, R) . . . 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple Russian, correct pronunciation and rudimentary conversation.

RU 112 First Year Russian (A, N, R) . . . 5 credit hours

Continuation and Expansion of RU 111.

RU 113 First Year Russian (A, N, R) . . . 5 credit hours

Continuation and Expansion of RU 112 and additional reading materials.

RU 211 Intermediate Russian (A, N, R) . 3 credit hours

This course will (1) review and reinforce skills and knowledge gained in first year Russian, (2) develop further skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary and (4) provide readings in plays, short stories and poems.

RU 212 Intermediate Russian (A, N, R) .3 credit hours
Prerequisite: RU 211

Continuation and Expansion of RU 211.

RU 213 Intermediate Russian (A, N, R) .3 credit hours
Prerequisite: RU 212

Continuation and Expansion of RU 212.

**RU 214 Conversation and Composition
Russian (A, N, R)3 credit hours**
Prerequisite: RU 213 or demonstration of
sufficient language skills

Conversation and Composition Russian is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports, and situation dialogues.

**RU 215 Conversation and Composition
Russian (A, N, R)3 credit hours**

Continuation and Expansion of RU 214.

**RU 216 Conversation and Composition
Russian (A, N, R)3 credit hours**

Continuation and Expansion of RU 215.

**RU 241 Contemporary Russian
Short Stories (A, N, R)3 credit hours**

Selected examples of most representative authors.

**RU 242 Contemporary Russian
Theatre (A, N, R)3 credit hours**

Selected plays representative of the Russian stage today.

RU 243 Contemporary Novel (A, N, R) .3 credit hours
Selected contemporary novels.

SPEECH

S 102 Motivational Speech (A, N, R) . . .3 credit hours
To teach basic principles of sales and persuasive speech as applied to specific occupations and problems.

S 110 Introduction to Speech (A, N, R) .3 credit hours
A beginning course in communication and public speaking. Completion of course requirements in language, speaking poise, speech composition, mastery of listening techniques and ability to express ideas in order to enable students to become more effective speakers.

**S 111 Introduction to
Theatre Arts (A, N, R)3 credit hours**

Drama program introduces the student to the basic principles of acting, scenery and costume construction, elementary problems of production and sales and promotion.

**S 112 Introduction to
Theatre Arts (A, N, R)3 credit hours**

Continuation of S 111.

**S 113 Introduction to
Theatre Arts (A, N, R)3 credit hours**

Continuation of S 112.

S 131 Forensic Activity (A, N, R)3 credit hours
Prerequisite: S 110 or equivalent

Course will acquaint students with techniques of debate and extemporaneous speaking. Debate activities are encouraged.

S 132 Forensic Activity (A, N, R)3 credit hours
Prerequisite: S 110 or equivalent

Course will acquaint students with techniques used in oratory and in oral interpretation.

**S 133 Oral Interpretation of
Literature (A, N, R)3 credit hours**

Emphasis on learning to select, analyze and perform poetry, drama, fiction and non-fiction for the beginner.

S 134 Reader's Theatre (A, N, R)3 credit hours
Prerequisite: S 133

For the advanced student of oral interpretation. Emphasis on learning to select, cut, cast, produce and direct small scale production.

**S 210 Advanced Public
Speaking (A, N, R)3 credit hours**

Prerequisite: S 110

The study of advanced persuasion techniques including those skills necessary for argumentation. Improving the ability to analyze problems logically with emphasis on persuasion. Investigation of two-way and group discussion skills to determine the best methods of problem solving.

S 221 Survey of Theatre (A, N, R)3 credit hours

Survey of great plays, playwrights, performers and critics. Includes weekly workshops on fundamentals of play-reading, acting, and dramatic production. Features historical backgrounds of dramatic creativity both lecture and film.

S 222 Survey of Theatre (A, N, R)3 credit hours

Continuation of S 221.

S 223 Survey of Theatre (A, N, R)3 credit hours

Continuation of S 222.

S 231 Theatre Improvisation (A, N, R) .3 credit hours

Students who have already had experience in theatre and theatre courses will review the history of improvisation in theatre and have experience in the various techniques and approaches through actual production.

SKILL CENTER INSTRUCTIONAL PROGRAM

Though designed primarily to assist Skill Center students in pre-vocational preparation, any student who can benefit from individualized work in the following courses is welcome to enroll.

SK 100 Reading Improvement (A, N, R) .3 credit hours

In order to determine special needs, each student's reading ability will first be diagnosed and evaluated. Adequate word attack and comprehension skills will be developed. Where appropriate, training to increase speed will be given. Special attention will be paid to developing good study techniques with all students. (Minimum 3 hours per week)

SK 101 Pre-Vocational Mathematics (A, N, R) 3 credit hours

An individualized program designed to prepare the student for the entering level of math required for his occupation. For students whose curricula call for math courses, specific preparation will be given for Developmental Math, Math for Business and Industry, Introductory Algebra and Accounting III. (Minimum 3 hours per week)

SK 102 Pre-Vocational Communication (A, N, R) 3 credit hours

This course will focus on advancing the student's standard English expression in written and oral skills. After his present level is evaluated, the fundamentals of standard writing will be taught, concentrating on his least strong areas. This may include: capitalization, punctuation, parts of speech, and agreement of predicate and subject. Vocational goals and habits will be stressed in oral English. (Minimum 3 hours per week)

SK 103 Spelling (A, N, R) 3 credit hours

Students usually succeed through the use of new and different spelling techniques, although work on root words, endings, and occupational terms are included. (Minimum 3 hours per week)

SK 104 Occupational Information (A, N, R) 3 credit hours

This course will develop awareness of occupational information. Stress will be on thinking, oral communication and listening to others' ideas to develop better social awareness as it applies to the job and everyday life. (Minimum 3 hours per week)

SK 105 GED Preparation (A, N, R) 3 credit hours

SK 106 Study Skills (A, N, R) 2 credit hours

SPANISH

SP 100 Basic Applied Spanish (A, N, R) 2 credit hours

For those who wish to learn basic conversational Spanish for enjoyment or for travel or for simple business needs.

SP 101 Basic Applied Spanish (A, N, R) 2 credit hours

Continuation of SP 100.

SP 102 Basic Applied Spanish (A, N, R) 2 credit hours

Continuation of SP 101.

SP 111 First Year Spanish (A, N, R) 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple Spanish, correct pronunciation and rudimentary conversation.

SP 112 First Year Spanish (A, N, R) 5 credit hours

Prerequisite: SP 111
Continuation and Expansion of SP 111.

SP 113 First Year Spanish (A, N, R) 5 credit hours

Prerequisite: SP 112
Continuation and Expansion of SP 112 and additional reading materials.

SP 121 Spanish to the Chicano (A, N, R) 5 credit hours

Designed for the bi-lingual Chicano student. Instruction takes into consideration the interference of English in the development of the Spanish language skills for the student.

SP 122 Spanish to the Chicano (A, N, R) 5 credit hours

Continuation of SP 121.

SP 123 Spanish to the Chicano (A, N, R) 5 credit hours

Continuation of SP 122.

SP 211 Intermediate Spanish (A, N, R) . 3 credit hours

This course will (1) review and reinforce skills and knowledge gained in first year Spanish, (2) develop further skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary, and (4) provide reading in plays, short stories and poems.

SP 212 Intermediate Spanish (A, N, R) . 3 credit hours

Prerequisite: SP 112 or SP 113
Continuation of Expansion of SP 211.

SP 213 Intermediate Spanish (A, N, R) 3 credit hours

Continuation and Expansion of SP 212.

SP 214 Conversation and Composition Spanish (A, N, R) 3 credit hours

Prerequisite: SP 213 or demonstration of sufficient language skills

Conversation and Composition Spanish is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports, and situation dialogues.

SP 215 Conversation and Composition Spanish (A, N, R) . 3 credit hours

Continuation and Expansion of SP 214.

SP 216 Conversation and Composition Spanish (A, N, R) . 3 credit hours

Continuation and Expansion of SP 215.

SP 241 Contemporary Spanish Short Stories (A, N, R) 3 credit hours

Selected examples of most representative authors.

SP 242 Contemporary Spanish Theatre (A, N, R) 3 credit hours

Selected plays representative of the Spanish stage today.

SP 243 Contemporary Spanish Novel (A, N, R) 3 credit hours

Selected contemporary novels.

**SP 260 Spanish for Office
Personnel (A, N, R) 3 credit hours**

Prerequisite: SP 113 or equivalent proficiency

A course designed primarily for students enrolled in the International Secretarial Program, and students meeting the above prerequisite. Deals with the commercial Spanish language used in both domestic and foreign offices.

**SP 261 Spanish for Office
Personnel (A, N, R) 3 credit hours**

Prerequisite: SP 260

Continuation of Spanish 260. Develops a sound business vocabulary and introduces correct translation demanded when acting as an official interpreter for both written and oral business communications.

**SP 262 Spanish for Office
Personnel (A, N, R) 3 credit hours**

Prerequisite: SP 261

Continuation of Spanish 261. Emphasizes practical applications through project work. Students will be

involved with representatives from import-export firms, government offices, foreign consulates, and embassies.

INDEPENDENT STUDY

299 Independent Study (A, N, R) . . 1 to 3 credit hours

Independent study (Course No. 299) is available in each of the major areas within the Division of Communication and Arts (i.e., English, foreign language, speech, etc.) except physical education and communications laboratory. The course provides opportunity for the serious-minded student to engage in intensive study and research on a specific topic under the direction of a qualified faculty member. Prerequisite for enrollment is permission of the Director of the Division of Communication and Arts and the assigned instructor. The number of quarter hours of credit (1-3) will be determined by the Division Director.

DIVISION OF SCIENCE AND MATHEMATICS

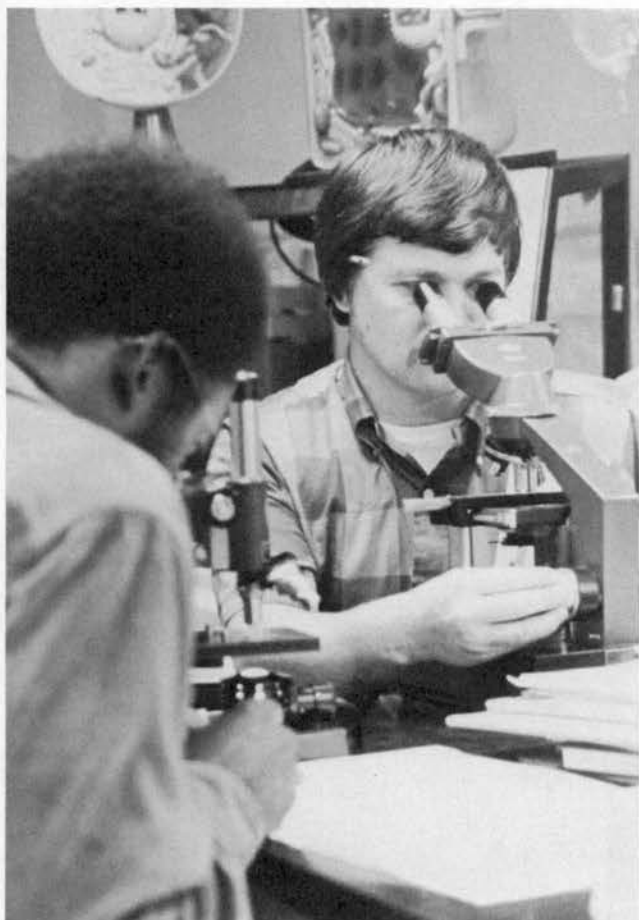
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DIVISION OF SCIENCE AND MATHEMATICS

COURSE DESCRIPTIONS

Where a course description does not indicate the campus by the key A, N or R, we would suggest you call the campus of your choice for information.



B 110 Introduction to the Environment (A, R) 3 credit hours

A study of ecosystems, population dynamics, man's impact upon ecosystems, and possible solutions to the problems posed to man in his environment. (3 hours of lecture per week, no laboratory)

B 111 General Biology (A, N, R) 5 credit hours

Biology 111, 112, 113 constitutes a three-quarter course in general college biology. A study of living organisms emphasizing their environmental and evolutionary relationships and origins. (4 hours of lecture and 3 hours of laboratory per week)

B 112 General Biology (A, N, R) 5 credit hours

A functional view of the organismic, cellular, and molecular aspects of life. (4 hours of lecture and 3 hours of laboratory per week)



BIOLOGY

B 099 Biology Learning Center (A, N, R) . . Non-credit

This center is designed for the student desiring assistance with any difficulty or project relating to biology. The center is supervised by members of the biology faculty; students may avail themselves of this facility voluntarily or may be referred by an instructor. A schedule of the times the center is staffed will be posted each quarter.

B 100 Basic Human Biology (A, N) 4 credit hours

A survey course for Health Occupations students and others needing an understanding of basic biological and chemical concepts as applied to the human body. The basic cellular and chemical aspects of life are related to a brief survey of body organ systems. Primarily for students planning to enroll in B 123 Human Anatomy and Physiology. (3 hours of lecture and 3 hours of laboratory per week)

B 113 General Biology (A, N, R) 5 credit hours

The life processes of reproduction, genetics, development, and mechanisms of evolution. (4 hours of lecture and 3 hours of laboratory per week)

B 120 Environment and Change (R) . . . 3 credit hours

A study of wildlife, forests, grassland and soil in relationship to man. The nature of man, his belief and value systems, and his technology, will be evaluated in relationship to change in the environment. (3 hours per week, no laboratory)

B 123 Human Anatomy and Physiology (A, N) 4 credit hours

Prerequisite: B 100 or C 101 or consent of instructor

A detailed study of the gross and microscopic anatomical structure of the human body and of the relationship of these structures to their function. (3 hours of lecture and 3 hours of laboratory per week)

B 124 Human Anatomy and Physiology (A, N) 4 credit hours

Prerequisite: B 123

A continuation of B 123. (3 hours of lecture and 3 hours of laboratory per week)

B 130 Basic Health (N, R) 4 credit hours

A survey of the basic issues of human interrelationships and diseases which affect personal, family, and community health. (4 hours of lecture per week, no laboratory)

B 140 Introduction to Microbiology (A, N) 4 credit hours

Prerequisite: B 124

An introduction to microbiology with an emphasis on epidemiology and its relationship to the health science occupations. (3 hours of lecture and 3 hours of laboratory per week)

B 150 Biology of the Human Races (A) . 3 credit hours

The biological aspects of race formation will be considered, including the genetic foundations, the range of human variability and race mixtures, and the usefulness of biological factors in understanding racial problems. (3 hours of lecture per week, no laboratory)

B 211 General Zoology (R) 5 credit hours

Prerequisite: B 113

A survey of the invertebrate animals, their biology, structure and relationship to other animal groups. (4 hours of lecture and 3 hours of laboratory per week)

B 212 General Zoology (R) 5 credit hours

Prerequisite: B 211

A study of the structure, body functions, interrelations, and natural history of the vertebrate animals. (4 hours of lecture and 3 hours of laboratory per week)

B 221 General Botany (R) 5 credit hours

Prerequisite: B 113

A survey of the plant kingdom including life cycles, habitats, relationships and evolutionary aspects of the major plant divisions. (4 hours of lecture and 3 hours of laboratory per week)

B 222 General Botany (R) 5 credit hours

Prerequisite: B 221

A study of seed plants, the conifers and flowering plants, their structure and functions. (4 hours of lecture and 3 hours of laboratory per week)

B 231 Environmental Biology (A, N, R) . 5 credit hours

Prerequisite: B 111 and B 113 or consent of instructor

An introduction to the principles of ecology, population dynamics and genetics, and evolutionary mechanisms. (4 hours of lecture and 3 hours of laboratory per week; Saturday field trips may replace laboratories)

B 232 Cell Biology (A, N, R) 5 credit hours

Prerequisite: B 112 or consent of instructor

An introduction to the cell as the fundamental unit of function and structure in all living systems. Morphological and physiological characteristics common to all cells will be emphasized. (4 hours of lecture and 3 hours of laboratory per week)

B 233 Developmental Biology (A, N, R) . 5 credit hours

Prerequisite: B 113 and B 232 or consent of instructor

An introduction to the changes occurring during organismic development and differentiation; gene action, biochemical regulation, and environmental factors will be stressed. (4 hours of lecture and 3 hours of laboratory per week)

B 240 General Microbiology (N, R) . . . 5 credit hours

Prerequisite: B 113 or B 133 or consent of instructor

A survey of major microbial groups with special emphasis on bacteria. Emphasis is on basic principles and techniques in microbiology as well as identification, structure, function and role in nature and disease. (3 hours of lecture and 6 hours of laboratory per week)

CHEMISTRY

C 099 Chemistry Learning Center (A, N, R) non-credit

This center is designed for the student desiring assistance with any difficulty or project relating to chemistry. The center is supervised by members of the chemistry faculty; students may avail themselves of this facility voluntarily or may be referred by an instructor. A schedule of the times the center is staffed will be posted each quarter.

C 101 Fundamentals of Chemistry (A, N, R) 4 credit hours

Prerequisite: M 100 or equivalent, M 105 or equivalent suggested

A first course in the fundamentals of chemistry designed for non-science majors, students in occupational programs, or students with no high school chemistry. (3 hours of lecture and 3 hours of laboratory per week)

C 102 Fundamentals of Chemistry (A, N, R) 4 credit hours

Prerequisite: C 101

A continuation of C 101. (3 hours of lecture and 3 hours of laboratory per week)

C 103 Fundamental Organic

Chemistry (A, N, R) 4 credit hours

Prerequisite: C 101

A brief introduction to organic and biological chemistry. (3 hours of lecture and 3 hours of laboratory per week)

C 109 Applied Chemistry (R) 4 credit hours

Prerequisite: One year of high school algebra or M 103

A basic applied course designed to provide the background in chemistry needed for course work in particular occupational programs. (3 hours of lecture and 3 hours of laboratory per week)

**C 111 General College
Chemistry (A, N, R) 5 credit hours**

Prerequisite: One year of high school chemistry or C 102, M 106 or equivalent, or consent of instructor

C 111, 112, and 113 constitute a three-quarter sequential course in the principles of college chemistry. Designed for science majors and students in pre-professional programs. (4 hours of lecture and 3 hours of laboratory per week)

**C 112 General College
Chemistry (A, N, R) 5 credit hours**

Prerequisite: C 111 or equivalent

Continuation of C 111. (4 hours of lecture and 3 hours of laboratory per week)

**C 113 General College
Chemistry (A, N, R) 5 credit hours**

Prerequisite: C 112 or equivalent

Continuation of C 112. (4 hours of lecture and 3 hours of laboratory per week)

C 211 Organic Chemistry (A, N, R) 5 credit hours

Prerequisite: C 113 or equivalent

C 211, 212, and 213 are a three-quarter sequential course in organic chemistry designed primarily for science majors, premedical and pre dental students and others who desire a knowledge of the chemistry of organic compounds. A structural and mechanistic approach to syntheses, properties and behavior of chemically and biologically important compounds is stressed. Laboratory emphasis is on basic techniques, synthetic procedures and modern instrumental analyses. (3 hours of lecture and 6 hours of laboratory per week)

C 212 Organic Chemistry (A, N, R) 5 credit hours

Prerequisite: C 211

Continuation of C 211. (3 hours of lecture and 6 hours of laboratory per week)

C 213 Organic Chemistry (A, N, R) 5 credit hours

Prerequisite: C 212

Continuation of C 212. (3 hours of lecture and 6 hours of laboratory per week)

EARTH SCIENCE

G 099 Geology Learning Center (R) non-credit

This center is designed for the student desiring assistance with any difficulty or project relating to geology. The center is supervised by members of the geology faculty; students may avail themselves of this facility

voluntarily or may be referred by an instructor. A schedule of the times the center is staffed will be posted each quarter.

G 111 Physical Geology (R) 4 credit hours

G 111 and G 112 are introductory courses exploring our physical environment. An understanding of the rocks and minerals of the earth's crust and the role of mountain building, volcanoes, earthquakes, landslides, streams, glaciers, and the wind in shaping the land surface is emphasized. Laboratories include studies of Rocky Mountain geology through field investigations, field trips, and tours of local geology museums. (3 hours of lecture and 3 hours of laboratory per week)

G 112 Physical Geology (R) 4 credit hours

Prerequisite: G 111

Continuation of G 111. (3 hours of lecture and 3 hours of laboratory per week)

G 113 Historical Geology (R) 4 credit hours

Prerequisite: G 112 or consent of instructor

This course exposes the student to a broad look at geological history of our planet as it is preserved in the earth's crust. Class discussion, laboratory, field investigations, field trips, guest speakers, and tours probe the history and evolution of life as unfolded by fossilized plant and animal remains. (3 hours of lecture and 3 hours of laboratory per week)



G 115 Environmental Geology of Colorado (R) 4 credit hours

A non-technical course focusing on local geological environmental problems including landslides, the Bentonite problem, construction sites, pollution of water sources, and strip mining. Environmental problem areas will be observed in the field. (3 hours of lecture and 3 hours of laboratory per week)

G 211 Colorado Minerals and Rocks (R) 4 credit hours

An exploration into the origin, occurrence, and physical properties of crystals, minerals, and rocks found mainly in Colorado. Modern equipment, including the spectrometer, is used to study and identify specimens. The geologic and mineralogical setting of Colorado aids in the interpretation of the origin and emplacement of precious metals, gems, and nonmetallic mineral deposits. Heavy emphasis is placed on field trips and tours to famous Colorado mining areas and mineral localities. (3 hours of lecture and 3 hours of laboratory or field trip per week)

G 212 Colorado Minerals and Rocks (R) 4 credit hours

Prerequisite: G 211

A continuation of G 211 with emphasis on the recognition, origin, and significance of the Colorado rocks. Collecting trips will be taken in the Rockies to obtain specimens for laboratory study (3 hours of lecture and 3 hours of laboratory or field trip per week)

G 214 Geology of Colorado (R) 3 credit hours

An introduction to the origin, development, and significance of Colorado's prairies, peaks, and plateaus; the role of glaciers, running water, wind surface movements, and volcanoes in shaping the topography; and mineral resources and their conservation. Numerous field trips, tours, and practical laboratory problems are planned. (2 hours of lecture and 3 hours of laboratory or field trip per week)

MATHEMATICS

M 099 Mathematics Learning Center (A, N, R) non-credit

This center is designed for the student desiring assistance with any difficulty or activity related to mathematics. The center is supervised by members of the mathematics faculty; students may avail themselves of this facility voluntarily or may be referred by an instructor. A schedule of the times the center is staffed will be posted each quarter.

M 100 Introduction to Mathematics (A, N, R) 3 credit hours

This course is designed for students who need a comprehensive review of arithmetic. Topics include the fundamental operations of whole numbers, fractions, decimals, and percentages, proportion, operations with signed numbers and equations. (3 hours per week)

M 101 Pre-Algebra (R) 3 credit hours

Prerequisite: M 100 or equivalent

This course is for students who need exposure to some mathematical concepts beyond arithmetic before en-

rolling in algebra. Topics include operations with signed numbers, formulas, literal expressions, and solutions of equations. By arrangement with the Division of Science and Mathematics. (3 hours per week)

M 102 Applied Mathematics I (A, N, R) . 3 credit hours

Prerequisite: M 100 or equivalent

FOR INDUSTRIAL OCCUPATIONS

This course is directed toward the application of the fundamental mathematical operations needed to solve problems related to these occupations. Topics include fractions, decimals, percentage, ratio and proportion, powers and roots, weights and measures. (3 hours per week)

M 103 Applied Mathematics II (A, N, R) . 3 credit hours

Prerequisite: M 102

FOR INDUSTRIAL OCCUPATIONS

The development and application of mathematical skills relating to geometry and formula manipulation. (3 hours per week)

M 104 Applied Mathematics III (A, N, R) 3 credit hours

Prerequisite: M 103

FOR INDUSTRIAL OCCUPATIONS

The development and application of mathematical skills relating to basic applied trigonometry. Computations with logarithms. (3 hours per week)

M 105 Introductory Algebra (A, N, R) . 4 credit hours

Prerequisite: M 100 or equivalent

A first course in algebra designed for the student who has had less than one year of high school algebra or for those who need a review. Manipulation of algebraic expressions, solving first degree equations in one and two variables, factoring, solving fractional equations, graphing and verbal problem solving. (4 hours per week)

M 106 Intermediate Algebra (A, N, R) . 4 credit hours

Prerequisite: M 105 or successful completion of 1½ years of high school algebra

Introduction to sets, introduction to an axiomatic approach to the set of real numbers, extension of exponents, radicals, first and second degree equations in one variable, solving equations by completing the square and quadratic formula, functions and graphs, and logarithms. (4 hours per week)

M 107 Introduction to Geometry (A, N, R) 4 credit hours

Prerequisite: M 106 or 2 years of high school algebra

Designed to extend the mathematical skills developed in M 105 and M 106. The topics to be included are logic, geometry, and basic trigonometry. (4 hours per week)

M 109 Mini-Math Review (N) 1 credit hour

Corequisite: Concurrent enrollment in HE 109 or consent of instructor

A brief review of the basic skills and underlying concepts of fractions, decimals, and percents. Individual student needs are diagnosed through initial testing, and material is structured to meet these needs. (10 hours per quarter)

M 110 Mathematics for Business (A, N, R) 3 credit hours

Prerequisite: M 100 or equivalent

FOR BUSINESS AND MANAGEMENT OCCUPATIONS

Consists of an integrated development of the concepts and computational skills of arithmetic that are commonly used in business. Topics covered are percentages, fractions, ratios and proportions, graphs, interest, banking, insurance and taxes. (3 hours per week)

M 111 College Algebra (A, N, R) 5 credit hours

Prerequisite: Successful completion of two years of high school algebra or M 106 or equivalent

Sets, operations on sets, an axiomatic approach to the set of real numbers, absolute value, inequalities, algebraic, exponential, and logarithmic functions, solving first and second degree equations and equalities, solutions of systems of equations, sequences, permutations and combinations, and mathematical induction. (5 hours per week)

M 112 Trigonometry and Functions (A, N, R) 5 credit hours

Prerequisite: M 111 or equivalent

Topics include trigonometric functions, identities, graphs, logarithms, solutions of triangles, and complex numbers. Functions as mappings, associations and ordered pairs. Theory of equations and further solutions to systems of equations. (5 hours per week)

M 113 Calculus I (A, N, R) 5 credit hours

Prerequisite: M 112

Introduction to single variable calculus and analytic geometry. The concepts introduced will be motivated by geometric and physical interpretations. (5 hours per week)

M 117 Mathematics for Electronics I (N) 5 credit hours

Prerequisite: M 100 or equivalent

The development and application of mathematical skills needed in electronics. Topics covered include: powers of ten, slide rule, evaluation and solution of equations, fractions, basic trigonometry, vectors and phasors, ratio, proportion, percent and logarithms. (5 hours per week)

M 118 Mathematics for Electronics II (N) 3 credit hours

Prerequisite: M 117

Further development of the mathematical skills needed in electronics. This course is a continuation of M 117. Topics covered include: review of percent, graphs, exponents and radicals, solving equations used in electronics, and logarithms. (3 hours per week)

M 120 Statistics for Business and Industry (A, N, R) 3 credit hours

Prerequisite: M 105 or equivalent

Designed to provide an opportunity for the business student to develop critical and functional understandings of statistical data. Attention is given to the basic concepts of statistical methodology and procedures which are used as media in the business world. The principles of statistical investigation, technique in data presentation, measures of central tendency, etc., are

studied in their practical business application. (3 hours per week)

M 121 Fundamentals of Modern Mathematics (A, N, R) 3 credit hours

Prerequisite: M 105 or equivalent

NOT FOR SCIENCE OR MATHEMATICS MAJORS

The M 121, 122, and 123 sequence is designed for students who desire a greater knowledge of some of the techniques and concepts of modern mathematics. Sets, Venn diagrams, truth tables, deductive proofs, number bases other than ten. (3 hours per week)

M 122 Fundamentals of Modern Mathematics (A, N, R) 3 credit hours

Prerequisite: M 121

NOT FOR SCIENCE OR MATHEMATICS MAJORS

An introduction to groups and modulo arithmetic. Decimals, structure of arithmetic, properties of the natural numbers, integers, and rational numbers. (3 hours per week)

M 123 Fundamentals of Modern Mathematics (A, N, R) 3 credit hours

Prerequisite: M 122

NOT FOR SCIENCE OR MATHEMATICS MAJORS

Properties of real numbers, inequalities, absolute value, exponents, and roots. Solutions of equations and inequalities of first and second degree in one or two variables. Introduction to finite probability, permutations and combination. (3 hours per week)

M 130 Finite Probability (N) 3 credit hours

Prerequisite: M 111 or the equivalent

Counting, introduction to probability models, conditional probability, mean variance, standard deviation of a variable, histograms, binomial, hypergeometric and normal random variables. (3 hours per week)

M 140 Slide Rule and Calculator (A, N, R) 1 credit hour

Prerequisite: M 100 or equivalent

A course designed to introduce students to the slide rule and to the calculator as calculating devices. (10 hours of instruction)

M 150 Mathematics of Finance (N) 3 credit hours

Introduction to the concepts and processes involved in problems relating to amortization, sinking funds, present worth, investments, depreciation, business equations, graphs, elementary statistics. (3 hours per week)

M 211 Calculus II (A, N, R) 5 credit hours

Prerequisite: M 113

Extension and further development of concepts of single variable calculus and analytic geometry studied in M 113. Applications of differentiation and integration; techniques of integration. (5 hours per week)

M 212 Calculus III (A, N, R) 5 credit hours

Prerequisite: M 211

The completion of the traditional subject matter of single variable calculus not covered in M 113 and M 211. In this course and in M 213 an introduction to vector analysis, multivariable calculus, and solid analytic geometry will be presented. Also covered are three-dimensional vector space and infinite series. (5 hours per week)

M 213 Calculus IV (A, N, R) 5 credit hours

Prerequisite: M 212

Continuation and completion of topics listed under M 212. (5 hours per week)

M 220 Introduction to Linear Algebra (A, N, R) 4 credit hours

Prerequisite: M 113

This course is designed to be an introduction to some basic concepts encountered in linear algebra. Matrices, matrix algebra, finite dimensional vector spaces, systems of linear equations, linear transformations. (4 hours per week)

M 230 Introduction to Statistics (N) 3 credit hours

Prerequisite: M 130 and M 113

Continuous random variables and distributions, random sampling, central limit theorem, point estimation, interval estimation, and hypothesis testing. (3 hours per week)

PHYSICS

P 099 Physics Learning Center (A, N, R) non-credit

This center is designed for the student desiring assistance with any difficulty or project relating to physics. The center is supervised by members of the physics faculty; students may avail themselves of this facility voluntarily or may be referred by an instructor. A schedule of the times the center is staffed will be posted each quarter.

P 100 Survey of Physical Science (R) 3 credit hours

A core physical science course for health science students and others who need an understanding of the scientific method and the nature of the physical sciences. Emphasis is on observation, experimentation, and quantitative results drawn from chemistry and physics. (2 hours of lecture and 3 hours of laboratory per week)

P 101 Fundamental Physics (A, N, R) . . 3 credit hours

Prerequisite: One year of high school algebra or M 100 or equivalent

An introduction to some of the more important basic concepts of physics with applications to practical problems relating to various occupational programs. Primarily for occupational students and non-science majors. Recommended as a preparatory course for students with inadequate background in physics who wish to take P 111, 112, and 113. (3 hours of lecture and 2 hours of laboratory per week)

P 102 Physics for Instrumentation I (A) 3 credit hours

A study of the basic principles of physics, emphasizing mechanics and heat, with particular emphasis on those principles embodied in the design of mechanical indicating and sensing devices.

P 105 Radiation Physics (N, R) 4 credit hours

Provides the student with both specialized information on X-ray equipment and the theoretical background to

make it meaningful. Covered are: fundamentals of electrical and radiation physics and the basic principles underlying the operation of X-ray equipment and auxiliary devices. (3 hours of lecture and 3 hours of laboratory per week)

P 111 College Physics (A, N, R) 5 credit hours

Prerequisite: M 111 or consent of instructor

A noncalculus study of kinematics, linear and rotational dynamics, conservation of energy and momentum, and topics in special relativity. (4 hours of lecture and 3 hours of laboratory per week)

P 112 College Physics (A, N, R) 5 credit hours

Prerequisite: P 111 or equivalent and M 112 or concurrent enrollment in M 112

A continuation of P 111. Topics include properties of matter, wave motion, thermal phenomena, optics, and electricity and magnetism. (4 hours of lecture and 3 hours of laboratory per week)

P 113 College Physics (A, N, R) 5 credit hours

Prerequisite: P 112

A continuation of P 112. Topics include atomic and nuclear structure, behavior of gases, liquids, and solids, oscillations, electromagnetic waves, and matter waves. (4 hours of lecture and 3 hours of laboratory per week)

P 114 College Physics - Calculus Supplement (N) 2 credit hours

Prerequisite: M 113

Application of calculus to the physical concepts discussed in P 111 which must be taken concurrently. (2 hours per week)

P 115 College Physics - Calculus Supplement (N) 2 credit hours

Corequisite: M 211

Application of calculus to the physical concepts discussed in P 112 which must be taken concurrently. (2 hours per week)

P 116 College Physics - Calculus Supplement (N) 2 credit hours

Prerequisite: P 115
Corequisite: M 212

Application of calculus to the physical concepts discussed in P 111 and P 112. (2 hours per week)

P 131 General Physics I (R) 5 credit hours

Prerequisite: M 113 or consent of instructor

P 131, 132, and 133 constitute a three-quarter sequential investigation of classical physics at the calculus level. This course is designed for students majoring in the sciences, engineering, or in mathematics. Topics of interest the first quarter will be vectors, motion, forces and torques, linear and angular momentum, and energy. (4 hours of lecture and 3 hours of laboratory per week)

P 132 General Physics II (R) 5 credit hours

Prerequisite: P 132
Corequisite: M 211 or consent of instructor

Classical thermodynamics through the concept of entropy, wave motion with application to the study of sound. Simple harmonic motion. (4 hours of lecture and 3 hours of laboratory per week)

P 133 General Physics III (R) 5 credit hours

Prerequisite: P 132

Corequisite: M 212 or consent of instructor

Electric and magnetic fields and their properties, Maxwell's equations, electromagnetic waves, and physical optics. (4 hours of lecture and 3 hours of laboratory per week)

P 204 Concepts of Modern Physics (R) . 5 credit hours

Prerequisite: P 133 or consent of instructor

Relativity, with emphasis on the special theory, Uncertainty Principle and the theory of measurement, quantum mechanics with applications in the areas of atomic, nuclear, and solid-state physics. (4 hours of lecture and 3 hours of laboratory per week)

SCIENCE

SI 105 The Metric System:

A Mini Course (N) 1 credit hour

An introduction to the metric system designed to allow a person to become proficient in the metric system of measurement and to convert between the English and the metric system. Metric units of length, volume, and mass will be covered as well as temperature measurements in Centigrade and Kelvin Systems. (1 hour per week)

SI 110 The Black Scientist

Contributes (A) 3 credit hours

Auraria Campus only—See Consortium of Ethnic Studies, page 55.

SI 111 Science for the Earth

Citizen (N) 4 credit hours

The course will be centered on the ideas and consequences of physics with forays into geology, chemistry, astronomy, biology, and technology. Understanding in the following areas will be sought: the general nature of the universe and our location in it, the thin skin of the earth and life which evolved on it, nature of the senses through which man experiences the world; the technology science has fathered (computers, transportation, communication devices), problems that have developed (air pollution, nuclear power), what scientists do, and the incredible beauty of the EARTH. (3 hours of lecture and 3 hours of laboratory per week)

SI 112 Science for the Earth

Citizen (N) 4 credit hours

Prerequisite: SI 111 or consent of instructor

Continuation of SI 111. (3 hours of lecture and 3 hours of laboratory per week)

SI 113 Science for the Earth

Citizen (N) 4 credit hours

Prerequisite: SI 112 or consent of instructor

Continuation of SI 112. (3 hours of lecture and 3 hours of laboratory per week)

SI 121 Environmental Science (R) 4 credit hours

Prerequisite: M 105 or consent of instructor

SI 121, 122, 123 is intended to be a survey of various aspects of our environment. The descriptions given for SI 121, 122, and 123 suggest the scope of the investigation. All areas of interest will be studied from a physical rather than a biological point of view. The

physics and some chemistry of the problem will be emphasized.

SI 121 deals with the basic physics, chemistry, and geology necessary for an adequate description of our atmosphere and earth. Air and water pollution problems will be investigated with emphasis on sources of pollution and methods of detection. (3 hours of lecture and 3 hours of laboratory per week)

SI 122 Environmental Science (R) 4 credit hours

Prerequisite: SI 121

The basic physics of heat, energy, and wave motion will be discussed. Thermal and sound pollutions will be studied. (3 hours of lecture and 3 hours of laboratory per week)

SI 123 Environmental Science (R) 4 credit hours

Prerequisite: SI 121

The physical problems relating to population, mass transportation, and communications will be studied. Radiation and public safety will then be discussed. (3 hours of lecture and 3 hours of laboratory per week)

SI 131 Environment and the Urban

Institution (N) 3 credit hours

A three-quarter sequence intended to study the nature of environmental abuses and to attempt correction of such abuses caused by an urban institution. The community college campus will serve as a case study laboratory. Primary emphasis will be on corrective action which can be repeated in other urban institutions. Specific topics included the first quarter are energy use, transportation, and air pollution. Sequence may be taken for Social Science credit as GE 131, 132, 133 but cannot be counted in both divisions at the same time. (3 hours per week, no laboratory)

SI 132 Environment and the Urban

Institution (N) 3 credit hours

Continuation of SI 131. Specific topics to be included are solid wastes and water pollution. (3 hours per week, no laboratory)

SI 133 Environment and the Urban

Institution (N) 3 credit hours

Continuation of SI 131 and 132. Specific topics to be included are pesticides, herbicides, and aesthetics. (3 hours per week, no laboratory)

INDEPENDENT STUDY

299 Independent Study (A, N, R) . . . 1 to 3 credit hours

Students majoring in one of the areas of the Division of Science and Mathematics may enroll in Independent Study (Course No. 299)

This enables the serious-minded student to engage in intensive library and/or laboratory research on a specific topic under the direction of a qualified member of the Division faculty. To be eligible the student must have successfully completed one or more second year courses in the subject matter area in which he is majoring and give evidence that he can successfully engage in independent study. Independent Study carries 1-3 hours credit involving a minimum of 3-9 hours per week. Permission to enroll must be obtained from the instructor under whose direction the independent study will be carried out and from the Director of the Division.

DIVISION OF SOCIAL SCIENCES

CONTENTS

Anthropology	A, N, R
Counseling	A, N, R
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Geography	A, N, R
History	A, N, R
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Political Science	A, N, R
Psychology	A, N, R
Sociology	A, N, R
Social Science	A, N, R
Independent Study	A, N, R

DIVISION OF SOCIAL SCIENCES

COURSE DESCRIPTIONS

Where a course description does not indicate the campus by the key A, N or R, we would suggest you call the campus of your choice for information.

ANTHROPOLOGY

AN 111 Cultural Anthropology (A, N, R) .3 credit hours

An introductory study of the nature of culture and cultural development in the paleolithic, neolithic and modern ages. (3 hours per week)

AN 112 Cultural Anthropology (A, N, R) .3 credit hours

A continuation of AN 111 with emphasis on the relationships among the cultural sub-systems of language, social organization, technology and ideology. (3 hours per week)

AN 113 Cultural Anthropology (A, N, R) .3 credit hours

A continuation of AN 112 with an anthropological approach to current topics of socio-cultural concern such as race, drugs, nationalism, violence and environment. (3 hours per week)

AN 201 Physical Anthropology (A, N, R) .3 credit hours

An introductory study of the fossil record, living animals and cultural factors as they relate to the evolution of man. (3 hours per week)

AN 202 Physical Anthropology (A, N, R) .3 credit hours

A continuation of AN 201 with emphasis on human variation, human biology and the mechanics of evolution. (3 hours per week)

AN 220 Introduction to Archeology (A, N, R)3 credit hours

An introductory study of methods, techniques and theories of archeological investigation. Selected culture areas are used as examples. (3 hours per week)

AN 230 Ethnography of the North American Indian (A, N, R)3 credit hours

A survey of the major Indian cultures of North America. Environmental and historical relationships are included. (3 hours per week)

COUNSELING

GC 100 Self-Exploration and Understanding (A, N, R)3 credit hours

This seminar is designed as a type of discussion group to help provide the student with the opportunity to gain self-understanding and acceptance. Good mental health for each student and how it may be achieved is emphasized. The importance of being sensitive to our own individual psychological needs and the needs of others is given considerable attention. Other topics of student concern may be discussed.

ECONOMICS

EC 107 Consumer Economics (A, N, R) .3 credit hours

A one-quarter survey of the American economic system from the point of view of the consumer, including such topics as personal and household finance, consumer credit, taxes, insurance, mortgages, social security, medicare and medicaid. (3 hours per week)

EC 108 Labor Relations (A, N, R)3 credit hours

A study of the development, structure, and philosophy of American trade unionism including collective bargaining, the role of government, productivity and wages, unemployment and automation. (3 hours per week)

EC 109 Applied Economics (A, N, R) .3 credit hours

A one quarter study of those aspects of basic economics that relate to the role of the small businessman and the wage earner. Problem solving techniques which have proven successful in the market place will be explored and individualized. (3 hours per week)

EC 251 Economic History of Europe (A, N, R)3 credit hours

An evaluation of the rise of the modern European economic systems from the earliest days to the present. The study includes feudalism, mercantilism, capitalism, socialism, communism, and the rise of industrial Europe and the Common Market.

EC 252 Economic History of the United States (A, N, R)3 credit hours

A study of the rise of the modern economic system of the United States from colonial times to the present. The study includes the impact of agriculture, industry and capitalism on the nation.

EC 161 Black Economics (A)4 credit hours
Auraria Campus only. See Consortium of Ethnic Studies, page 53.

EC 162 Black Community Economics and Federal Taxes (A)3 credit hours
Auraria Campus only. See Consortium of Ethnic Studies, page 53.

EC 170 Economic History of the Southwest (A)3 credit hours
Auraria Campus only. See Consortium of Ethnic Studies, page 53.

EC 211 Principles of Economics (A, N, R)3 credit hours

The principles and theory of economics, emphasizing the American economic system but including interna-

tional economics and economic growth. Principles of money, banking, public finance, distribution of income, pricing and allocation of resources, volume of economic activity, etc. (3 hours per week)

EC 212 Principles of Economics (A, N, R) 3 credit hours

Continuation of EC 211. (3 hours per week)

EC 213 Principles of Economics (A, N, R) 3 credit hours

Continuation of EC 212. (3 hours per week)

GEOGRAPHY

GE 111 Fundamentals of Geography (A, N, R) 5 credit hours

Systematically investigates the relationship between man and his physical environment. The course will include a study of earth form, earth-sun relationships, meteorology, climatology, mineralogy, landforms, soils, and vegetation. (4 hours of lecture and 3 hours of laboratory per week)

GE 112 Fundamentals of Geography (A, N, R) 5 credit hours

Continuation of GE 111. (4 hours of lecture and 3 hours of laboratory per week)

GE 113 Fundamentals of Geography (A, N, R) 5 credit hours

Continuation of GE 112. The third quarter will be an investigation of the human elements of geography. The basic principles of urban geography, economic geography, conservation, settlement patterns, and population problems will be examined. (4 hours of lecture and 3 hours of laboratory per week)

GE 200 World Regional Geography (A, N, R) 3 credit hours

A world perspective of the interrelationship between man and his environment.

GE 201 Continuation of GE 200 (A, N, R) 3 credit hours

GE 210 Economic Geography (A, N, R) 3 credit hours

An examination of world economic activities in relation to physical and cultural environments.

GE 220 Human Ecology (A, N, R) 3 credit hours

Study of problems facing man in the conservation, use, and management of physical environments. Topics analyzed include the impact of urban development, technological advancement, and the conservation of resources.

GE 230 Urban Geography (A, N, R) 3 credit hours

Introductory study of geographic factors related to the development of modern urban areas: population growth, land use, environmental deterioration, and future planning.

HISTORY

HS 107 Hang-Ups and Happenings in American History (A, N, R) 3 credit hours

A one quarter topical survey of American History from its origin to 1971.

HS 110 History of Chicano People (A, N, R) 3 credit hours

Discussion of contemporary social, cultural, political and economic problems of the Chicano people and the study of these problems in relation to their historical roots.

HS 111 History of World Civilization (A, N, R) 4 credit hours

The first of a three quarter sequence covering the historical development of world civilizations from ancient times to the present. The cultures examined during the quarter include South Asia, East Asia, and Southeast Asia. Emphasis will be placed on India, China, Japan, and Southeast Asia.

HS 112 History of World Civilization (A, N, R) 4 credit hours

No prerequisites. The cultures, examined during the quarter are Moslem, Slavic and European. Emphasis will be placed on the Middle East, East Central Europe, Soviet Union, and Western Europe.

HS 113 History of World Civilization (A, N, R) 4 credit hours

No prerequisite. The cultures examined during the quarter will include the Americas, Latin America, and Africa with emphasis on Latin America and sub-Saharan Africa.

HS 115 The Making of the Modern World (A, N, R) 3 credit hours

No prerequisite. A series of studies on the nations of today. A study of modern Europe with emphasis on The Soviet Union, Germany, France and England.

HS 116 The Making of the Modern World (A, N, R) 3 credit hours

No prerequisite. A study of the rise of modern Africa and Latin America from recent colonial times.

HS 117 The Making of the Modern World (A, N, R) 3 credit hours

No prerequisite. A study of modernization of Asia and Latin America and its impact on the modern world.

HS 120 History of the Black People (A, N, R) 3 credit hours

The historical development of the Black people of the world. Tracing this development from the early African civilizations through the American slave systems to the modern day Black cultures of the U.S.

HS 121 History of the Indians of the West (A, N, R) 3 credit hours

A study of the Indians west of the Mississippi River from prehistoric times to the present.

**HS 125 Black Civilization —
Africa (A, N, R) 3 credit hours**

Culture and development of the area of Africa from earliest times to the present. Includes tribes, slavery, colonization and the new independent nations.

**HS 126 Black Civilization —
Americas to 1865 (A, N, R) 3 credit hours**

The culture and development of Black people in the Americas through the American Civil War. This includes black people in Brazil, Surinam, the Caribbean, and the United States.

**HS 127 Black Civilization —
Americas Since 1865 (A, N, R) . . . 3 credit hours**

Continuation of HS 126 with emphasis on culture and development following the American Civil War.

**HS 130 History of the Southwest
United States (A, N, R) 3 credit hours**

The cultural and historical development of what is now the Southwestern United States.

**HS 145 Chicano Civilization —
Spain (A, N, R) 3 credit hours**

The development of culture and the history of Spain from Roman times to the present including a brief study of efforts in colonization. This course covers the origin and power of the Catholic Church, the government, and the social structure of Spain.

**HS 146 Chicano Civilization —
Early Colonies (A, N, R) 3 credit hours**

The expansion of Spanish power into the New World and Asia from the 15th century to 1800. This covers the changes in culture, in society brought about by colonization. It traces the expansion of the power of Spain to its peak.

**HS 147 Chicano Civilization —
Independence to Present
(A, N, R) 3 credit hours**

The fall of the Spanish Empire, the rise of the new nations and the problems that they face today. This covers North and South America and Asia in relation to Spanish heritage and Modern Society.

**HS 150 Contemporary World History
(A, N, R) 3 credit hours**

The culture and history of modern man since 1900 with critical emphasis on international problems of war, world government, conflicting economic and political ideologist (fascism, communism, socialism) and the emergence of nationalism.

**HS 211 The History of the United
States — to 1789 (A, N, R) 3 credit hours**

The Colonial and Revolutionary period of American History to 1789.

**HS 212 History of the United States —
1789 to 1877 (A, N, R) 3 credit hours**

Post Revolutionary period to the Civil War Reconstruction, 1789-1877.

**HS 213 History of the United States
(A, N, R) 3 credit hours**

The New Nation, 1877 to the present.

HS 220 Colorado History (A, N, R) 3 credit hours

The historical development of Colorado with emphasis on the cultural, political and economic; from pre-historic Indians to modern missile factories.

**HS 225 The Black People and the
American Frontier (A, N, R) 3 credit hours**

This course examines the role of Black people in the winning of the West. It covers colonial days, black settlers, homesteaders, cowboys, gunfighters, and soldiers in the Indian Wars.

**HS 226 The Urban History of the
Black People (A, N, R) 3 credit hours**

This course examines the Black city dweller in relation to other people including the Irish, Spanish, Italian, etc. This provides the basis for an examination of the Black in the city through demographic and social comparisons with other minority groups past and present.

HS 246 A History of Mexico (A, N, R) . . 3 credit hours

The historical and cultural development of Mexico from pre-history to the present. This includes an examination of present day politics and society of Mexico.

**HS 250 The History of Democratic
Ideas (A, N, R) 3 credit hours**

A study of individual and social freedom culminating in America's Jeffersonian ideals, including utopian and revolutionary ideas and experiments.

HS 251 The History of Cities (A, N, R) . . 3 credit hours

A study of cities in the United States in their beginning and developmental stages since the Colonial period.

**HS 261 Cultural History of China
(A, N, R) 3 credit hours**

This course will examine Chinese Civilization and culture from prehistoric times to the present. Special emphasis will be given to Confucianism, Taoism, Buddhism and Communist society today.

**HS 262 Cultural History of China II
(A, R) 3 credit hours**

(1644 to the present)
Auraria Campus only. See Consortium of Ethnic Studies, page 54.

**HS 265 Cultural History of Japan
(A, N, R) 3 credit hours**

The course will briefly survey Japanese traditional society and culture. Emphasis will be placed on recent historical developments from the Tokugawa Shogunate and the Meiji Reforms to the present. Japanese national character, religion (particularly Zen) and the arts will be examined.

**HS 267 Cultural History of India
(A, N, R) 3 credit hours**

This course will examine the roots of Indian Civilization as well as the intense impact major invasions had on India, from the growth of Hinduism to the development of Western Democracy. The influence India has had on other cultures will also be studied.

HS 269 Cultural History of Southeast Asia (A) 3 credit hours

Auraria Campus only. See Consortium of Ethnic Studies page 54,

HS 271 History of England — Early Years (A, N, R) 3 credit hours

The culture and development of England to Henry VII.

HS 272 History of England — Early Years (A, N, R) 3 credit hours

England from Henry VII to Anne, 1485-1713.

HS 273 History of England — Modern Times (A, N, R) 3 credit hours

The expansion and decline of Great Britain from Anne to the present time, 1713-1973.

PHILOSOPHY

PH 100 Constructing a Life Philosophy (A, N, R) 3 credit hours

Constructing a clearer personal life philosophy by considering alternatives and achieving a better understanding of what it means to live the examined life.

PH 111 Introduction to Philosophy (A, N, R) 3 credit hours

A study of philosophy and its usefulness, of methods of inquiry, man and his place in the world, and of the different schools of philosophy. (3 hours per week)

PH 112 Introduction to Philosophy (A, N, R) 3 credit hours

(Continuation of PH 111) A study of the realm of values and the life worth living, ethics, oriental philosophies, religions, and social issues. (3 hours per week)

PH 120 The Faiths by Which Men Live (A, N, R) 3 credit hours

Great religions of the Far East such as Hinduism, Buddhism, Confucianism, Taoism, etc. Attention will be given to the beliefs and convictions men use as they seek to interpret experience and find meaning and direction in life, and to the role of religion in the development of culture.

PH 121 The Faiths by Which Men Live (A, N, R) 3 credit hours

A continuation of PH 120 with attention given to the religions identified with the Middle East and Western Civilization such as Judaism, Christianity, and Islam. Some of the modern challenges to religion such as humanism, Marxism, secularism will be explored as we consider recent developments in the field of religion.

PH 220 Ethics: Learning to Cope With Life (A, N, R) 3 credit hours

Utilizing the resources of philosophy and ethics to achieve greater competence in living creatively with the problems and possibilities of the contemporary world. (3 hours per week)

PH 230 Logic (A, N, R) 3 credit hours

A study of the principles and practices of reflective thinking and problem solving, of the proposition and

sylogism, of evidence and evaluation, and the various approaches to the scientific method of reasoning processes. The aim is the achievement of more precise and creative thinking. (3 hours per week)

POLITICAL SCIENCE

PS 111 Introduction to Political Science (A, N, R) 3 credit hours

Approaches to the study of politics: man as political animal; the nature and use of power; the role of ideology.

PS 112 Introduction to Political Science (A, N, R) 3 credit hours

Approaches to the study of politics: the relationship between political behavior and governmental structures.

PS 113 American National Government (A, N, R) 3 credit hours

Present day American government interpreted in the light of constitutional and other influences; emphasis on the role of institutions, individuals, and groups in forming American political behavior.

PS 114 American State and Local Government (A, N, R) 3 credit hours

Governmental structure and political behavior in states and municipalities; urban problems and the role of government in their solution.

PS 161 Political Leadership (A, N, R) . . 3 credit hours

A study of group process, parliamentary procedure, recruiting, campaigning, publicity, legislation and administration through classroom and laboratory experience.

PS 162 Practical Politics (A, N, R) 3 credit hours

Introduction to political action at the local, state and/or national level.

PS 201 Comparative Politics (A, N, R) . . 3 credit hours

Introductory survey and analysis of political behavior and institutions in the 20th century: problems of the "over developed" world, including Europe, the Soviet Union, Japan, and the United States.

PS 202 Comparative Politics (A, N, R) . . 3 credit hours

Introductory survey and analysis of political behavior and institutions in the 20th century: problems of the "under-developed" world, including Asia, Africa, and Latin America.

PS 203 International Relations (A, N, R) 3 credit hours

The international political system and the effects of geography, history, culture, ideology, domestic politics, foreign policies, diplomacy, international law, and international organizations upon it.

PS 241 Political Woman (A, N, R) 3 credit hours

Emphasis on the social psychological and economic status of women in the contemporary United States: the role of politics in supporting and attacking that status; the women's movement in the 19th century and today.



PS 251 Chicano Political Experience (A, N, R) 3 credit hours

A critical evaluation of leading issues affecting Chicanos in American society. Includes a survey of social, cultural, and political organizations within the community.

PS 261 Black Political Thought (A, N, R) 4 credit hours

Carries the development of black political thought from Frederick Douglass to the present, making the student aware of the forces which direct the black man in his struggle to achieve personal and community goals.

PS 262 Black Political Experience (A, N, R) 4 credit hours

A survey of the role played (or not played) by the Black man in the development of American political institutions. An analysis of the impact of these institutions upon Black life in America. Specific attention given to the Presidency, Congress, and the Supreme Court in an attempt to surface the Black perspective on these bodies.

PSYCHOLOGY

PY 100 Human Relations in Business and Industry (A, N, R) 3 credit hours

Primarily focuses on the personal problems encountered by employees in a business relationship with fellow employees and with the employer. Deals with the effect of these problems on others and various methods of handling them or minimizing their effect.

PY 107 Psychology of Personal Development (A, N, R) 3 credit hours

The study of the individual and the social factors which contribute to the development of both healthy and unhealthy personalities.

PY 111 General Psychology (A, N, R) . . . 3 credit hours

A broad overview of the general field and fundamental principles of psychology. Will study areas of perception, motivation, emotion, learning maturation, social, individual differences, etc.

PY 112 General Psychology (A, N, R) . . . 3 credit hours
Continuation of PY 111.

PY 113 General Psychology (A, N, R) . . . 3 credit hours
Continuation of PY 112.

PY 123 Child Guidance Techniques (A, N, R) 3 credit hours

A study of acceptable methods and techniques of working with children.

PY 200 Psychology of the Deaf (A, N, R) 3 credit hours

This course is intended to provide an overview of the field, with particular emphasis on communications, testing measurement of the hearing-impaired, research in the field of deafness, and special methods used in the education of deaf children with psychological ramifications.

PY 210 Social Psychology (A, N, R) . . . 3 credit hours

Social factors which influence the behavior of the individual as he interacts with others. Consideration of such problems as leadership fashions, prejudice, public opinion and social attitudes.

PY 220 Educational Psychology (A, N, R) 3 credit hours

This is a study of psychology as applied to the teacher-learner situation with emphasis on the principles of motivation learning, intelligence, heredity, growth, environment and individual differences.

PY 221 Developmental Psychology (Child Growth & Devel.) (A, N, R) . . . 3 credit hours

Study of early childhood including genetic background, prenatal life, motor-sensory development and the pre-school period. Covers all aspects of growth and development: physical, emotional, social, and intellectual.

PY 222 Developmental Psychology (Child Growth and Devel.) (A, N, R) . . 3 credit hours

Continuation of PY 221.

PY 223 Developmental Psychology (Adolescence, adulthood, and old age) (A, N, R) 3 credit hours

Developmental psychology with emphasis on adolescence, adulthood, and old age.

PY 230 Abnormal Psychology (A, N, R) . 3 credit hours

Causes, description and theories of severe personality and behavior disorders.

PY 240 Personality (A, N, R) 3 credit hours

Psychological theories which deal with the development, structure, and functioning of the normal personality.

PY 250 Psychology of Prejudice (A, N, R) 3 credit hours

A course designed to assist students so that they understand in depth the basic causes of prejudice and the etiology of prejudicial behavior. Experiences are provided for greater understanding of people and processes for abating or ameliorating the degree of prejudice by the individual.

PY 255 Black Psychology (A, N, R) . . . 3 credit hours

This course is designed to enable the student to identify the psychological factors of racism that influence the development of the Black personality.

PY 260 Chicano Psychology (A, N, R) . . 3 credit hours

This course is designed to develop an understanding from a psychological viewpoint of the impact of the Chicano experience on the Chicano personality.

PY 270 Industrial Psychology (A, N, R) .3 credit hours
Presents psychological material relevant to the industrial setting including employee selection, training, testing, evaluation, assumptions of management about human motivation, job satisfactions, work efficiency, fatigue and human engineering.

SOCIOLOGY

SO 107 Sociology of Personal Development (A, N, R)3 credit hours

Basic principles of sociology investigating behavior, cultural institutions, interaction, and social change. Tailored to meet the needs and concerns of those students seeking to acquire familiarity with the social world in which they live (3 hours per week)

SO 108 Social Problems (A, N, R)3 credit hours

Issues confronting the individual, groups and society are explored. Ranging from alienation to xenophobia, the issues will be examined for their causes, their possible inter-relationships, and their consequences upon various sectors of society. Particular emphasis will be given to issues of direct concern to the student. (3 hours per week)

SO 111 Introduction to Sociology (A, N, R)3 credit hours

Basic principles of sociology are introduced: investigating social behavior, man culture, institutions, social interaction and social change. Theoretical principles are introduced and applied to field projects where students seek to acquire familiarity with the community as a laboratory. (3 hours per week)

SO 112 Introduction to Sociology (A, N, R)3 credit hours

The issues, concepts and understandings treated in SO 111 are developed by treating major issues and concerns through the writings of major sociologists. Theoretical principles dealing with power, interaction, deviance, etc. are explored in depth. (3 hours per week)

SO 113 Introduction to Sociology (A, N, R)3 credit hours

Methods and techniques of investigating and for developing understanding of society are given primary focus here. The student spends sizable periods outside of the classroom undertaking methods of research appropriate to different situations depending on the instructor's orientation. (3 hours per week)

SO 220 Marriage and the Family (A, N, R)3 credit hours

Designed for all students, the purpose of the course is to develop an understanding of the social role of marriage and family living, and to promote stable marital relations. Special emphasis is placed on courtship and preparation for marriage, conflict situations and adjustments between husband and wife, parent-child relationships, the family in the community and other factors related to successful family life. (3 hours per week)

SO 230 Juvenile Delinquency (A, N, R)3 credit hours

Sociological and cultural aspects of late childhood and adolescence. Problems of the individual in his social environment and group forces which lead to maladjustment. Sociological principles for working with youth from the viewpoint of parent, teacher, police, social

worker and youth organization leader. (3 hours per week)

SO 135 Sociology of Medical Care (A, N, R)3 credit hours

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." Includes the community and medical care, medical education, the hospital as a social institution, and concepts of medical practice.

SO 140 Field Work in Barrio Studies (A, N, R)3 credit hours

Field study observation of selected barrios, institutions, and agencies will be conducted under supervision, after some preparatory instruction to acquaint the student with the barrio.

SO 151 The Chicano and the Schools (A, N, R)3 credit hours

Problems of Chicano students adapting to the schools and the teacher's response to them. Includes observation of school facilities and classroom techniques.

SO 152 Urbanization and the Chicano (A, N, R)3 credit hours

Study of rural folk values of the Chicano and their erosion in the urban setting. Includes an analysis of changing values within the Chicano community.

SO 200 Urban Sociology (A, N, R)3 credit hours

City and metropolitan growth are examined in terms of the human factors and social issues involved. Social structures, forms and processes of interaction, residential and institutional patternings, are looked at as these relate to urban planning, community change, transitional neighborhoods and urban tensions. (3 hours per week)

SO 210 Social Planning in the Urban Setting (A, N, R)3 credit hours

Urban planning centering on human factors and social issues. The emphasis will be on projected city life, including the transitional neighborhood and urban tension. (3 hours per week)

SO 211 Current Social Issues (A, N, R)3 credit hours

Introductory consideration of some major current social issues designed to improve the student's ability to understand and systematically investigate concerns vital to everyday life. Issues to be treated will include the major "P's" of poverty, power, pollution, and population; conflict, intergroup relations, social change and alienation. (3 hours per week)

SO 212 Current Social Issues (A, N, R) .3 credit hours

Increased emphasis is given here to the interrelationship of issues. The issues to be dealt with are primarily of a national and international flavor. (3 hours per week)

SO 213 Field Practicum: Community Studies (A, N, R)3 credit hours

Aimed at the service professions (social work, etc.) as well as those adults interested in becoming involved in ongoing social change activities, the course seeks through guided field experiences to aid the student in developing the perspectives, skills and methods vital to activating and carrying through community organ-

ization, community development, and field study programs.

SO 220 Minority Groups in American Society (A, N, R) 3 credit hours

The processes and consequences of labeling whereby certain groups come to be defined as "minorities" and treated in particular ways are studied. (3 hours per week)

SO 223 Youth in Society (A, N, R) 3 credit hours

Presentation of issues and patterns of behavior confronting youth in society: drugs, crime, formation of gangs, relations with adults, education, political involvement, alienation, the creation of counter-cultures, racial tensions and cultural factors affecting individual and group action. The impact of the mass media, advertising, and the arts upon youth groups and the impact of youth groups upon these areas are examined. The role of the above-30 and the elderly in a youth-oriented society are explored. (3 hours per week)

SO 225 Racism and American Institutions (A, N, R) 3 credit hours

This course is designed to analyze American institutions in relationship to racism. The historical development of racism and what it has done to influence the American way of life will be the foundation of this class.

SO 230 Hispano Culture (A, N, R) 3 credit hours

Designed for all students. The purpose of the course is to develop an understanding of the cultural attainments and activities of the Hispanic Culture. The emphasis will be on the arts, music, religious beliefs, traditions, language, and how all these relate to contemporary cultural patterns.

SO 240 Sociology of the Black Community (A, N, R) 3 credit hours

Fundamental concepts and theories of sociology with comparative emphasis on the Black man, his culture, and contributions to American culture.

SO 241 Sociology of the Chicano Community (A, N, R) 3 credit hours

Fundamental concepts and theories of sociology with comparative emphasis on the Chicano and his culture in America.

SOCIAL SCIENCE

SS 101 Field Experience in Community Organizations I (A, N, R) 3 credit hours

Students enrolled in this course will perform human service work in community organizations, programs, and agencies of their choice subject to the approval of the instructor. By doing so, they will gain job experience, community service opportunity, and have an avenue to test career interests in a reality setting. Field experience sites will be developed through mutual agreement of the student, the community organization, and supervising instructor. (1 hour of lecture and 4-6 hours of field experience per week)

SS 102 Field Experience in Community Organizations II (A, N, R) 3 credit hours

Prerequisite: Field Experience in Community Organizations I

Continuation of Field Experience. (1 hour of lecture and 4-6 hours of field experience per week)



SS 103 Field Experience in Human Services (A, N, R) 3 credit hours

Prerequisite: Field Experience I, II, or acceptable field work.

An evaluation of community needs and resources based on the students' previous field experiences and through direct readings. The emphasis will be toward change methodology and related skills and techniques. (3 hours per week)

SS 211 The Social and Political Environment of the 20th Century (A, N, R) . . . 3 credit hours

An interdisciplinary approach to study of the problems confronting the twentieth-century American. Consideration will be given to such issues as urbanization, alienation, war, technological change, violence and protest movements, values, and the quest for personal identity and significance. (3 hours per week)

SS 212 The Social and Political Environment of the 20th Century (A, N, R) . . . 3 credit hours

Continuation of SS 211. (3 hours per week)

SS 213 The Social and Political Environment of the 20th Century (A, N, R) . . . 3 credit hours

Continuation of SS 212. (3 hours per week)

SS 260 Research Methods in the Social Sciences (A, N, R) 3 credit hours

An interdisciplinary course designed to aid the student develop the skills, methods and techniques of research required for systematically exploring the social-psychological world in which he lives. An introduction to statistical methods — including validity, reliability, correlation and other forms of analysis — is also undertaken.

INDEPENDENT STUDY

299 Independent Study (A, N, R) . . 1 to 3 credit hours

Independent Study (Course No. 299) is available in each of the major areas within the Division of Social Sciences (i.e. history, political science, sociology, etc.). The course provides opportunity for the serious-minded student to engage in intensive study and research on a specific topic under the direction of a qualified faculty member. Prerequisite for enrollment is permission of the Director of the Division of Social Sciences and the assigned instructor. The number of quarter hours of credit (1-3) will be determined by the Division Director.

CONSORTIUM OF ETHNIC STUDIES AURARIA CAMPUS ONLY

**(THE COURSES LISTED UNDER THE CONSORTIUM OF ETHNIC STUDIES
COUNT FOR CREDIT TOWARD THE ASSOCIATE ARTS DEGREE.)**

C O N T E N T S

Anthropology	A
Biology	A
Chinese	A
Economics	A
History	A
Humanities	A
Literature	A, N, R
Music	A
Political Science	A
Psychology	A
Science	A
Sociology	A
Spanish	A, N, R

CONSORTIUM OF ETHNIC STUDIES..... AURARIA CAMPUS ONLY

ANTHROPOLOGY

AN 201 Physical Anthropology (A) 3 credit hours

An introductory study of the fossil record, living animals and cultural factors as they relate to the evolution of man. (3 hours per week)

AN 202 Physical Anthropology (A) 3 credit hours

A continuation of AN 201 with emphasis on human variation, human biology and the mechanics of evolution. (3 hours per week)

AN 230 Ethnography of the North American Indian (A) 3 credit hours

A survey of the major Indian cultures of North America. Environmental and historical relationships are included. (3 hours per week)

ART

AR 181 Ethnic Studies in Art, The American Southwest (A) 3 credit hours

Special Studies of the Art of the American Southwest from pre-Colombian civilizations to present times as it relates to the Chicano.

AR 182 Ethnic Studies in Art, The Art of Africa and Black Americans (A) . 3 credit hours

Special Study of the Art of Africa from ancient to present times as it relates to contemporary Black American Artists.

AR 183 Ethnic Studies in Art, The Art of the Orient and the American Oriental (A) 3 credit hours

Special Studies of Oriental Art from Ancient to present times as it relates to contemporary American Oriental Artists.

AR 184 Ethnic Studies in Art, The American Indians (A) 3 credit hours

Special Studies of the Art of the American Indian from ancient to present times as it relates to contemporary American Indian Artists.

BIOLOGY

B 150 Biology of the Human Races (A) . 3 credit hours

The biological aspects of race formation will be considered, including the genetic foundations, the range of human variability and race mixtures, and the usefulness of biological factors in understanding racial problems. (3 hours of lecture per week, no laboratory)

CHINESE

CH 100 Basic Applied Chinese (A) 2 credit hours

Course designed for those who wish to learn basic con-

versational patterns for enjoyment and travel or for simple business needs. Language background helpful but not essential. (2 hours per week, plus laboratory)

CH 111 First Year Chinese 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple Chinese, correct pronunciation and rudimentary conversation.

CH 112 First Year Chinese (A) 5 credit hours

Prerequisite: CH 111

CH 113 First Year Chinese (A) 5 credit hours

Prerequisite: CH 112
Continuation and Expansion of CH 112 and additional reading materials.

CH 211 Intermediate Chinese (A) 3 credit hours

This course will (1) review and reinforce skills and knowledge gained in first year Chinese, (2) develop further skills in listening, speaking, reading and writing, (3) develop sense of linguistic structure and increase vocabulary and (4) provide readings in plays, short stories and poems.

CH 212 Intermediate Chinese (A) 3 credit hours

Prerequisite: CH 211
Continuation and Expansion of CH 211.

CH 213 Intermediate Chinese (A) 3 credit hours

Prerequisite: CH 212
Continuation and Expansion of CH 212.

CH 214 Conversation and Composition Chinese (A) 3 credit hours

Prerequisite: CH 213 or demonstration of sufficient language skills.

Conversation and Composition Chinese is designed to increase vocabulary and develop oral and written proficiency at the intermediate level through discussions, reports, and situation dialogues.

CH 215 Conversation and Composition Chinese (A) 3 credit hours

Continuation and Expansion of CH 214.

CH 216 Conversation and Composition Chinese (A) 3 credit hours

Continuation and Expansion of CH 215.

CH 241 Contemporary Chinese Short Stories (A) 3 credit hours

Selected examples of most representative authors.

CH 242 Contemporary Chinese Theatre (A) 3 credit hours

Selected plays representative of the Chinese stage today.

CH 243 Contemporary Chinese Novel (A) 3 credit hours

ECONOMICS

EC 107 Consumer Economics (A) 3 credit hours

A one-quarter survey of the American economic system from the point of view of the consumer, including such topics as personal and household finance, consumer credit, taxes, insurance, mortgages, social security, medicare and medicaid. (3 hours per week)

EC 161 Black Economics (A) 4 credit hours

Introduction to the concepts of labor, land, capital, ownership and control of economic institutions as they have affected and continue to affect the lives of Black and poor Americans. The course will span the concepts of slavery to the idea of Black Power.

EC 162 Black Community Economics and Federal Taxes (A) 3 credit hours

Individual economic stability and development are essential for the little man in the community before he can make any meaningful attempt to utilize his educational skills. This course is designed to give some basic understanding of four areas of taxes and credit.

EC 170 Economic History of the Southwest (A) 3 credit hours

Introduction to the concepts of labor, land, capital, ownership and control of economic institutions as they have affected and continue to affect the lives of the Chicano and poor Americans.

HISTORY

HS 107 Hang-ups and Happenings in American History (A) 3 credit hours

A one-quarter inquiry into problems and events in American history.

HS 110 History of Chicano People (A) . . 3 credit hours

Discussion of contemporary social, cultural, political and economic problems of the Chicano people and the study of these problems in relation to their historical roots.

HS 120 History of the Black People (A) 3 credit hours

The historical development of the Black peoples of the world. Tracing this development from the early African civilization through the American slave systems to the modern day Black cultures of the U.S.

HS 121 History of the Indians of the West (A) 3 credit hours

A study of the Indians west of the Mississippi River from prehistoric times to the present.

HS 125 Black Civilization — Africa (A) . 3 credit hours

Culture and development of the area of Africa from earliest times to the present. Includes tribes, slavery, colonialism and the new independent nations.

HS 126 Black Civilization — Americas to 1865 (A) 3 credit hours

The culture and the development of the Black people in the Americas through the American Civil War. This

includes Black people in Brazil, Surinam, the Caribbean, and the United States.

HS 127 Black Civilization — Americas Since 1865 (A) 3 credit hours

The culture and development of the Black people in the Americas following the American Civil War. This includes the Black nations and people in South and Central America, the Indies and the U.S.

HS 130 History of the Southwest United States (A) 3 credit hours

The cultural and historical development of what is now the Southwestern United States.

HS 145 Chicano Civilization — Spain (A) 3 credit hours

The development of culture and the history of Spain from Roman times to the present including a brief study of efforts and colonization, and the colonies that Spain owns today. This course covers the origin and power of the Catholic Church, the government, and the social structure of Spain.

HS 146 Chicano Civilization — Early Colonies (A) 3 credit hours

The expansion of Spanish power into the New World and Asia from the 15th Century to 1800. This covers the changes in culture, as society brought about, by colonization. It traces the expansion of the power of Spain to its peak.

HS 147 Chicano Civilization — Independence to Present (A) . 3 credit hours

The fall of the Spanish Empire, the rise of the new nations and the problems that they face today. This covers North and South America and Asia in relation to Spanish heritage and modern Society.

HS 150 Contemporary World History (A) 3 credit hours

The culture and history of modern man since 1900. A study of the important events in the world including the wars, peace, the depression, and the cold war. Major historical developments in world history during the 20th Century, with critical emphasis on international problems of war, world government, conflicting economic and political ideologies (fascism, communism, socialism) and the emergence of nationalism.

HS 225 The Black People and the Black People (A) 3 credit hours

This course examines the role of the Black people and the winning of the West. It covers colonial days, Black settlers, homesteaders, cowboys, gunfighters, and soldiers in the Indian Wars.

HS 226 The Urban History of the Black People (A) 3 credit hours

This course examines the black city dweller in relation to other people including the Irish, Spanish, Italian, etc. This provides the basis for an examination of the Blacks in the city through demographic and social comparisons with other minority groups at different times.

HS 261 Cultural History of China (A) . . 3 credit hours

This course will examine Chinese Civilization and culture from pre-historic times to the present. Special

emphasis will be given to Confucianism, Taoism, Buddhism and Community society today.

HS 262 Cultural History of China II (1644 to the present) (A) 3 credit hours

The course will deal with modern Chinese history, beginning with a brief survey of Chinese society from the 17th to the 19th century when the convergence of Chinese and Western history ended Chinese seclusion. More emphasis will be placed on examining the interplay of foreign and domestic elements which gave rise to revolutionary changes in every aspect of Chinese society up to the present.

HS 265 Cultural History of Japan (A) . . 3 credit hours

The course will briefly survey Japanese traditional society and culture. More emphasis will be placed on more recent historical developments from the Tokugawa Shogunate and the Meiji Reforms to the present. Japanese national character, religion (particularly Zen) and the arts will be examined.

HS 267 Cultural History of India (A) . . . 3 credit hours

This course will examine the roots of Indian civilization as well as the intense impact major invasions had on India, from the growth of Hinduism to the development of Western democracy. The influence India has had on other cultures will also be studied.

HS 269 Cultural History of Southeast Asia (A) 3 credit hours

Special emphasis on anthropologic-political structure. This course will use an interdisciplinary approach to explore the complex and diverse cultures of southeast Asia and its variety of racial and linguistic groups. The cross cultural influence of India and China as well as the Western World will be carefully examined.

HUMANITIES

HU 145 Chicano Culture (A) 3 credit hours

Story of the Chicano from pre-Colombian to contemporary times. Includes the study of the social, cultural, political and economic heritage of the Chicano and his contributions to American society.

HU 147 Folklore of Mexico and the Southwest (A) 3 credit hours

HU 241 Comparative Culture-Spanish (A, N) 3 credit hours

Prerequisite: SP 213

Study of Spain from the Middle Ages to the 19th Century through the media of slides, records, art books, tapes, films and lectures. (3 hours per week)

HU 242 Comparative Culture-Spanish (A, N) 3 credit hours

Prerequisite: SP 213

A continued study of Spain, stressing the 19th and 20th Centuries. Early Latin-American development will be investigated. This course will stress the multi-media approach. (3 hours per week)

HU 243 Comparative Culture-Spanish (A, N) 3 credit hours

Prerequisite: SP 213

A continued study with emphasis on Latin-American independence and the course of development to the present time. Multi-media approach will be used. (3 hours per week)

LITERATURE

LI 125 The Black Writer in America (A) . 4 credit hours

A beginning course in the study of Black literature, which includes the methods of evaluation and analysis essential for understanding and appreciating the literary contributions of the Black Writer in America.

LI 144 Afro-American Literature (A, R) . 3 credit hours

Study of the contribution of Afro-American writers to American literature and civilization.

LI 147 Contemporary Chinese Literature in Translation (A) 3 credit hours

A contemporary look at the Southwest through the works of its authors. Attention to the writings of the present and how it underlines the Chicano's search for an identity.

LI 220 The Rhetoric of Social Protest (A) 3 credit hours

An analytical and critical study of the rhetoric of social protest in America with special emphasis on racial agitation.

LI 231 Ethnic Literature in America (A, N, R) 3 credit hours

Concentration on the literature of Black writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

LI 232 Ethnic Literature in America (A, N, R) 3 credit hours

Concentration on the literature of Chicano writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

LI 233 Ethnic Literature in America (A, N, R) 3 credit hours

Concentration on the literature of Oriental writers in America. The approach will be through general themes, chronological considerations, comparison and genre.

LI 234 Ethnic Literature in America (A, N, R) 3 credit hours

Concentration on the literature of the American Indian. The approach will be through general themes, chronological considerations and genre.

MUSIC

MU 120 Music of Mexico and the Southwest (A) 3 credit hours

An examination of selected works in Mexican music from pre-Colombian time to present, concentrating on regional works and on Twentieth Century composers and their relationship to Chicano society.

POLITICAL SCIENCE

PS 251 Chicano Political Experience (A) 3 credit hours

A critical evaluation of leading issues affecting Chicanos in American society. Includes a survey of social, cultural and political organizations within the community.

PS 261 Black Political Thought (A) 4 credit hours

Carries the development of Black political thought from Frederick Douglass to the present, making the student aware of the forces which direct the Black man in his struggle to achieve personal and community goals.

PS 262 Black Political Experience (A) 4 credit hours

A survey of the role played (or not played) by the Black man in the development of American political institutions. An analysis of the impact of these institutions upon Black life in America. Specific attention given to the Presidency, Congress, and the Supreme Court in an attempt to surface the Black perspective on these bodies.

PSYCHOLOGY

PY 250 Psychology of Prejudice (A) 3 credit hours

A course designed to assist students so that they understand in depth the basic causes of prejudice and the etiology of prejudicial behavior. Experiences are provided for greater understanding of people and processes for abating or ameliorating the degree of prejudice by the individual.

PY 255 Black Psychology (A) 3 credit hours

This course is designed to enable the student to identify the psychological factors of racism that influence the development of the Black personality.

PY 260 Chicano Psychology (A) 3 credit hours

This course is designed to develop an understanding from a psychological viewpoint of the impact of the Chicano situation on the Chicano personality.

SCIENCE

SI 110 Black Men in Science (A) 3 credit hours

A survey of the contribution of the Black man to the scientific world, with in-depth studies of some of the major figures. (3 lectures per week, no laboratory)

SOCIOLOGY

SO 140 Field Work in Barrio Studies (A) 3 credit hours

Field study observation of selected barrios, institutions, and agencies to be conducted under supervision and after preparatory instruction to acquaint students with the barrio.

SO 151 The Chicano and the Schools (A) 3 credit hours

Problems of Chicano students adapting to the schools and the teacher's response to them. Includes observation of school facilities and classroom techniques.

SO 152 Urbanization and the Chicano (A) 3 credit hours

Study of rural folk values of the Chicano and their erosion in the urban setting. Includes an analysis of the changing values within the Chicano community.

SO 220 Minority Groups in American Society (A) 3 credit hours

The processes and consequences of labeling whereby certain groups come to be defined as "minorities" and treated in particular ways are studied. Various groups including homosexuals, prostitutes, dance musicians, race and ethnic minorities are treated. (3 hours per week)

SO 225 Racism and American Institutions (A) 3 credit hours

This course is designed to analyze American institutions in relationship to racism. The historical development of racism and what it has done to influence the American way of life will be the foundation of this class.

SO 230 Hispano Culture (A) 3 credit hours

Designed for all students. The purpose of the course is to develop an understanding of the cultural attainments and activities of the Hispanic Culture. The emphasis will be on the arts, music, religious beliefs, traditions, language, and how all these relate to contemporary cultural patterns.

SO 240 Sociology of the Black Community (A) 3 credit hours

Fundamental concepts and theories of sociology with comparative emphasis on the Black man, his culture, and contributions to American culture.

SO 241 Sociology of the Chicano Community (A) 3 credit hours

Fundamental concepts and theories of sociology with comparative emphasis on the Chicano and his culture in America.

SPANISH

SP 100 Basic Applied Spanish (R) 2 credit hours

For those who wish to learn basic conversational Spanish for enjoyment or travel or for simple business needs.

SP 111 First Year Spanish (A, N, R) 5 credit hours

Designed to develop basic principles of grammar and syntax; reading and writing of simple Spanish, correct pronunciation and rudimentary conversation.

SP 112 First Year Spanish (A, N, R) 5 credit hours

Prerequisite: SP 111
Continuation and Expansion of SP 111.

SP 113 First Year Spanish (A, N, R) 5 credit hours

Prerequisite: SP 112
Continuation and Expansion of SP 112 and additional reading materials.

SP 121 Spanish to the Chicano (A) 5 credit hours

Designed for the bi-vocal Chicano student. Instruction takes into consideration the interference of English in

the development of the Spanish language skills for the student.

SP 122 Spanish to the Chicano (A) 5 credit hours
Continuation of SP 121.

SP 123 Spanish to the Chicano (A) 5 credit hours
Continuation of SP 122.

SP 211 Intermediate Spanish (A, N, R) .3 credit hours
This course will (1) review and reinforce skills and knowledge gained in first year Spanish, (2) develop further skills in listening, speaking, reading, and writing, (3) develop sense of linguistic structure and increase vocabulary, and (4) provide reading in plays, short stories and poems.

SP 212 Intermediate Spanish (A, N, R) .3 credit hours
Prerequisite: SP 112 or 113
Continuation and Expansion of SP 211.

SP 213 Intermediate Spanish (A, N, R) .3 credit hours
Continuation and Expansion of SP 212.

SP 214 Conversation and Composition Spanish (A)3 credit hours
Prerequisite: SP 213 or demonstration of sufficient language skills

Conversation and Composition Spanish is designed to increase vocabulary and develop oral and written pro-

ficiency at the intermediate level through discussions, reports, and situation dialogues.

SP 215 Conversation and Composition Spanish (A)3 credit hours
Continuation and Expansion of SP 214.

SP 216 Conversation and Composition Spanish (A)3 credit hours
Continuation and Expansion of SP 215.

SP 241 Contemporary Spanish Short Stories (A)3 credit hours
Selected examples of most representative authors.

SP 242 Contemporary Spanish Theater (A)3 credit hours
Selected plays representative of the Spanish stage today.

SP 243 Contemporary Spanish Novel (A)3 credit hours
Selected contemporary novels particularly appealing to modern youth.

DIVISION OF BUSINESS AND MANAGEMENT OCCUPATIONS

Accounting	A, N, R
Business Management	A, N, R
Credit Management	A
Data Processing-Programmer	N
Data Processing-Operations Technician	N
General Clerical	A, N, R
Insurance	A
Industrial Management	R
International Secretarial	N
Key Punch	N
Legal Secretarial	A
Marketing Management	A, N, R
Medical Secretarial	A, N
Office Administration	N, R
Public Administration	R
Real Estate	R
Secretarial Science	A, N, R
Stenographic	A, N, R
Word-Processing Typist	N, R
Transportation and Traffic Management	A

DIVISION OF BUSINESS AND MANAGEMENT OCCUPATIONS

DIVISION OF BUSINESS AND MANAGEMENT PROGRAMS FOR THE TRANSFER STUDENT

A student whose primary purpose in attending Community College of Denver is preparation for transfer to another institution should familiarize himself with that institution's lower-division requirements. Although many institutions award two full years of credit to any transfer student who has earned an Associate degree, others grant transfer credit only for courses which meet their specific program requirements.

Several institutions do set up rigid requirements for completion of a specified number of credit hours in areas such as the sciences, humanities, language, and/or mathematics. Some encourage business majors to select only the basic business courses (typically introduction to business, mathematics, accounting, marketing, and principles of economics) during the first two years.

The Associate degree for the transfer student in Business is awarded by the Community College of Denver upon successful completion of the general requirements set forth on page 9 and a program of studies designed in conference with the business faculty advisor.

A student who is interested primarily in earning an Associate degree while preparing for a business career should follow the program suggested in this catalog for his area of specialization. If this student decides later to continue at a four-year institution, he should be able to transfer those credits which are applicable to the program he selects. In many instances, unless he changes his major, he will receive full transfer credit for all courses satisfactorily completed at the Community College of Denver. In those instances in which a Community College of Denver course is classified at the senior institution as an upper-division course, the student may receive only elective credit for the completed course.

ACCOUNTING (A, N, R)

NINE-MONTH PROGRAM

	Cr. Hrs.
First Quarter	
AC 111 Accounting	5
EG 131 Business Communications	3
MG 105 Introduction to Business.....	3
M 110 Business Math	3
EC 109 or 211.....	3
	17
Second Quarter	
AC 112 Accounting	5
EG 132 Business Communications	3
SC 103 Business Machines	3
Data Processing Elective ¹	3
Typing Elective ¹	4
	18

	Cr. Hrs.
Third Quarter	
AC 113 Accounting	5
EG 133 Business Communications	3
MG 222 Office Management	3
MG 240 Business Finance	3
Business or Accounting Elective ¹	3-5
	17-19

¹Selection of electives must be made in conference with faculty advisor.

EMPLOYMENT OPPORTUNITIES: Completion of this course leads to employment opportunities in clerical bookkeeping positions related to the accounting field.

TOTAL CREDIT HOURS: 52-54

ACCOUNTING¹ (A, N, R)

TWO-YEAR PROGRAM

	Cr. Hrs.
First Quarter	
AC 111 Accounting	5
EG 131 Business Communications	3
MG 105 Introduction to Business.....	3
M 110 Math for Business.....	3
Social Science Elective ²	3
	17
Second Quarter	
AC 112 Accounting	5
EG 132 Business Communications	3
SC 103 Business Machines	3
Data Processing Elective ²	3
Math Elective:	
M 120 Business Statistics or	
M 150 Math of Finance.....	3
	17
Third Quarter	
AC 113 Accounting	5
EG 113 Business Communications	3
AC 213 Cost Accounting	5
Data Processing Elective ³	3-5
	16-18
Fourth Quarter	
AC 211 Intermediate Accounting	5
Math Elective ²	4-5
MG 210 Business Law I.....	3
MG 240 Business Finance I.....	3
Elective ²	3
	18-19
Fifth Quarter	
AC 212 Intermediate Accounting	5
MG 211 Business Law II.....	3
EC 211 Prin. of Economics.....	3
Elective ²	3-5
	14-16

¹Students intending to transfer to a 4-year institution read page ... "Division of Business and management Programs for the Transfer Student."

²Selection of Electives must be made in conference with faculty advisor.

³Business Elective at Auraria Campus.

	Cr. Hrs.
Sixth Quarter	
MG 201 Business Org. & Mgt.	3
EC 212 Prin. of Economics.....	3
Accounting Elective ⁴	5
BU 297 Coop. Work Experience or Elective.....	3-6
	14-17

⁴Accounting Elective must be made in conference with faculty advisor. These include: AC 214 COST ACCOUNTING II, AC 215 INTRODUCTION TO ACCOUNTING SYSTEMS, AC 217 INCOME TAX, AC 220 PRINCIPLES OF GOVERNMENTAL ACCOUNTING AND BUDGETING.

BUSINESS OPPORTUNITIES: Completion of this program leads to employment opportunities in book-keeping and initial accounting positions in business and industrial concerns or at various levels in governmental agencies.

TOTAL CREDIT HOURS: 95-106

BUSINESS MANAGEMENT¹ (A, N, R)

TWO-YEAR PROGRAM

	Cr. Hrs.
First Quarter	
AC 111 Accounting	5
EG 131 Business Communications	3
MG 105 Introduction to Business.....	3
SC 103 Business Machines	3
Math Elective ⁴	3-5
	17-19

Second Quarter

AC 112 Accounting	5
EG 132 Business Communications	3
M 120 Statistics for Business.....	3
DP 111 Prin. of Bus. Data Proc.	3
Elective ²	3
	17

Third Quarter

AC 113 Accounting	5
EG 133 Business Communications	3
DP 112 Advanced Prin. of Bus. DP.....	5
MG 201 Business Org. & Management.....	3
	16

Fourth Quarter

MG 203 Prin. of Marketing I.....	3
MG 210 Business Law I.....	3
EC 108 Labor Relations	3
EC 211 Prin. of Economics.....	3
MG 221 Personnel Management	3
	15

Fifth Quarter

MG 240 Business Finance I.....	3
MG 211 Business Law II.....	3
EC 212 Prin. of Economics.....	3
MG 204 Prin. of Marketing II.....	3
BU 297 Coop. Work Experience of Elective.....	3
	15

Sixth Quarter

MG 241 Business Finance II.....	3
MG 250 Business Policies	3
EC 213 Prin. of Economics.....	3
Management Elective ³	3
BU 297 Coop. Work Experience or Elective.....	3
	15

¹Students intending to transfer to a 4-year institution read page 58, "Division of Business and Management Programs for the Transfer Student."

²Selection of electives must be made in conference with advisor.

³Recommended electives are MG 222 OFFICE MANAGEMENT, MG 217 SALES MANAGEMENT, MG 239 WAGE AND SALARY ADMINISTRATION, MG 220 SMALL BUSINESS MANAGEMENT, and AC 213 COST ACCOUNTING.

⁴Recommended electives are M 110 MATH FOR BUSINESS, M 105 INTRODUCTORY ALGEBRA, M 106 INTERMEDIATE ALGEBRA, M 150 MATH OF FINANCE, M 111 COLLEGE ALGEBRA.

TOTAL CREDIT HOURS: 95-97

CREDIT MANAGEMENT (A)

TWO-YEAR PROGRAM

	Cr. Hrs.
First Quarter	
MG 130 Credit Fundamentals	3
MG 105 Introduction to Business.....	3
AC 111 Accounting	5
M 110 Math for Business.....	3
EG 131 Business Communications	3
	17

Second Quarter

MG 131 Credit Fundamentals	3
M 120 Business Statistics	3
AC 112 Accounting	5
EG 132 Business Communications	3
Social Science Elective ¹	3
	17

Third Quarter

MG 132 Credit Fundamentals	3
MG 201 Business Org. & Management.....	3
AC 113 Accounting	5
EG 133 Business Communications	3
Science Elective ¹	3
	17

Fourth Quarter

MG 230 Credit Procedures	3
EC 211 Prin. of Economics	3
MG 210 Business Law I.....	3
PD 111 Prin. of Business DP.....	3
Elective ¹	3
	15

Fifth Quarter

MG 221 Personnel Management	3
MG 222 Office Management	3
MG 240 Business Finance I.....	3
BU 297 Coop. Work Experience or Elective ²	3
Elective ¹	3
	15

Sixth Quarter

MG 231 Credit Counseling	3
MG 232 Credit Reporting	3
Business Elective ¹	3
BU 297 Coop. Work Experience or	
BU 299 Independent Study ²	6
	15

¹Consult faculty advisor for recommended electives.

²BU 299 (Independent Study) or Elective may be chosen only in event appropriate work station is not available.

TOTAL CREDIT HOURS: 96

DATA PROCESSING-PROGRAMMER (N)

TWO-YEAR PROGRAM

	Cr. Hrs.
First Quarter	
DP 111 Prin. of Bus. Data Proc.	3
MG 105 Intro. to Bus.	3
Math Elective:	
DP 121 Applied Computer Math I	
M 111 College Algebra	
Communications Elective ¹	3
Elective ²	3
	17

Second Quarter

DP 112 Adv. Prin. of Bus. Data Proc.	5
Math Elective	5
DP 122 Applied Computer Math II	
M 112 Trig. and Functions	
Communications Elective ¹	3
AC 111 Accounting	5
	18

Third Quarter

DP Elective — Group I ³	5
Communications Elective ¹	3
AC 112 Accounting	5
Business Elective ²	3
	16

Fourth Quarter

DP Elective — Group I ³	5
DP Elective — Group II ⁴	5
Business Elective ²	3
Social Science Elective ²	3
	16

Fifth Quarter

DP Elective — Groups II ⁴	5
DP 231 Systems Analysis I	3
Business Electives ²	6
Social Science Elective ²	3
	17

Sixth Quarter

DP 232 Systems Analysis II	3
M 150 Math of Finance	
or	
M 120 Statistics for Bus.	3
Electives	10
	16

¹Communications Electives:

EG 111 English Composition
EG 112 English Composition
EG 113 English Composition
EG 131 Business Communications
EG 132 Business Communications
EG 133 Business Communications
EG 250 Technical Writing
S 110 Introduction to Speech
S 210 Advanced Public Speaking

²Consult advisor for recommended electives to fulfill these requirements.

³Data Processing Electives — Group I:

DP 213 Assembler Language I
DP 216 Cobol I
DP 221 Fortran IV, I
DP 224 PL/I, I

⁴Data Processing Electives — Group II:

DP 214 Assembler Language II
DP 217 Cobol II
DP 222 Fortran IV, II
DP 225 PL/I, II

TOTAL CREDIT HOURS: 100

DATA PROCESSING-OPERATIONS TECHNICIAN (N)

NINE-MONTH PROGRAM

	Cr. Hrs.
First Quarter	
DP 111 Prin. of Business Data Proc.	3
EG 131 Business Communications	3
MG 105 Introduction to Business	3
M 110 Math for Business	3
Social Science Elective	3
	15

Second Quarter

DP 112 Advanced Prin. of Bus. Data Processing	5
DP 130 Computer Operations I	5
Business Electives ¹	3
EG 132 Business Communications	3
	16

Third Quarter

DP 125 Data Processing Records Control	3
DP 131 Computer Operations II	5
Business Electives ¹	6
Elective ¹	3
	17

¹Consult Advisor for recommended electives to fulfill these requirements.

TOTAL CREDIT HOURS: 48

GENERAL CLERICAL (A, N, R)

12-MONTH PROGRAM

	Cr. Hrs.
First Quarter	
MG 105 Introduction to Business	3
EG 131 Business Communications	3
SC 110 Typing (or by placement)	4
M 100 Developmental Math or	
M 110 Math for Business	3
SC 105 Filing and Records Control	3
	16

Second Quarter

AC 109 Bookkeeping and Accounting	5
EG 132 Business Communications	3
SC 111 Typing II or (by placement)	4
Business Elective	3
SC 103 Business Machines	3
	18

Third Quarter

SC 112 Intermediate Typing (or by placement)	4
SC 130 Machine Transcription I	3
EG 133 Business Communications	3
DP 111 Principles of Data Proc.	3
Business Elective	3
	16

Fourth Quarter

SC 113 Production Typing	4
SC 131 Machine Transcription II	3
PY 100 Human Relations in Business & Industry or	
PY 107 Psychology of Personal Dev.	3
SC 200 Office Procedures	5
SC 100 Duplicating Machines	2
	17

This course could be completed in less than 12 months if typing background is sufficient.

TOTAL CREDIT HOURS: 67

INSURANCE (A)
TWO-YEAR PROGRAM

First Quarter		Cr. Hrs.
AC 111	Accounting	5
MG 105	Introduction to Business.....	3
M 110	Math for Business.....	3
IN 110	Introduction to Insurance.....	3
PY 107	Psychology of Personal Dev.	3
		<u>17</u>

Second Quarter		
AC 112	Accounting	5
IN 123	Property and Liability	3
MG 210	Business Law I.....	3
IN 121	Life and Health Insurance.....	3
EC 211	Prin. of Economics.....	3
		<u>17</u>

Third Quarter		
AC 113	Accounting	5
IN 133	Life and Property Insurance Law.....	3
EC 212	Prin. of Economics.....	3
IN 131	Business Insurance	3
		<u>14</u>

Fourth Quarter		
EG 131	Business Communications	3
MG 203	Prin. of Marketing I.....	3
IN 205	Analysis of Insurance Functions.....	3
IN 203	Prin. of Risk Management.....	3
MG 110	Salesmanship	3
		<u>15</u>

Fifth Quarter		
EG 132	Business Communications	3
MG 204	Prin. of Marketing II.....	3
IN 221	Insurance & Taxation.....	3
IN 223	Insurance and Property Loss Adjusting.....	3
Elective ¹	.....	3
		<u>15</u>

Sixth Quarter		
MG 222	Office Management	3
MG 220	Small Business Management.....	3
MG 240	Business Finance I.....	3
IN 231	Estate Planning & Life Insurance.....	3
Elective ¹	.....	3
		<u>15</u>

¹Consult counselor or faculty advisor for recommended electives.

TOTAL CREDIT HOURS: 93

INDUSTRIAL MANAGEMENT (R)

TWO-YEAR PROGRAM

FIRST YEAR

First Quarter		Cr. Hrs.
M 110	Math for Bus.	3
AC 111	Accounting	5
EG 131	Bus. Com.	3
IM 103	Industrial Safety	3
IM 101	Elements of Supervision.....	3
		<u>17</u>

Second Quarter		
AC 112	Accounting	5
PY 107	Psych. of Personal Dev.	3
EG 132	Bus. Comm.	3

Math Elective	4-5	
M 105	Introductory Algebra	
M 106	Inter. Algebra	
M 111	College Algebra	
Social Science Elective.....	3	
		<u>18-19</u>

Third Quarter

IM 104	Work Simplification & Cost Control.....	3
M 120	Stat. for Bus. & Ind.	3
DP 111	Prin. of Bus. Data. Proc.	3
EC 109	Applied Economics	3
MG 201	Bus. Org. & Mgt.	3
		<u>15</u>

SECOND YEAR

Fourth Quarter

	Cr. Hrs.	
IM 201	Employee Dev.	3
S 110	Intro. to Speech.....	3
EC 108	Labor Relations	3
EG 133	Bus. Comm.	3
IM 202	Theory & Application of Behav. Sci.	3
		<u>15</u>

Fifth Quarter

MG 221	Personnel Management	3
MG 240	Bus. Fin.	3
MG 210	Bus. Law I.....	3
MG 222	Off. Mgt.	3
Elective	3	
		<u>15</u>

Sixth Quarter

IM 203	Mgt. by Objectives.....	3
Social Science Elective.....	3	
MG 239	Wage and Salary Adm.	3
Electives	6	
		<u>15</u>

AC 113 is not a required prerequisite for MG 240 in the Industrial Management Program.

EMPLOYMENT OPPORTUNITIES: This program is designed for persons in the field of supervision; however, other students electing to pursue the program should be able to seek employment in the areas of government service, public utilities and industry.

TOTAL CREDIT HOURS: 94-96

INTERNATIONAL SECRETARIAL¹ (N)

TWO-YEAR PROGRAM

First Quarter

	Cr. Hrs.	
MG 105	Introduction to Business.....	3
Spanish (by placement) ²	5	
Spanish Typing (by placement).....	4	
SC 110		
SC 111		
EG 131	Business Communications	3
PY 100	Human Relations in Business.....	3
		<u>18</u>

Second Quarter		Cr. Hrs.
M 110	Math for Business.....	3
SC 125	Gregg Shorthand	4
	Spanish (by placement) ²	5
	Typing ³	4
	SC 111, SC 112 or SC 113	
EG 132	Business Communications	3
		19

Third Quarter		
AC 111	Accounting	5
SC 126	Gregg Shorthand	4
	Spanish (by placement) ²	5
SC 132	Machine Transcription, Spanish.....	3
		17

Fourth Quarter		
SC 260	Office Practice I-Spanish.....	3
MG 201	Business Org. & Management.....	3
SC 127	Shorthand Speed Building.....	4
SC 105	Filing & Records Control.....	3
	Elective ⁴	3
		16

Fifth Quarter		
SC 261	Office Practice II-Spanish	3
SC 128	Shorthand Transcription	4
SC 123	Spanish Gregg Shorthand	4
	Electives ⁴	6
		17

Sixth Quarter		
SC 262	Office Practice III-Spanish.....	3
SC 259	International Secretarial Procedures.....	3
SC 124	Spanish Shorthand Transcription.....	4
BU 297	Coop. Work Experience	
	or	
BU 299	Independent Study ⁵	3
		13

¹Students intending to transfer to a 4-year institution read page 58. "Division of Business and Management Programs for the Transfer Student."

²Students will be placed at a foreign language level suited to their competency at entrance. First year courses are 5 credit hours, typing will be given a proficiency examination to determine proper placement.

³Students who have had previous instruction and/or experience in Second year courses are 3 credit hours.

⁴Consult advisor for recommended elective.

⁵BU 299 (Independent Study) or elective may be chosen only in event appropriate work station is not available.

TOTAL CREDIT HOURS: 94-100

KEY PUNCH (N)

THREE-MONTH PROGRAM*

		Cr. Hrs.
DP 102	Key Punch Laboratory	8
MG 105	Introduction to Business.....	3
DP 125	Data Processing Records Control.....	3
DP 111	Principles of Business DP.....	3
		17

*Can be completed in three months only if typing speed is 45 words per minute. In order to enroll in Key Punch Laboratory, student pass a typing test with 45 wpm within a 5 error limitation.

LEGAL SECRETARIAL (A)

TWO-YEAR PROGRAM

First Quarter		Cr. Hrs.
MG 105	Introduction to Business.....	3
SC 110	Typing I ¹	4
	English Elective: ²	
	EG 131 Bus. Comm.	
	EG 111 Eng. Comp.	
M 110	Math for Business & Industry.....	3
	Social Science Elective ²	3
		16

Second Quarter		
SC 125	Gregg Shorthand Prin. ¹	4
SC 111	Typing II	4
	English Elective: ²	
	EG 132 Bus. Comm.	
	EG 112 Eng. Comp.	3
SC 103	Business Machines	3
	Elective: ²	3
		17

Third Quarter		
DP 111	Prin. of Business, Data Proc.	3
SC 126	Gregg Shorthand Principles.....	4
SC 112	Intermediate Typing	4
	English Elective: ²	
	EG 133 Business Communications	
	EG 113 English Composition	3
MG 210	Business Law, I	3
		17

Fourth Quarter		
SC 127	Shorthand Speedbuilding	4
SC 113	Prod. Typing	4
SC 200	Office Procedures	5
MG 211	Business Law, II	3
		16

Fifth Quarter		
S 128	Shorthand Transcription	4
AC 111	Accounting	5
SC 210	Legal Secretarial Procedures & Terminology	3
BU 297	Cooperative Work Experience or Elective	3
MG 201	Business Org. & Mgt.	3
		18

Sixth Quarter		
SC 206	Legal Dictation & Trans.....	3
SC 130	Machine Trans. I.....	3
	Economics Elective: ²	
	EC 109 Applied Econ.	
	EC 211 Prin. of Econ.	3
BU 297	Cooperative Work Experience or Business Elective.....	3
AC 112	Accounting	5
		17

¹Students who have had previous instruction and/or experience in typing and shorthand will be given proficiency examinations to determine proper placement.

²Consult faculty advisor or counselor for recommended electives.

TOTAL CREDIT HOURS: 100

MARKETING MANAGEMENT¹ (A, N, R)

TWO-YEAR PROGRAM

First Quarter

	Cr. Hrs.
AC 111 Accounting	5
MG 105 Introduction to Business	3
EG 131 Business Communications	3
M 110 Math for Business	3
	14

Second Quarter

AC 112 Accounting	5
DP 111 Prin. of Business DP	3
EG 132 Business Communications	3
MG 115 Principles of Advertising	3
MG 110 Salesmanship	3
	17

Third Quarter

AC 113 Accounting	5
MG 201 Business Organization & Mgt.	3
MG 217 Sales Management	3
EG 133 Business Communications	3
M 150 Math of Finance	3
	17

Fourth Quarter

MG 203 Prin. of Marketing I	3
MG 210 Business Law I	3
MG 240 Business Finance	3
EC 211 Prin. of Economics	3
M 120 Business Statistics	3
	15

Fifth Quarter

MG 204 Prin. of Marketing II	3
MG 221 Personnel Management	3
MG 215 Prin. of Retailing	5
MG 211 Business Law II	3
BU 297 Coop. Work Experience ³	3
	17

Sixth Quarter

MG 216 Principles of Buying	3
MG 250 Business Policies	3
BU 297 Coop. Work Experience ³	3
Electives ²	6
	15

¹Students intending to transfer to a 4-year institution read page 58. "Division of Business and management Programs for the Transfer Student."

²Consult faculty advisor for recommended electives.

³BU 299 (Independent Study) or Elective may be chosen in event appropriate work station is not available.

EMPLOYMENT OPPORTUNITIES: Sales, -supervision and managerial trainee opportunities in a variety of retail, wholesale and marketing businesses.

TOTAL CREDIT HOURS: 95

MEDICAL SECRETARIAL (A, N)

TWO-YEAR PROGRAM

First Quarter

	Cr. Hrs.
MG 105 Introduction to Business	3
SC 110 Typing I ¹	4
M 110 Math for Business	3
EG 131 Business Communications	3
B 100 Basic Human Biology	4
	17

Second Quarter

SC 125 Gregg Shorthand Principles ¹	4
SC 111 Typing II	4
SC 103 Business Machines	3
EG 132 Business Communications	3
SC 105 Filing & Records Control	3
	17

Third Quarter

SC 126 Gregg Shorthand Principles	4
SC 112 Intermediate Typing	4
EG 133 Business Communications	3
Psychology Elective	3
DP 111 Principles of Business DP	3
	17

Fourth Quarter

SC 127 Shorthand Speed Building	4
AC 109 Bookkeeping & Accounting	5
SC 130 Machine Transcription I	3
SC 113 Production Typing	4
	16

Fifth Quarter

SC 128 Shorthand Transcription	4
SC 200 Office Procedures	5
SC 100 Duplicating Machines	2
SC 131 Machine Transcription II	3
HE 100 Medical Terminology	2
	16

Sixth Quarter

MG 222 Office Management	3
MF 210 Business Law I	3
MO 110 Intro to Health Insurance or Business Elective	3
BU 297 Cooperative Work Experience	3
Elective	3
	15-16

¹If a student has shorthand and typewriting background, it is recommended that he challenge the introductory courses and enroll in the courses at his proficiency level.

TOTAL CREDIT HOURS: 98-99

OFFICE ADMINISTRATION¹ (N, R)

TWO-YEAR PROGRAM

First Quarter

	Cr. Hrs.
MG 105 Introduction to Business	3
EG 131 Business Communications	3
Math Elective: ²	
M 110 Math for Business	
M 105 Introductory Algebra	
M 106 Intermediate Algebra	3-4
Typing (by placement) ³	
SC 110 Typing	
SC 111 Typing	
SC 112 Typing	4
PY 100 Human Relations in Business	3
	16-17

Second Quarter

AC 111 Accounting	5
EG 132 Business Communications	3



	Cr. Hrs.
Fifth Quarter	
MG 222 Office Management	3
MG 221 Personnel Management	3
MG 120 Small Business Management.....	3
Social Science Elective ²	3
BU 297 Coop. Work Experience or Elective ¹	3
	15

Sixth Quarter	
MG 250 Business Policies	3
MG 210 Business Law I.....	3
Electives ²	6
BU 297 Coop. Work Experience or	
BU 299 Independent Study ⁴	3
	15

¹Students intending to transfer to a 4-year institution read page 58. "Division of Business and Management Programs for the Transfer Student."

²Consult faculty advisor for recommended electives.

³Students who have had previous instruction and/or experience in typing will be given a proficiency examination to determine proper placement.

⁴VU 299 or elective may be chosen only in event appropriate work station is not available.

EMPLOYMENT OPPORTUNITIES: Supervisory and administrative or managerial trainee opportunities in a variety of business and industries.

TOTAL CREDIT HOURS: 97-101

PUBLIC ADMINISTRATION (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.
First Quarter	
AC 111 Accounting	5
EG 131 Bus. Comm.	3
M 110 Math for Bus. & Ind.	3
MG 105 Intro. to Bus.	3
PS 111 Intro. to Pol. Sci.	3
	17

Second Quarter	
AC 112 Accounting	5
EG 132 Bus. Comm.	3
Math Elective	4-5
M 105 Intro. Algebra	
M 106 Inter. Algebra	
M 111 College Algebra	
PS 113 American National Govt.	3
EC 109 or 211.....	3
	18-19

Third Quarter	
AC 113 Accounting	5
EG 133 Bus. Comm.	
or	
S 110 Intro. to Speech.....	3
M 120 Stat. for Bus. & Ind.	3
MG 201 Bus. Org. & Mgt.	3
PS 114 American State & Local Govt.	3
	17

	Cr. Hrs.
Math Elective:²	
M 150 Math of Finance	
M 105 Introductory Algebra	
M 106 Intermediate Algebra	
M 111 College Algebra (5 cr. hrs.).....	3-5
SC 200 Office Procedures or	
SC 112 Typing	4-5
SC 103 Business Machines	3
	18-21

Third Quarter	
AC 112 Accounting	5
EG 133 Business Communications	3
DP 111 Principles of Business DP.....	3
MG 201 Business Org. & Management or	
IM 101 Elements of Supervision.....	3
SC 105 Filing & Records Control.....	3
	17

Fourth Quarter	
AC 113 Accounting	5
DP 112 Advanced Prin. of Bus. DP.....	5
PY 107 Psychology of Pers. Dev.	3
Economics Elective:²	
EC 109 Applied Economics or	
EC 211 Principles of Economics.....	3
	16

SECOND YEAR

Fourth Quarter		Cr. Hrs.
AC 220	Prin. of Govt. Acctg. & Budget.....	3
MG 210	Bus. Law I.....	3
MG 221	Personnel Mgt.	3
PR 209	Public Relations	3
Elective	.....	3
		15

Fifth Quarter		Cr. Hrs.
GE 230	Urban Geography	3
MG 211	Bus. Law II.....	3
MG 239	Wage and Salary Adm.	3
PY 100	Hum. Rel. in Bus. & Ind.	3
SO 107	Sociology of Per. Dev.	3
		15

Sixth Quarter		Cr. Hrs.
EC 108	Labor Relations	3
MG 240	Bus. Fin.	3
BU 297	Coop. Work Exp. or	
Electives ¹	.....	6
Social Science Elective	.....	3
		15

¹Electives will be chosen when an appropriate work station or internship cannot be provided.

General College Requirements: A minimum of credits in related areas. This is a two-year program which will cross several disciplines.

EMPLOYMENT OPPORTUNITIES: This program is designed to equip the graduate with the "tools" which are necessary to function at various levels of government. Included in these tools are those which will prepare the student for administrative positions as well as the technician level.

TOTAL CREDIT HOURS: 97-98

**REAL ESTATE (R)
TWO-YEAR PROGRAM
FIRST YEAR**

First Quarter		Cr. Hrs.
MG 105	Intro. to Bus.	3
English Elective ¹		
EG 131	Bus. Comm.	
EG 111	Eng. Comp.	3
AC 111	Accounting	5
RE 101	Real Estate Prin. & Practices.....	3
PY 100	Hum. Rel. in Bus. & Ind.	3
		17

Second Quarter		Cr. Hrs.
M 110	Math for Bus.	3
EG 132	Bus. Comm.	3
AC 112	Accounting	5
Elective	.....	3
PY 111	Gen. Psychology	3
		17

Third Quarter		Cr. Hrs.
SC 110	Typing I	4
SC 103	Bus. Machines	3
EG 133	Bus. Comm.	
or		
S 110	Intro to Speech.....	3
RE 103	Real Estate Fin.	3
RE 104	Real Estate Law	3
		16

SECOND YEAR

Fourth Quarter		Cr. Hrs.
RE 201	Prin. of Ins.	3
MG 110	Salesmanship	3
RE 202	Real Estate Appraisal	3
RE 203	Real Estate Trends	3
Elective ²	.....	2
		15

Fifth Quarter		Cr. Hrs.
MG 201	Bus. Org. & Mgt.	
EC 109	Applied Economics	3
M 120	Stat. for Bus. & Ind.	3
Social Science Elective ²	.....	3
BU 299	Independent Study ³	3
		15

Sixth Quarter		Cr. Hrs.
RE 204	Land Resources	3
PS 114	American State & Local Government.....	3
SW 106	Special Social Problems.....	3
Elective ²	.....	3
BU 299	Independent Study ³	3
		15

¹Students may elect to take EG 111, English Composition. However, all students in the program must take EG-132.

²These electives should be chosen from course offerings dealing with demographic elements of mobility, population, and income distribution.

³With the counsel of both the instructor and persons in the real estate field, this course should be utilized to study for real estate exams.

TOTAL CREDIT HOURS: 95

SECRETARIAL SCIENCE (A, N, R)

TWO-YEAR PROGRAM

First Quarter		Cr. Hrs.
MG 105	Introduction to Business.....	3
SC 110	Typing I (or by placement) ¹	4
EG 131	Business Communications	3
M 110	Business Mathematics	3
Social Science Elective	.....	3
		16

Second Quarter		Cr. Hrs.
SC 125	Gregg Shorthand Principles ²	4
SC 111	Typing II	4
EG 132	Business Communications	3
SC 103	Business Machines	3
SC 105	Filing & Records Control.....	3
		17

Third Quarter		Cr. Hrs.
SC 126	Gregg Shorthand Principles.....	4
SC 112	Intermediate Typing	4
EG 133	Business Communications	3
Psychology Elective	.....	3
DP 111	Principles of Bus. Data Proc.	3
		17

¹If a student has typewriting background, it is recommended that he challenge the introductory course in typewriting and enroll in the appropriate course during the second or third quarter.

²If a student has sufficient shorthand background, it is recommended that he challenge the introductory course and delay enrollment into the sequence.

Fourth Quarter		Cr. Hrs.
SC 127	Shorthand Speed Building	4
AC 109	Bookkeeping & Accounting, or	
AC 111	Accounting	5
SC 130	Machine Transcription I	3
SC 113	Production Typing	4
Economics Elective		3
		19

Fifth Quarter		
SC 128	Shorthand Transcription	4
AC 111	Accounting or	
AC 112	Accounting	5
SC 200	Office Procedures	5
SC 100	Duplicating Machines	2
SC 131	Machine Transcriptions II	3
		19

Sixth Quarter		
MG 222	Office Management	3
MG 210	Business Law I	3
Business Elective		3
BU 297	Cooperative Work Experience	3
Elective		3
		15

TOTAL CREDIT HOURS: 103

STENOGRAPHIC (A, N, R) TWELVE MONTH PROGRAM²

First Quarter		Cr. Hrs.
MG 105	Introduction to Business	3
EG 131	Business Communications	3
Shorthand ¹		4
SC 125	Gregg, or	
SC 120	Alpha	
Typewriting ¹	SC 110 Typing I	4
M 110	Math for Business	3
		17

Second Quarter		
EG 132	Business Communications	3
Shorthand ¹		4
SC 126	Gregg, or	
SC 121	Alpha	
Typewriting ¹	SC 111 Typing II	4
SC 105	Filing & Records Control	3
SC 103	Business Machines	3
		17

Third Quarter		
SC 112	Intermediate Typewriting	4
SC 127	Shorthand Speed Building	4
AC 109	Bookkeeping & Accounting	5
DP 111	Prin. of Business DP	3
Psychology Elective		3
		19

Fourth Quarter		
SC 113	Production Typing	4
SC 128	Shorthand Transcription	4
SC 130	Machine Transcription I	3
SC 200	Office Procedures	5
BU 297	Cooperative Work Exp.	3
		19

¹If a student has shorthand and typing background, it is recommended that he challenge the introductory courses and enroll in the courses at his proficiency level.

²Can be completed in less than 12 months if student has previous training in shorthand and typewriting.

WORD-PROCESSING TYPIST (N, R)

First Quarter		Cr. Hrs.
SC 111	Typing II	4
EG 131	Business Communications	3
SC 105	Filing & Records Control	3
AC 109	Bookkeeping & Accounting	5
		15

Second Quarter		
SC 112	Intermediate Typing	4
EG 131	Business Communications	3
SC 130	Machine Transcription I	3
DP 111	Prin. of Business DP	3
Business Elective		3
		16

Third Quarter		
SC 113	Production Typing	4
SC 200	Office Procedures	5
SC 131	Machine Transcription II	3
EG 133	Business Communications	3
		15

This program may be completed in 9 months only if student enters with a typing skill of at least 25 wpm.

TRANSPORTATION AND TRAFFIC MANAGEMENT (A)

TWO-YEAR PROGRAM

First Quarter		Cr. Hrs.
TT 101	Commercial Transportation I	4
TT 130	Mgt. Tools & Concepts I	4
English Elective ¹		3
EG 131	Business Communications	
EG 111	English Composition	
EG 106	Occupational Communication	
Math Elective ¹		3-4
M 110	Math for Business	
M 105	Introductory Algebra	
M 106	Intermediate Algebra	
MG 105	Introduction to Business	3
		17-18

Second Quarter		
TT 102	Commercial Transportation II	4
TT 131	Mgt. Tools & Concepts II	4
English Elective ¹		3
EG 132	Business Communications	
EG 112	English Composition	
EG 107	Occupational Communication	
Math Elective ¹		3-5
M 102	Applied Math I	
M 105	Introductory Algebra	
M 106	Intermediate Algebra	
M 111	College Algebra	
EC 108	Labor Relations	3
		17-19

Third Quarter		
TT 103	Commercial Transportation III	4
TT 132	Mgt. Tools & Concepts III	4
English Elective ¹		3
EG 133	Business Communications	
EG 113	English Composition	
Economics Elective ¹		3
Elective ¹		3

Fourth Quarter		Cr. Hrs.
TT 120	International Trade I.....	4
TT 110	Transportation Reg. I.....	4
TT 141	Econ. of Trans. I.....	2
TT 105	Traf. Mgt. & Phy. Dist. I.....	2
MG 201	Bus. Org. & Mgt.....	3
Elective ¹	.....	2-3
		17-18

Fifth Quarter		
TT 121	International Trade II.....	4
TT 111	Trans. Reg. II.....	4
TT 142	Econ. of Trans. II.....	2
TT 105	Traf. Mgt. & Phy. Dist. II.....	2
MG 203	Prin. of Marketing I.....	3
Elective ¹	.....	2-3
		17-18

Sixth Quarter		
TT 122	International Trade III.....	4
TT 143	Econ. of Trans. III.....	2
TT 112	Trans. Reg. III.....	4
TT 106	Traf. Mgt. & Phy. Dist. II.....	2
MG 210	Business Law I.....	3
Elective ¹	.....	2-3
		17-18

¹Consult faculty advisor for recommended electives.

TOTAL CREDIT HOURS: 103-109

COURSE DESCRIPTIONS

Where a course description does not indicate the campus by the key A, N, R, we would suggest you call the campus of your choice for information.

ACCOUNTING

AC 109 Bookkeeping & Accounting (A, N, R).....5 credit hours

This study of the basic elements of accounting for the secretarial student includes the handling of cash receipts and disbursements, accounts receivable and accounts payable and the five basic journals. Study of the accounting cycle and the preparation of financial statements is provided. Practice set is required. (5 hours per week plus programmed laboratory as needed)

AC 110 Payroll & Machine Accounting (R).....5 credit hours

Prerequisite: AC 109 Bookkeeping & Accounting or AC 111 Accounting or consent of the instructor

An in-depth study of various payroll systems including the study of related law and practices. Includes practice in preparation of payrolls and computation of deduction. Emphasis is placed on actual preparation of payroll projects by hand, pegboard system and the accounting machine. (5 hours per week plus programmed laboratory as needed)

AC 111 Accounting (A, N, R).....5 credit hours

Prerequisite, Corequisite or equivalent:
MG 105 Introduction to Business; M 110 Mathematics for Business

An introductory study of accounting principles to acquaint the student with the theory and logic that underlie accounting procedures. Course content includes basic accounting structure, the accounting cycle, processing sales and cash receipts, processing purchases and cash payments, summarizing and reporting, receivables and payables, and merchandise inventory. (5 hours per week plus programmed laboratory as needed)

AC 112 Accounting (A, N, R).....5 credit hours

Prerequisite: AC 111 Accounting

A continuation of accounting principles as they pertain to deferrals and accruals, plant assets and intangible assets, systems and controls, payroll systems, systems design and automated data processing, concepts and principles, partnerships, and corporation—organization and operations. (5 hours per week plus programmed laboratory as needed)

AC 113 Accounting (A, N, R).....5 credit hours

Prerequisite: AC 112 Accounting

A study of accounting principles, theory and logic relating to corporations. Special emphasis is given to stockholders' equity, earnings and dividends, long-term obligations and investments, departments and branches, management reports and special analysis, fund, fund statement and cash flow, consolidated statements and other statements, and financial statement analysis. (5 hours per week plus programmed laboratory as needed)

AC 211 Intermediate Accounting (A, N, R).....5 credit hours

Prerequisite: AC 113 Accounting and DP 111 Principles of Business Data Processing

In-depth study of the fundamental accounting process with emphasis on the financial statement (income statement, retained earning statement and balance sheet), working capital (cash and liabilities), receivable forecast, inventories and current liabilities as related to a corporate form of business organization. (5 hours per week plus programmed laboratory as needed)

AC 212 Intermediate Accounting (A, N, R).....5 credit hours

Prerequisite: AC 211 Intermediate Accounting

In-depth study of the fundamental accounting process with emphasis on non-current assets, liabilities and owners equity as related to a corporate form of business organization. Includes in-depth study of financial statement analysis, ratios and measurement, and fund flow. (5 hours per week plus programmed laboratory as needed)

AC 213 Accounting (Cost Accounting) (A, N, R).....5 credit hours

Prerequisite or Corequisite: AC 113 Accounting or equivalent

A study of the fundamental elements of production costs and their distribution. Concepts and procedures applicable to job order, process and standard cost systems are presented. Orientation on the use and interpretation of cost data by management. (5 hours per week plus programmed laboratory as needed)

BUSINESS

AC 214 Cost Accounting II (R) 5 credit hours

(Red Rocks Campus only)

Prerequisite: AC 213 Accounting or equivalent

A study of Standard, Joint and Marginal Costing, covering cost variances, by-products, scrap, and spoiled defective goods. Emphasis is on budgeting, analysis of cost data and managerial decision making tools including the break-even point and gross point analysis. (5 hours per week plus programmed laboratory as needed)

AC 215 Introduction to Accounting Systems 5 credit hours

Prerequisite: AC 113 Accounting and DP 112

Advanced Principles of Business Data Processing

A study of the integration of computers and accounting, the installation and control of accounting systems in various business applications, and an analysis of tools available for implementation of an accounting system study. Analysis of case problems and applications are an essential part of the course. (5 hours per week plus programmed laboratory as needed)

AC 217 Individual Income Tax Accounting 5 credit hours

Prerequisite: AC 113 Accounting or equivalent

Practice in the application of the Internal Revenue Code and Colorado Income Tax Law to determine individual income tax. Coverage is restricted to individual income taxation and includes the basic concepts of returns, exemptions, exclusions and inclusions of gross income, itemized and standard deductions, payment of tax liability, recognition of gains and losses. Selected practical problems will be solved through student research of the Code provided by the Commerce Clearing House tax service. (5 hours per week plus programmed laboratory as needed)

AC 218 Individual Income Tax Accounting II 5 credit hours

Prerequisite: AC 217 Individual Income Tax Accounting or equivalent

An introduction to basic concepts of state returns and partnerships, corporation and fiduciary returns will be included. A continuation of the basic concepts of individual income tax preparation. Coverage will include installment and deferred payment sales, dividends, inventories, deductions for expense, depreciation and investment credits, depletion, deduction for bad debts, income averaging. Emphasis will be placed on selected practical problems through student research of the Code provided by the Commerce Clearing House tax service. (5 hours per week plus programmed laboratory as needed)

AC 220 Principles of Governmental Accounting and Budget 5 credit hours

Prerequisite: AC 113 Accounting

Orientation in the concept of fund and budgetary controls as a matter of law and public administration at the County, City, State and Federal Level. Includes forecast of requirements and anticipated revenue, the anticipated expenditures and the actual revenue and expenditures. Accounting principles and procedures to implement budget forecasts, and actual enactment of the budget. (5 hours per week plus programmed laboratory as needed)

BU 110 Business Mathematics 3 credit hours

Prerequisite: M 100 or equivalent

Development of abilities in reading, analyzing, and solving problems related to business situations and basic to study in the areas of management, accounting, data processing, and secretarial science. Course emphasizes quantitative skills as applied in actual business practice. Operation of calculating machines will be introduced so that they may be used to solve problems. (5 hours per week)

BU 131 Business Language 3 credit hours

Presents essential principles involved in preparation of business correspondence, including purpose, style, structure and use of correct, forceful business language. Intensive practice is provided in the mechanics of language and the vocabulary used by management and office personnel. (3 hours per week)

BU 132 Business Correspondence 3 credit hours

Prerequisite: BU 131 or equivalent

Stresses the development of written business correspondence that requires problem solving and an understanding of human relations in a business situation. Students will compose and evaluate the various kinds of written correspondence that are commonly used by businessmen. Inter-office bulletins, news releases, and other forms of business composition will receive attention. The legal and ethical responsibilities involved in written communication will be discussed. (3 hours per week)

BU 133 Oral and Written Business Reporting 3 credit hours

Prerequisite: BU 132 or equivalent

Develops ability in preparing written business reports for staff meetings and conferences. In addition, emphasis is placed upon techniques of oral presentation, correct telephone usage, business dictation procedures, and effective listening. (3 hours per week)

BU 297 Cooperative Work Experience 1 to 6 credit hours

In some program areas, cooperative work experience is a part of the course study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing general co-ordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

BU 299 Independent Study 1 to 3 credit hours

Provides an opportunity for the mid-management or transfer student to engage in intensive study and research on a specific topic under the direction of a qualified faculty member. Conditions for electing this course will be evaluated by the Director of the Division of Business and Management Occupations, who will assist in selecting an advisor and determining the amount of credit to be granted for successful completion of the work.

DATA PROCESSING

DP 102 Key Punch Laboratory (F, W, S, SS) (N) 8 credit hours

Prerequisite: Typing speed of 45 wpm with 5 error maximum

A practice course in the operation of the card punch machine and verifier. If the student reaches employable levels prior to the completion of the quarter, he may be given other tape equipment instruction as conditions permit. Because of conflicting keyboard arrangements, it is recommended that students avoid scheduling SC 103, Business Machines, concurrently with Key Punch Laboratory. (15 hours per week, plus lab as directed by instructor)

DP 111 Principles of Business Data Processing (F, W, S, SS) (A, N, R) 3 credit hours

An introduction to basic method, techniques, and systems of manual, mechanical, unit record, and electronic data processing. Objective of this course is to give the student a general understanding of the field of data processing. (3 hours per week)

DP 112 Advanced Principles of Business Data Processing (F, W, S, SS) (N) 5 credit hours

Prerequisite: DP 111

A basic course in computer programming which includes the use of simple flow charts, decision tables, and logic techniques to acquaint the student with the logical necessities of programming. The student is exposed to machine language, assembly language, and the general principles of a computer operating system. (5 hours per week)

DP 114 Report Program Generator (F, S) 5 credit hours

Prerequisite: DP 112

Coding and execution of simple business programs using RPG. (5 hours per week)

DP 115 Basic (W, SS) 3 credit hours

Prerequisite: DP 112

Coding and execution of simple business program using BASIC. (3 hours per week)

DP 121 Applied Computer Mathematics (F, W, S) (N) 5 credit hours

Application of data processing techniques to simple business mathematics problems. (5 hours per week)

DP 122 Applied Computer Mathematics II (F, W, S) (N) 5 credit hours

Prerequisite: DP 121

Continuation of DP 121 using more advanced applications. (5 hours per week)

DP 125 Data Processing Records Control (F, W, S, SS) (6) 3 credit hours

Prerequisite: DP 111

A basic course designed to give the student an understanding of the scheduling, documentation, recording, and security procedures needed for efficient control of data and data files. (3 hours per week)

DP 130 Computer Operations I (W, S) (N) 5 credit hours

Prerequisite: DP 111

An introduction to the basic techniques of computer operations including the handling and maintenance of input/output devices and console operations for a batched job environment. (Meets 10 hours per week)

DP 131 Computer Operations II (S, SS) (N) 5 credit hours

Prerequisite: DP 130

Continuation of DP 130. On introduction to computer operation in a multiprogramming environment. (Meets 10 hours per week)

DP 213 Assembled Language I (F, S) (N) 5 credit hours

Prerequisite: DP 112

Coding and execution of simple business programs using assembler language. (5 hours per week)

DP 214 Assembler Language II (W, SS) (N) 5 credit hours

Prerequisite: DP 213

Continuation of DP 213 using more advanced applications. (5 hours per week)

DP 216 Cobol I (F, S) (N) 5 credit hours

Prerequisite: DP 112

Coding and execution of simple business programs using COBOL. (5 hours per week)

DP 217 Cobol II (W, SS) (N) 5 credit hours

Prerequisite: DP 216

Continuation of DP 216 using more advanced applications. (5 hours per week)

DP 221 Fortran IV, I (F) (N) 5 credit hours

Prerequisite: DP 112

Coding and execution of simple business programs using Fortran IV. (5 hours per week)

DP 222 Fortran IV, II (W) (N) 5 credit hours

Prerequisite: DP 221

Continuation of DP 221 using more advanced applications. (5 hours per week)

DP 224 PL/I (F) (N) 5 credit hours

Prerequisite: DP 112

Coding and execution of simple business programs using PL/I. (5 hours per week)

DP 225 PL/I II (W) (N) 5 credit hours

Prerequisite: DP 224

Continuation of DP 224 using more advanced applications. (5 hours per week)

DP 231 Systems Analysis I (W) (N) 3 credit hours

Prerequisite: Completion of a two quarter programming language sequence.

Courses DP 231 and DP 232 constitute a two quarter sequence in which the student will be given a problem to analyze, define, and solve by data processing techniques using a programming language. (3 hours per week)

DP 232 Systems Analysis II (S) (N) 3 credit hours

Prerequisite: DP 231; Continuation of DP 231

(3 hours per week)

INDUSTRIAL MANAGEMENT

(Red Rocks only)

IM 101 Elements of Supervision (R) 3 credit hours

This course will provide instruction in the basic elements of planning, organizing, directing, and controlling. An exposure to the current theories of motivation will also be included. (3 hours per week)

IM 103 Industrial Safety (R) 3 credit hours

A survey of Workmen's Compensation regulations and the first-line supervisor's responsibility in this area. The course will stress the importance of on-the-job safety training. (3 hours per week)

IM 104 Work Simplification and Cost Control (R) 3 credit hours

A course covering the accepted methods of work measurement and their relationship to the control of costs. Topics will include incentive programs, motion study, etc. (3 hours per week)

IM 201 Employee Development (R) 3 credit hours

A course designed to acquaint the student with the various on-the-job methods of training. The course will cover vestibule, coaching, counseling, and the use of evaluation in training. (3 hours per week)

IM 202 Theory and Application of Behavioral Sciences (R) 3 credit hours

A study of the supervising aspect of management. The course will consider, in depth, the ideas of persons such as Maslow, Argyris, McGregor, etc. Also, an exposure to "sensitivity" training will be included. (3 hours per week)

IM 203 Management by Objectives (R) 3 credit hours

A course designed to make a student aware of a method of management which will enable him to make decisions based on an immediate goal. It is to include case studies in its approach to this subject. (3 hours per week)

INSURANCE

(Auraria only)

IN 110 Introduction to Insurance (A) . . . 3 credit hours

This course deals with the basic principles of insurance and risk. Various kinds of insurance are discussed; the primary objective of the course is an orientation to the many kinds of insurance and their purposes. (3 hours per week)

IN 121 Principles of Life and Health Insurance (A) 3 credit hours

Nature and functions of life insurance, annuities, and health insurance with particular attention to types of policies and their provisions, programming, rate making, reserves, taxation, regulation, and company organization and management. (3 hours per week)

IN 123 Principles of Property and Liability Insurance (A) 3 credit hours

The more important property and casualty insurance policies, and, from the insurer's viewpoint, problems of rate making, underwriting, loss, adjustment, reinsurance,

financial statements and reserves, loss prevention, and insurance surveys. Variations among various property and casualty lines, including fire, marine, automobile, workmen's compensation, liability, and bonding. (3 hours per week)

IN 131 Business Insurance (A) 3 credit hours

Various kinds of insurance for the business firm are studied. The special needs of the individual proprietor, partnerships, and cooperations receive attention. Special disability insurance, life insurance on key men, and split dollar plans are discussed. (3 hours per week)

IN 133 Life and Property Insurance Law (A) 3 credit hours

This course applies basic principles of business law to the life and property insurance field. Special attention is given to the law of contract and agency, law of liability, the life insurance contract, policy provisions, settlement options and beneficiary designations. (3 hours per week)

IN 203 Principles of Risk Management (A) 3 credit hours

This course defines the major categories of risk and how insurance handles each. It also reviews the basic theories of risk management. (3 hours per week)

IN 205 Analysis of Insurance Functions (A) 3 credit hours

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. (3 hours per week)

IN 221 Insurance and Taxation (A) . . . 3 credit hours

The effect of income, estate, and gift taxation on an insurance program are discussed in this course. These taxes are considered for the individual and the business enterprise also. (3 hours per week)

IN 223 Principles of Insurance and Property Loss Adjusting (A) . . . 3 credit hours

Reviews basic concepts in loss adjusting as well as defining practical applications of loss adjusting. (3 hours per week)

IN 231 Estate Planning and Life Insurance (A) 3 credit hours

Topics studied include: disposition of property in estates and trusts, administration of estates, federal estate taxation, federal gift taxation, planning through trusts and will, and the place of life insurance in estate planning. (3 hours per week)

MANAGEMENT

MG 105 Introduction to Business (A, N, R) 3 credit hours

A survey of the structure and functions of the American business system. Provides an overview of business organization, finance, managerial, control, production, distribution, personnel, and the interdependence of business and government. (3 hours per week)

MG 110 Salesmanship (A, N, R) 3 credit hours

Covers the fundamentals of selling from the determination of customer needs to the close of the sale. Treats such factors as customer problems, merchandising knowledge, and personality traits of successful salesmen. (3 hours per week)

MG 115 Principles of Advertising (A, N, R) 3 credit hours

An introductory course handling the theory, practice and techniques in advertising. Considers the role of advertising and sales promotion in our economy, and includes a general survey of the kinds and purposes of different media, the psychological implications of typical appeals, and limited student practice in promotional programming. (3 hours per week)

MG 130 Credit Fundamentals (A) 3 credit hours

A comprehensive study of the background of credit, how it came into being, securing new business, controlling the account, and collecting the account. This first quarter concentrates on retail credit and treats the development and mechanics of installment credit. (3 hours per week)

MG 131 Credit Fundamentals (A) 3 credit hours
Prerequisite: MG 130

A continuation of MG 130, this quarter develops the background, function, and growth of wholesale and industrial credit, including a brief resume of the procedures used in securing, approving, and collecting such accounts. Also acquaints the student with the domestic and international media through which the American credit system operates. (3 hours per week)

MG 132 Credit Fundamentals (A) 3 credit hours
Prerequisite: MG 130

Covers the principles of mortgage lending as related to credit. Also includes a thorough explanation of foreclosure and bankruptcy and how these factors affect mortgage loan credit. Offers in detail the various methods of securing new business by savings and loan associations and mortgage bankers. (3 hours per week)

MG 201 Business Organization and Management (A, N, R) 3 credit hours
Prerequisite: MG 105 and BU 110

A study of policy construction and its relationship to effective management, sound personnel administration, and financial stability. Various areas previously studied are related to policy decision-making through the use of case studies. (3 hours per week)

MG 203 Principles of Marketing (A, N, R) 3 credit hours
Prerequisite: MG 105, BU 110

Marketing as an institution and as a managerial variable is studied in this course. Covers a survey of the distributive fields, their function, and interrelationship. (3 hours per week)

MG 204 Principles of Marketing (A, N, R) 3 credit hours
Prerequisite: MG 203

A continuation of MG 203. Covers pricing policies, promotional activities, marketing in special fields, and market analysis. Especially suited to students planning career objectives in the field of distribution. (3 hours per week)

MG 210 Business Law I (A, N, R) 3 credit hours
Prerequisite: MG 105

Introduction of ordinary legal aspects of business transactions involving such topics as legal rights and duties, law of contracts, negotiable instruments. Designed to give a general understanding and development of basic legal logic in business situations through the use of principles and cases and information useful in determining the need for professional counsel. (3 hours per week)

MG 211 Business Law II (A, N, R) 3 credit hours
Prerequisite: MG 210

Continuation of Business Law I. Course includes further study in law of sales, bailments, agency, real estate, insurance, business organization and social welfare legislation. Primarily designed for students planning careers in accounting, credit, management, and other fields related to business law. Extensive use of case material. (3 hours per week)

MG 215 Principles of Retailing (A, N, R) 5 credit hours
Prerequisite: MG 105 and BU 110

Designed to acquaint the student with the fundamentals of retail store organization and management, including store location, layout, buying, pricing operation, advertising, display, and analysis associated with handling of merchandise. (5 hours per week)

MG 216 Principles of Buying (A, N, R) 3 credit hours
Prerequisite: MG 105, MG 203, BU 110

Designed for the student who wishes to specialize in this area, the course covers both principles and practices in the buying field. Professional buyers from the Metropolitan area will be invited to teach various units and lead discussions of typical buying problems. (3 hours per week)

MG 217 Sales Management (A, N, R) . 3 credit hours
Prerequisite: MG 110 and Corequisite: MG 201

A study of sales management, the methods, techniques, and problems involved, and the relationship of sales management to the total business operation. (3 hours per week)

MG 220 Small Business Management (N) 3 credit hours
Prerequisites: MG 201 and MG 203

A study of small business and its importance in the American economy. Problems of small business operation will be analyzed through the use of case studies. A business stimulation game will be an integral part of this course. (3 hours per week)

MG 221 Personnel Management (A, N, R) 3 credit hours
Prerequisite: MG 105 and MG 201

A study of the principles and techniques of personnel management, including an examination of managerial practices in the selection, development, and motivation of employees. Considers 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. (3 hours per week)

MG 222 Office Management (A, N, R) . . . 3 credit hours

Prerequisite: MG 105

Emphasis is placed 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. Course presents methods of recognizing and solving office communication problems and awareness of successful human relations, changing technologies and philosophy of business and the technical terminology used in business. (3 hours per week)

MG 230 Credit Procedures (A) 3 credit hours

Prerequisite: MG 132

Concerns itself with the actual operation of a credit department. Includes a comprehensive evaluation of such things as credit approval and credit identification, authorization, accounts receivable procedure, collection fundamentals and methods, and rehabilitating the delinquent account. (3 hours per week)

MG 231 Credit Counseling and Account Handling (A) 3 credit hours

Prerequisite: MG 230

Techniques in interviewing and counseling credit applicants. (3 hours per week)

MG 232 Credit Reporting (A) 3 credit hours

Prerequisite: MG 230

Courses will provide up-to-date procedures of the credit reporting industry. Details involved in the securing and maintaining ????

MG 239 Wage and Salary Administration (R) 3 credit hours

Prerequisite: MG 221 or consent of instructor

Systematic administration of wages and salaries as a means of motivation and control in business and other enterprises. Job analysis, descriptions and specifications, job evaluation methods, wage structure, community wage and salary surveys, principles and administration of wage incentive plans and their effectiveness. (3 hours per week)

MG 240 Business Finance I (A, N, R) . . 3 credit hours

Prerequisite: MG 105, Econ. 109 or 211, AC 113

Reviews functions and roles of the various financial institutions as they interact with the individual consumer and the economic environment. Studies the impact of fiscal and monetary policy on the business environment. Designed as an introductory course in finance. (3 hours per week)

MG 241 Business Finance II (A, N, R) . . 3 credit hours

Prerequisite: MG 240

Examines the sources and uses of short term, intermediate term, and long term funds for a business. Principles and motives of corporate financial management are stressed. Designed primarily for second year students and community businessmen. (3 hours per week)

MG 250 Business Policies (A, N, R) . . . 3 credit hours

Prerequisites: MG 105 and MG 201 and 12 Hrs. Mgt. Courses

A study of policy construction and its relationship to effective management, sound personnel administration, and financial stability. Various areas previously studied

are related to policy decision-making through the use of case studies. (3 hours per week)

PR 209 Public Relations (R) 3 credit hours

Introduction to procedures and practice in writing institutional news, features and editorials for public information media. (3 hours per week)

REAL ESTATE

RE 101 Real Estate Principles and Practices (R) 3 credit hours

A fundamental real estate course covering the economic, legal, financial, marketing, managerial and operational aspects of real estate. The day by day operations and roles of the broker covering listings, prospecting, advertising, financing, etc. will be surveyed. (3 hours per week)

RE 103 Real Estate Finance (R) 3 credit hours

Analysis of real estate financing, including lending policies and problems in financial transactions in residential, commercial and special purpose properties. Methods of financing properties is emphasized. (3 hours per week)

RE 104 Real Estate Law (R) 3 credit hours

Law of real property, transfers, deed, leases, escrows, etc. Law as it affects brokers and salesmen. This course is oriented toward the law as it applies in Colorado (3 hours per week)

RE 201 Principles of Insurance (R) . . . 3 credit hours

Basic course in insurance, risk and risk bearing, and insurance regulation as it applies to the real estate field. (3 hours per week)

RE 202 Real Estate Appraisal (R) 3 credit hours

An introductory course covering the purposes of appraisals, the appraisal process and the different approaches, methods and techniques used to determine the value of various types of property. (3 hours per week)

RE 203 Real Estate Trends (R) 3 credit hours

An attempt will be made to recognize current attitudes, trends in uses for real estate and change in utilization. (3 hours per week)

RE 204 Land Resources (R) 3 credit hours

Physical, economic and institutional factors that affect, condition and control man's use of these resources. (3 hours per week)

SECRETARIAL

SC 100 Duplicating Machines (A, N, R) 2 credit hours

Prerequisite: SC 112 Typing or equivalent

Provides instruction and practice in the operation of spirit duplicators, mimeograph machines, and thermal and photocopier machines. Also includes the preparation of stencils, master, and various media associated with these machines. (2 hours per week plus lab as needed)

SC 103 Business Machines (A, N, R) . . . 3 credit hours

Prerequisite or Corequisite: M 100

Developmental Math

Fundamental instruction in the basic mathematical process — addition, subtraction, multiplication, division — on full-key, and printing calculators. Following basic familiarization on a variety of makes and models, the student will return to the 10-key machines to develop employable proficiency at high levels of speed and accuracy. (Also, the student will be introduced to specialized machine processes such as employing constants, using machine memory devices, figuring lapsed time, chain discounts, mark-ups and mark-downs, percentages of increase and decrease etc. (5 hours per week plus a minimum of 2 practice hours)

SC 105 Filing and Records

Control (A, N, R) 3 credit hours

This course acquaints the student with the rules, procedures, and techniques of filing that are vital to every business worker. The course also covers the principles of records management and control. (3 hours per week)

SC 110 Typing I (A, N, R) 4 credit hours

A beginning course for those who have had no previous instruction in typing. Introduces the keyboard and machine parts, and develops correct techniques for attaining acceptable levels of speed and accuracy. While primary emphasis is placed on straight-copy skills, the course covers a range of basic typing applications: letters, manuscripts, tabulation problems, and common business forms. This course is designed to meet the needs of students with vocational as well as non-business objectives. (5 hours per week, plus lab as needed)

SC 111 Typing II (A, N, R) 4 credit hours

Prerequisite: SC 110 or equivalent

Typing speed of 25 words per minute

This course is a continuation of SC 110. The course is also designed for those who have taken some limited typing instruction but need to have their basic skills restored before they can pursue intermediate typing (SC 112). The student is encouraged to develop speed and accuracy skills to a higher degree before entering the next phase of the typing sequence. (5 hours per week plus lab as needed)

SC 112 Intermediate Typing (A, N, R) . . 4 credit hours

Typing speed of 35 words per minute

Reinforces skills acquired in typing, identifies and handles individual typing deficiencies and covers a comprehensive program of vocational typing applications. Emphasis is placed upon production typing as it relates to office situations. (5 hours per week plus lab as directed)

SC 113 Production Typing (A, N, R) 4 credit hours

Prerequisite: SC 112 or equivalent

Typing speed of 45 words per minute

Emphasizes attainment of high professional levels in speed and accuracy, especially in the rate of production output in those activities frequently performed by a secretary or full-time typist. The course concentrates on building production skills and preparation for office employment using proper business forms. Emphasis is placed upon problem typing in the following areas: general, technical, accounting, professional, govern-

ment, and executive. This is the terminal course in the typing sequence. (5 hours per week plus lab as directed)

SC 120 Alphabetical Shorthand

Principles I (A, N) 4 credit hours

Prerequisite: SC 110 or equivalent

This is an accelerated introductory shorthand course for those students preferring an alphabetic rather than a symbol system. The course covers the theory of ABC Stenographic Shorthand, a totally alphabetical system. Both reading and writing techniques are stressed, and the student is introduced to short dictation exercises at minimum speeds. (10 hours per week plus lab as directed)

SC 120A Alphabetic Shorthand

Principles I (R) 2 credit hours

This is an introductory course for those students preferring an alphabetic rather than a symbol system. The course covers the theory of ABC Stenographic Shorthand, a totally alphabetic system. Both reading and writing techniques are stressed, and typewritten transcription is introduced. (5 hours per week, plus lab as directed)

SC 120B Alphabetic Shorthand

Principles I (R) 2 credit hours

This course is a continuation of SC 120A. The course is also designed for those students indicating a need for basic review and reinforcement of ABC Stenographic Shorthand theory before continuing with advanced dictation and transcription. Familiar material is dictated for speed ranges of 50-70 words per minute. Tran-



scription at the typewriter is further developed, and dictation of unfamiliar material is introduced. (5 hours per week, plus lab practice as needed)

SC 121 Alphabetic Shorthand Principles II (A, N, R) 4 credit hours

Prerequisite: SC 120 or proficiency examination

This course develops speed in taking dictation from 70-90 words per minute. Typewritten transcription is further developed. The basic rules of sentence structure, punctuation, capitalization, etc. are reviewed in preparation for job entrance tests and Civil Service Examination. Spelling improvement is integrated with the course content. It is suggested that students plan to follow this course with SC 127 Shorthand Speed-building. (5 hours per week plus lab practice as directed)

SC 123 Spanish Gregg Shorthand Principles (N) 4 credit hours

See course description for SC 125. This course will introduce the theory of Gregg Shorthand in Spanish. Designed for International Secretarial Program. (5 hours per week)

SC 124 Spanish Shorthand Transcription (N) 4 credit hours

See course description for SC 128. Continuation of SC 123. Designed for International Secretarial students. (5 hours per week)

SC 125 Gregg Shorthand Principles (A, N) 4 credit hours

Prerequisite: SC 110 or equivalent

Introduces the theory of Gregg Shorthand, Diamond Jubilee Series, and develops reading speeds from book plates and handwritten notes. Shorthand writing of familiar matter demonstrating all Gregg Principles is developed to average speeds of 60 words a minute. This course is intended for students who have had no previous Gregg Shorthand instruction, or for those whose proficiency examination indicate a need for basic review and reinforcement. (10 hours per week, plus practice as directed)

SC 125A Gregg Shorthand Principles I (R) 2 credit hours

Prerequisite or co-requisite: SC 110 or equivalent

Introduces the theory of Gregg Shorthand, Diamond Jubilee Series, and is intended for students who have had no previous Gregg Shorthand instruction. Reading from book plates and handwritten notes, writing techniques and typewriter transcription is developed at maximum speeds on familiar material. (5 hours per week, plus lab practice as needed)

SC 125B Gregg Shorthand Principles II (R) 2 credit hours

Prerequisite: SC 125A

This course is a continuation of SC 125A. The course is also designed for those who indicate a need for basic review and reinforcement of Gregg Shorthand theory before continuing with advanced dictation and transcription. Familiar material is dictated at speed ranges of 50-70 words a minute. Transcription at the typewriter is further developed. Dictation of unfamiliar matter at 50-70 words a minute is introduced in this class. (5 hours per week, plus lab practice as needed)

SC 126 Gregg Shorthand Principles (A, N, R) 4 credit hours

Prerequisite: SC 125 or proficiency examination

Reinforces basic theory principles and develops the ability to take dictation of both familiar and unfamiliar matter. Transcription at the typewriter is further developed and special attention is placed on building an extensive shorthand vocabulary. Speed emphasis in this course ranges from 70-90 words a minute. (5 hours per week, plus lab as directed)

SC 127 Shorthand Speed Building (A, N, R) 4 credit hours

Prerequisite: SC 126 or SC 121 or Proficiency Examination

Intensive dictation practice permits the student to reach optimum speeds ranging from 90 to 110 words a minute. A comprehensive review is provided in punctuation, spelling, letter styles, and vocabulary improvement. A great emphasis on the typewritten transcript is also stressed in the course. (5 hours per week plus lab as directed)

SC 128 Shorthand Transcription (A, N, R) 4 credit hours

Prerequisite: SC 127 or SC 121

Optimum speed and accuracy in dictation and transcription are fully realized in this course, with emphasis on the production of mailable letters. Total business proficiency is expected, and attention is directed to the ability to take dictation for longer periods and to transcribe job assignments at employable production rates. Speed ranges extend from 90 to 120 words a minute. (5 hours per week, plus lab as directed)

SC 130 Machine Transcription I (A, N, R) 3 credit hours

Prerequisite: SC 112 (Intermediate Typing) or equivalent

This course provides fundamental instruction in the use of transcribing machines in the preparation of business letters and other correspondence. The course includes a review of letter styles, rules of transcription and punctuation, and the mechanics of producing mailable letters at high production rates. (5 hours per week, plus lab as directed)

SC 131 Machine Transcription II (A, N, R) 3 credit hours

Prerequisite: SC 130 or equivalent

Designed primarily for students seeking certification as word-processing typists, this course provides intensive practice in the transcription of business letters from machine sources. Students may elect to concentrate in specific professional or business forms of correspondence, such as medical, legal, or educational transcription. Open to any student on an elective basis. (3 hours per week, plus lab practice)

SC 132 Machine Transcription — Spanish (N) 3 credit hours

Prerequisite: SC 112 or equivalent proficiency

Intensive practice in the use of magnetic tape and belt transcribing machines in the preparation of business correspondence dictated in Spanish. Includes a review of letter styles, rules of transcription and punctuation, and the mechanics of producing mailable letters at high production rates. Experience on several models of

electric typewriters will be provided. (3 hours per week plus lab practice)

SC 145 Comprehensive Office Experience (R only) 3, 6, or 9 credit hours

This class is designed to give you actual office experience. Work is done for instructors and administrators. Students will hold positions such as Office Manager, Secretary-Receptionist, Accountant, Bookkeeper, Stenographer, Typists, Duplicating Machine Operator, and File Clerk. The position you acquire will be determined by the prerequisites you have had. New machines to be used are IBM Executive Typewriter, IBM Dual-pitch Selectric Typewriter, Magnetic Card Selectric Typewriter, telephone usage, and mimeo-scopes. Credit hours will depend on hours in class:

- 1 hour per day, 5 days per week 3 credit hours
- 2 hours per day, 5 days per week 6 credit hours
- 3 hours per day, 5 days per week 9 credit hours

SC 200 Office Procedures (A, N, R) 5 credit hours
Prerequisite: SC 112

This course introduces the student to the business world and acquaints the prospective office employee with the various office duties. Units covered include organization of office work, incoming and outgoing mail, postal and shipping services, telephone techniques, maintenance and control of office supplies, and business and social conduct. A practicum is used in the course which correlates classroom discussion with related office projects. (5 hours per week)

SC 206 Legal Dictation and Transcription (A) 3 credit hours
Prerequisite: SC 210

Specialized course for legal reporting and transcription. Student will continue to build mastery of legal terminology and forms. Individual tape, programmed dictation is used extensively in this course. (3 hours per week plus lab as needed)

SC 210 Legal Secretarial Procedures and Terminology (A) 3 credit hours
Prerequisite: SC 200

Provides intensive practice in preparing many types of legal documents. Student is introduced to the routine of a legal office. This course is designed for the legal secretarial student, and attention will be given to mastering meanings, spelling, and shorthand forms established for legal terms in preparation for legal and dictating transcription. (5 hours per week plus lab as needed)

SC 259 International Secretarial Procedures (N) 3 credit hours
Prerequisite: SC 118

Adapts material described in SC 200 to the International business scene. Covers import-export procedures; telephone procedures (domestic and foreign); transportation and travel (domestic and foreign); money exchange; mailing procedures (domestic and foreign); English-Spanish office communications; and a number of office routines that are characteristic of all business offices. (3 hours per week)

SC 260 Office Practice I — Spanish (N) 3 credit hours
Prerequisite: SP 113 or equivalent proficiency

A course designed primarily for students enrolled in

the International Secretarial Program, and students meeting the above prerequisites. Deals with the commercial Spanish language used in both domestic and foreign offices. Emphasis on Spanish Correspondence. (3 hours per week)

SC 261 Office Practice II — Spanish (N) 3 credit hours
Prerequisite: SC 260

Continuation of SC 260. Develops a sound business vocabulary and introduces correct translation demanded when acting as an official interpreter for both written and oral business communication. Emphasis on Documentation. (3 hours per week)

SC 262 Office Practice III — Spanish (N) 3 credit hours
Prerequisite: SC 251

Continuation of SC 261. Emphasizes practical application through project work. Students will be involved with representatives from import-export firms, government offices, foreign consulates, and embassies. (3 hours per week)

TRAFFIC AND TRANSPORTATION

(Auraria only)

TT 101 Fundamentals of Commercial Transportation I (A) 4 credit hours
(Formerly Introduction to Traffic and Transportation)

A survey of the air, highway, rail and water transportation industry. Covers the importance of transportation, location theory, historical factors, geographical consideration, inherent advantages of each mode, relationship of carrier and user and the current economic status of each mode. (4 hours per week)

TT 102 Fundamentals of Commercial Transportation II (A) 4 credit hours
(Formerly Introduction to Traffic Transportation)
Prerequisite: TT 101 or permission of instructor

A continuation of TT 101. (4 hours per week)

TT 103 Fundamentals of Commercial Transportation III (A) 4 credit hours
(Formerly Logistics and Traffic Management)
Prerequisite: TT 102 or permission of instructor

A continuation of TT 102, completing a three-quarter sequence essential to the further study of all courses in the Transportation Division of the College. Reviews, in-depth, the significance of the various facets of transportation. (4 hours per week)

TT 105 Traffic Management and Physical Distribution I (A) 2 credit hours
Prerequisite: TT 101, TT 102 and TT 103

Advanced studies of management concepts as they relate to traffic management and physical distribution. This first quarter deals with the organization, management, and analytical methods of physical and traffic management. (2 hours per week)

TT 106 Traffic Management and Physical Distribution II (A) 2 credit hours
Prerequisite: TT 105

A continuation of TT 105 covering warehousing, inventory control, material handling and packaging. (2 hours per week)

TT 107 Traffic Management and Physical Distribution III (A) 2 credit hours

Prerequisite: TT 106

Concludes a three-quarter sequence. Deals with the development of rates, classifications relative to transportation, documentation and services offered by or used in connection with various modes of transportation, etc. Also treated in this quarter will be the liabilities of carriers and the managerial procedures involved in claims. (2 hours per week)

TT 110 Transportation Regulations I (A) 4 credit hours

Prerequisite: TT 101

A professional course providing intensive and advanced work in regulation for transportation specialists who are candidates for admission to practice before the Interstate Commerce Commission. A study of the promotion and restriction of transportation enterprises from colonial times to the present; economic and political climate extant as each mode of transport emerged; general effect of transportation legislation. (4 hours per week)

TT 111 Transportation Regulations II (A) 4 credit hours

Prerequisite: TT 110

A comprehensive study of cases applying policies for transportation regulations and employing decisions of special interests in traffic administration. (4 hours per week)

TT 112 Transportation Regulations III (A) 4 credit hours

Prerequisite: TT 110

A study of the Rules of Procedure before the Interstate Commerce Commission, the Practitioner's Code of Ethics, due process, and the preparation of cases. (4 hours per week)

TT 120 International Trade I (A) 4 credit hours

Prerequisite: Permission of instructor

A comprehensive course in the field of Import-Export Operations combining basic theory with practical application, such as the facets of including credits, documentation, government controls, promotion sales and transportation legislation. (4 hours per week)

TT 121 International Trade (A) 4 credit hours

Prerequisite: TT 120 or permission of instructor

Continuation of TT 120. Covers export trade throughout the world and import business within the United States. (4 hours per week)

TT 122 International Trade III (A) 4 credit hours

Prerequisite: TT 121 or permission of instructor

Conclusion of a three-quarter sequence in International Trade. This is an advanced course based on case history method with active student participation. Can serve as a refresher course for export executives and their assistants. (4 hours per week)

TT 130 Management Tools and Concepts I (A) 4 credit hours

Prerequisite: MG 105 or permission of instructor

The first of three related courses will focus on managerial accounting. Accounting reports and their use.

Cost Accounting introduction, and accounting methodology. For Transportation students only. (4 hours per week)

TT 131 Management Tools and Concepts II (A) 4 credit hours

Prerequisite: TT 130

Introduces principles of corporate finance, financial analysis and procedures. Introduction to money and banking, fiscal and monetary institutions and tools. For transportation students only. (4 hours per week)

TT 132 Management Tools and Concepts III (A) 4 credit hours

Prerequisite: TT 131

Concluding section of a three-quarter sequence, providing an introduction to marketing and statistics, as they pertain to the field of transportation. (4 hours per week)

TT 141 Economics of Transportation I (A) 2 credit hours

Prerequisites: TT 101, TT 102 and TT 103

An in-depth study of transportation economics. Such specifics as the development of transportation systems, theory of pricing, cost structures and rate making, competition between modes, transportation regulation, finance and national transportation policy will be considered. (2 hours per week)

TT 142 Economics of Transportation II (A) 2 credit hours

Prerequisite: TT 141

A continuation of TT 141. An in-depth study of the theory of pricing and rate-making. Examines the regulations of various modes of transportation. (2 hours per week)

TT 143 Economics of Transportation III (A) 2 credit hours

Prerequisite: TT 142

Concludes the Transportation Economics sequence. Studies national transportation policies, competition, integration of transportation, transporting financing, labor, and regulations governing the field of transportation. (2 hours per week)

TT 151 Workshop in Freight Rates I (A) 2 credit hours

A practical workshop designed specifically to prepare the student for tariff interpretation of rates by rail, motor carrier, air cargo, air express, trailer on flat car, container on flat car, freight forwarded and water. (2 hours per week)

TT 152 Workshop in Freight Rates II (A) 2 credit hours

Prerequisite: TT 151

A continuation of TT 151. An intensive, practical workshop extending tariff interpretations. (2 hours per week)

TT 153 Workshop in Freight Rates III (A) 2 credit hours

Prerequisite: TT 152

Concludes the Workshop in Freight Rates sequence. Particular emphasis placed on tariff interpretation of rates in view of the various vehicles employed in transportation. (2 hours per week)

DIVISION OF COMMUNITY AND PERSONAL SERVICE OCCUPATIONS

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Suggested Core for Early Childhood Education	
Environmental Control Technology	R
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DIVISION OF COMMUNITY AND PERSONAL SERVICE OCCUPATIONS

AUDIO-VISUAL TECHNOLOGY (R)

TWO-YEAR PROGRAM

The Audio-Visual Technology program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, Communications and Arts, and Business and Management are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Audio-Visual Technology from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
AV 100 Introduction to Media.....	3
AV 102 Audio-Visual Basic Electricity.....	3
AV 103 Audio-Visual Library Services.....	4
AV 200 Production of AV Materials.....	4
AV 201 Television Production.....	6
AV 202 Audio-Visual Photography.....	3
AV 203 Projection Equipment Maint.....	4
AV 204 Transcription Equip. Maint.....	4
AV 205 Audio-Visual Electronics.....	4
AV 206 Duplicating Processes.....	3
AV 297 Cooperative Work Experience.....	11
AV 299 Independent Study.....	3

Related Courses

Course Title	Cr. Hrs.
EG 106 Occupational Communication.....	3
EG 107 Occupational Communication.....	3
EG 108 Occupational Communication.....	3
M 105 Introduction to Algebra.....	4
MG 105 Introduction to Business.....	3
PY 100 Human Relations in Bus. & Ind.....	3
PY 107 Psych. of Pers. Dev.....	3
Related Elective.....	18

Total Credits Required: 92

Total Contact Hours: 1420

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's Advisor. NOTE: AV courses should be taken in the sequence which appears above. Special permission should be obtained from the instructor involved to alter sequence.

EMPLOYMENT OPPORTUNITIES:

The demand for the services of trained individuals in this area is presently quite strong and the interest in such personnel throughout this state and other states has been high for some time. Trainees will be prepared to enter business, industry and educational systems upon completion of the program. The student will develop basic skills in the audio-visual program from

simple familiarization with the repair of hardware to the various production techniques encountered in the educational media field.

BUILDING INSPECTION (R)

ONE YEAR PROGRAM

The Building Inspection program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Industrial Occupations and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive a Certificate of Achievement in Building Inspection from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
BI 100 Bldg. Codes & Standards.....	3
BI 102 Construction Materials.....	4
BI 103 Mechanical Inspection.....	3
BI 104 Field Inspection Techniques.....	4
BI 105 Soils and Grading.....	3
BI 106 Electrical Inspection.....	3
BI 110 Plumbing Inspection.....	3
BI 112 Plan Review.....	3
BI 214 Const. Organ & Manag.....	3
BI 215 Utilities Inspection.....	3
BI 216 Intro. to Design Funda.....	3
BI 218 Housing Inspection & Programs.....	3
BI 297 Cooperative Work Experience.....	4

Related Courses

Course Title	Cr. Hrs.
CA 211 Blueprint Reading for Building Trades.....	3
EG 108 Occupational Communications.....	3

Total Credits Required: 48

Total Contact Hours: 550

EMPLOYMENT OPPORTUNITIES:

This program is designed primarily for individuals presently employed in the field of Building Inspection and who wish to improve their abilities and increase their knowledges. Those individuals in the building contracting and construction fields will find the courses valuable in that they will help them understand the requirements which must be met.

Building inspection includes the examination and evaluation of construction work in progress, comparing or contracting it with recognized norms or standards, and accepting or rejecting it in the light of conformity or non-conformity to the standards.. It involves a person capable of understanding and interpreting a body of standards, so that he can make judgments regarding all aspects and phases of building, construction rehabilitation and conservation.

CLASSROOM INSTRUCTIONAL ASSISTING (R)

TWO YEAR PROGRAM

The Classroom Instructional Assisting program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Classroom Instructional Assisting from the Community College of Denver.

Occupational Courses

Course Titles	Cr. Hrs.
CI 110 Classroom Instructional Tech. I.....	3
CI 111 Classroom Instructional Tech. II.....	3
CI 112 Classroom Instructional Tech. III.....	3
CI 297 Cooperative Work Experience.....	9

Related Courses

Course Titles	Cr. Hrs.
AV 100 Introduction to Media.....	3
AR 101 Basic Drawing.....	3
B 100 General Biology.....	5
EG 111 English Composition.....	3
EG 112 English Composition.....	3
EG 113 English Composition.....	3
HS 107 Hangups & Happenings in Amer. His.....	3
HS 220 Colorado History.....	3
LI 145 Literature for Children.....	3
MU 145 Music for Children.....	3
PS 113 American National Gov't.....	3
PS 114 Amer. State & Local Gov't.....	3
Psychology.....	9
S 110 Introduction to Speech.....	3
SC 110 Typing I.....	4
SO 107 Sociology of Pers. Dev.....	3
SO 223 Youth in Society.....	3
Math Elective.....	3
Physical or Biological Science Elec.....	3-5
Social Science Elective.....	3
Elective.....	3

Total Credits Required: 90-92

Total Contact Hours: 1040-1060

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: Increasing demands for higher quality instructional programs including more individualized instruction, new and revised curriculums, and major innovations in the educational process, all of which demand more time by professional staff members suggest that the future of classroom instructional assistants is very bright.

CLASSROOM TEACHING ASSISTING (A)

Training for teacher assistants is offered as a seminar. Time arrangements vary to meet specific needs. Basically the program involves 30 hours of class time which can include observations and practical exper-

ience as well as lectures and demonstrations by qualified school personnel. The aim of the program is to prepare teacher aids to fill existing job needs in local schools.

Topics usually included are: personal and child psychology, introduction to school library organization, orientation to school administration, use of audio-visual equipment and other school machines, first aid and creative activities. Since each offering of the course is intended to meet specific needs, concepts emphasized may vary.

The course may be taken for credit or without credit. If the course is selected for credit, it will be given a TA prefix.

EMPLOYMENT OPPORTUNITIES: Aides to professional school teachers are employed throughout the public school systems in the local area. Aides for vocational or occupational programs at the secondary level must also meet state certification requirements which exceed this course.

CRIMINAL JUSTICE (R)

TWO YEAR PROGRAM

The Criminal Justice program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Criminal Justice from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
CJ 110 Criminal Justice I.....	3
CJ 111 Criminal Justice II.....	3
CJ 112 Constitutional Law.....	3
CJ 113 Civil Law.....	3
CJ 114 Criminal Law.....	3
CJ 116 Rules of Evidence.....	3
CJ 210 Criminal Investigation I.....	3
CJ 211 Criminal Investigation II.....	3
CJ 212 Criminal Investigation III.....	3
CJ 220 Juvenile Delinquency.....	3
CJ 222 Traffic Enforcement.....	3
CJ 224 Community Relations.....	3
*CJ 297 Cooperative Work Experience.....	0-6
Criminal Justice Electives.....	18

Related Courses

Course Title	Cr. Hrs.
EG 111 English Composition.....	3
EG 112 English Composition.....	3
EG 113 English Composition.....	3
PS 113 American National Gov't.....	3
PS 114 American State & Local Gov't.....	3
PY 210 Social Psychology.....	3
S 110 Fundamentals of Speech.....	3
SO 111 Introduction to Sociology.....	3

SO 112 Introduction to Sociology.....	3
Science or Math Elective.....	3-5
Related Electives	6

Total Credits Required: 90-100

Total Contact Hours: 900-1020

*Students who are not presently employed in the profession will be required to take a minimum of 8 credit hours of CJ 297, Cooperative Work Experience before they can receive their associate degree.

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: Law enforcement is one of the largest of the career groups in public service. Investigative agents and specialists are employed by the federal government. A vast number of career opportunities exist with a variety of state and local agencies. This program has been designed to serve the needs of new recruits as well as provide for the in-service and upgrading training needs of those presently employed in the field.

DAY CARE TEACHING ASSISTING (A)

ONE QUARTER PROGRAM

The Day Care Teacher Assisting program has been designed to prepare personnel to work in both private and publicly funded day care centers, as assistants. This is a one quarter program and a Certificate of Achievement will be awarded upon successful completion of this program.

	Cr. Hrs.
CC 102 Creative Activities	3
CC 103 Orientation to Program Practicum.....	6
CC 109 Introduction to Teaching the Young Child..	4
CC 101 Day Care Teaching Techniques and Program Design	4
PE 101 First Aid	1
AV 100 Introduction to Media.....	3
	21

Total Credit Hours: 21
Total Contact Hours: 270

EMPLOYMENT OPPORTUNITIES: The demand for trained assistants or aides in Day Care Centers is steadily increasing. Jobs are available in nursery schools and other child care centers as group leaders.

EARLY CHILDHOOD EDUCATION AND MANAGEMENT (N-R)

The Early Childhood Education and Management Program was designed to meet the vocational training needs for all personnel involved in the care of young pre-kindergarten children as determined by the Colorado State Social Services Licensing Department.

The six-quarter program is the most comprehensive curriculum providing courses in child development and administration, as well as appropriate support courses to complement the observation student teaching core. The academic requirements enumerated by the State are optimally satisfied.

The three-quarter introductory program offers a substantial foundation in the early childhood field and meets current teacher requirements.

The experienced but academically unqualified student will select the appropriate recommended courses from the Suggested Core for Social Services Licensing. The acquisition of 36 quarter hour credits from this program will satisfy minimal requirements.

EARLY CHILDHOOD EDUCATION ASSISTING (N-A)

THREE QUARTER PROGRAM

	Cr. Hrs.
First Quarter	
**CC 103 Orientation to Program Practicum.....	6
CC 108 Intro. to Teach. the Young Child.....	4
CC 102 Creative Activ.	3
PE 101 First Aid	1
Science Elective	3-5
	17-19

	Cr. Hrs.
Second Quarter	
**CC 104 Superv. Lab. Experience.....	6
CC 109 Methods of Teach. the Young ChHd....	4
PY 221 Developmental Psychology	3
*English Credit or Foreign Language.....	3-5
	16-18

	Cr. Hrs.
Third Quarter	
**CC 105 Supervised Student Particip.	6
CC 211 Child Care Prog. Supv. & Admin. II.....	4
PY 107 Psychology of Personal Develop. or	
GC 100 Guidance Couns.	3
PY 123 Child Guidance Techniques.....	3
PY 222 Developmental Psychology	3
	19

Total Credit Hours: 52-56
Total Contact Hours: 749-753

*English Credit selected upon approval/or recommendation of advisor:

RE 101 Basic Reading	
EG 106 Occupational Communications	
SC 100A Typing—Beginning courses or other (by examination)	

**Program Practicum Core—CC103, CC104, CC105—Must be taken sequentially, each of the three may be offered every quarter.

EMPLOYMENT OPPORTUNITIES: The demand for trained assistants or aides in the child care field is steadily increasing. Jobs are available in nursery schools and day care centers as group leaders.

Additional Course Offerings for refresher or updating:
CC 201 Workshop of Ideas..... 4 Cr. Hrs.
CC 202 Workshop of Things..... 4 Cr. Hrs.

Acceptable for State Social Service Licensing Requirements in the proper categories. See Suggested Core for Social Service Licensing Requirement.

EARLY CHILDHOOD EDUCATION AND MANAGEMENT (N-R)

SIX QUARTER PROGRAM

	Cr. Hrs.
CC 102 Creative Activ.	3
**CC 103 Orientation to Prog. Practicum.....	6
PE 101 First Aid	1
PY 221 Developmental Psychology	3
Science Elective	3-5
	16-18



Second Quarter		Cr. Hrs.
**CC 104	Supervised Lab. Experience.....	6
PY 107	Psychology of Personal Develop. or	
GC 100	Guidance Couns.	3
PY 222	Developmental Psychology	3
*English	Credit or Foreign Language.....	3-5
		15-17

Third Quarter		Cr. Hrs.
**CC 105	Superv. Student Participation.....	6
MU 145	Music for Child.	3
PY 123	Child Guidance Techniques.....	3
S 110	Intro. to Speech or	
EG 107	Occup. Commun.	3
SO 111	Intro. to Soc. or Ethnic Studies.....	3
		18

Fourth Quarter		Cr. Hrs.
**CC 106	Supervised Student Particip.	6
CC 108	Intro. to Teaching the Young Child....	4
CC 210	Child Care Prog. Supv. & Admin. I.....	4
PY 111	Gen. Psychology	3
		17

Fifth Quarter		Cr. Hrs.
**CC 107	Supv. Student Participation	6
CC 109	Methods of Teaching the Young Child..	4
CC 211	Child Care Prog. Supv. & Admin. II....	4
PY 112	Gen. Psych.	3
		17

Sixth Quarter		Cr. Hrs.
CC 201	Workshop of Ideas	4
CC 212	Child Care Center Bus. Operations.....	4

		Cr. Hrs.
F 108	Nutrition	3
LI 145	Literature for Children.....	3
Elective	.....	3
		17

Total Credit Hours: 100-104

Total Contact Hours: 1359-1364

*English credit selected upon recommendation or approval of advisor:
 RE 101 Basic Reading
 EG 106 Occup. Comm.
 SC 100A Or other Typing Course

**Program Practicum Core — Each of which may be offered every quarter — CC103, CC104, CC105, CC106, CC107. To be completed within the two year period with CC103 and 104 taken sequentially as to the initial core.

EMPLOYMENT OPPORTUNITIES: The nationwide trend is for mothers with small children to join the nation's work forces. The pre-school children of these mothers will be taken care of in some type of children's center. Graduates of this program will be ready to work in day care centers, nursery schools and child development centers as directors or teachers upon completion of the specific experience requirements of the State Social Services Licensing Unit.

Additional Course offerings for refresher or updating:
 AC 109 Bookkeeping & Acctng. 5 Cr. Hrs.
 CC 201 Workshop of Ideas..... 4 Cr. Hrs.
 CC 202 Workshop of Things..... 4 Cr. Hrs.

Acceptable for State Social Service Licensing requirements in the proper categories. See suggested Core for Social Service Licensing Requirement.



SUGGESTED CORE FOR EARLY CHILDHOOD EDUCATION

SOCIAL SERVICE LICENSING REQUIREMENTS

	Cr. Hrs.
CHILD DEVELOPMENT AND NURSERY EDUCATION	18 ¹
CHILD DEVELOPMENT	9
CC 103 Orientation to Program Practicum.....	6
CC 108 Introduction to Teaching Young Children	4
CC 109 Methods of Teaching the Young Child..	4
*PY 107 Psychology of Personal Development...	3
*PY 123 Child Guidance Techniques.....	3
*PY 221 Developmental Psychology	3
*PY 222 Developmental Psychology	3
RELATED AREAS	9
CC 102 Creative Activ.	3
CC 104 Supv. Student Lab. Experience.....	6

	Cr. Hrs.
CC 201 Workshop of Ideas.....	4
LI 145 Literature for Children	3
MU 145 Music for Child.	3
PSYCHOLOGY	4.5
*PY 107 Psychology of Personal Development....	3
PY 111 General Psych.	3
PY 112 General Psych.	3
*PY 123 Child Guidance Techniques.....	3
*PY 221 Developmental Psychology	3
*PY 222 Developmental Psychology	3
ADMINISTRATION	6
CC 210 Child Care Prog. Supv. & Admin. I.....	4
*CC 221 Child Care Prog. Supv. & Admin. II....	4
CC 212 Child Care Center Business Operations.	4
SOCIOLOGY	4.5
*CC 211 Child Care Prog. Supv. & Admin. II....	4
SO 111 Introduction to Sociology.....	3
NUTRITION	3
F 108 Nutrition	3

*Courses are applicable to both disciplines but credit will be given in only one.

¹A total of 18 hours, 9 each from the Child Development & Related areas is required.

Completion of 36 credit hours from the above Core Course can be accomplished in a nine month or three quarter period. This Core is appropriate for those who have already completed the State work experience requirement (4,000 work hours with young children) for licensing. Of the 36 required hours, at least 15 must be taken at Community College of Denver. A Certificate of Completion will be awarded upon satisfactory completion of courses selected by the student to meet licensing requirements.

ENVIRONMENTAL CONTROL TECHNOLOGY (R)

TWO-YEAR PROGRAM

The Environmental Control Technology program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Science, and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Environmental Control Technology from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
EV 101 Environmental Health	3
EV 107 Solid Waste Pollution	3
EV 201 Atmospheric Pollution	4
EV 203 Food Sanitation	3
EV 205 Pollution Control Systems.....	4
EV 207 Vectors and Pesticides	5
EV 220 Pollution Sampling & Analysis.....	4
EV 297 Cooperative Work Experience.....	9
EV 299 Independent Study	4

Related Courses

Course Title	Cr. Hrs.
B 110 Intro. to Environment.....	3
B 111 General Biology	5
C 101 Fundamentals of Chemistry.....	4

		Cr. Hrs.
C 103	Fundamentals of Chemistry	4
EG 106	Occupational Communication	3
EG 107	Occupational Communication	
	or	
S 110	Introduction to Speech	3
EG 108	Occupational Communication	3
M 102	Applied Math I	3
M 103	Applied Math II	3
M 104	Applied Math III	3
PS 161	Political Leadership	3
PY 100	Human Rel. in Bus. & Ind.	3
SI 121	Environmental Science	4
SI 122	Environmental Science	4
SI 123	Environmental Science	4
WW 100	Intro. to Water-Wastewater	3

Total Credits Required: 94

Total Contact Hours: 1140

EMPLOYMENT OPPORTUNITIES: The Environmental Control Technology program is planned in response to the rising concern with problems of pollution. This program of study is designed to prepare students for employment as technicians in governmental pollution control agencies, industrial pollution control, water supply, water resources, engineering consulting firms, city engineering offices, and related activities. Emphasis is placed upon the technician's role in pollution control functions, utility distribution and collection system layout, surveys, and sampling and testing procedures.

FIRE SCIENCE TECHNOLOGY

TWO-YEAR PROGRAM

The Fire Science Technology program is made up of Occupational Courses designed specifically to meet the needs of individuals in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Fire Science Technology from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
FS 100 Intro. to Fire Science	3
FS 104 Fire Co. Organ. & Proc.	3
FS 106 Fire Fighting Tactics & Strategy	3
FS 108 Fire Hydraulics	3
FS 110 Fire Apparatus & Equip.	3
FS 202 Fund. of Fire Prevention	3
FS 204 Related Codes & Ordinances I	3
FS 205 Related Codes & Ordinances II	3
FS 206 Rescue Practices	3
FS 208 Hazardous Materials I	3
FS 209 Hazardous Materials II	3
FS 212 Fire Prot. Equip. & Systems	3
FS 214 Fire Department Administration	3
FS 216 Private Fire Protection System	3

	Cr. Hrs.
FS 218 Fire Investigation	3
FS 220 Fire Insurance	3
FS 230 Blprt. Reading For Firefighters	3
Fire Science Technology Elective	6

Related Courses

Course Title	Cr. Hrs.
EG 106 Occup. Comm.	3
EG 107 Occup. Comm.	3
EG 108 Occup. Comm.	3
PY 100 Human Rel. in Bus. & Ind.	3
SO 107 Socio. of Pers. Dev.	3
M 103 Applied Math II	3
C 109 Applied Chemistry	4
P 101 Fund. Physics	3
Social Science Elective	3
Math Elective	3
Related Elective	3

Total Credits Required: 91

Total Contact Hours: 930

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: Program is designed to prepare for initial entrance into employment or advancement with municipalities, industrial firms, or other employers requiring fire protection personnel. May be employed by insurance companies and agencies as salesmen, fire loss and safety prevention personnel, adjusters or insurance rating and inspection bureaus.

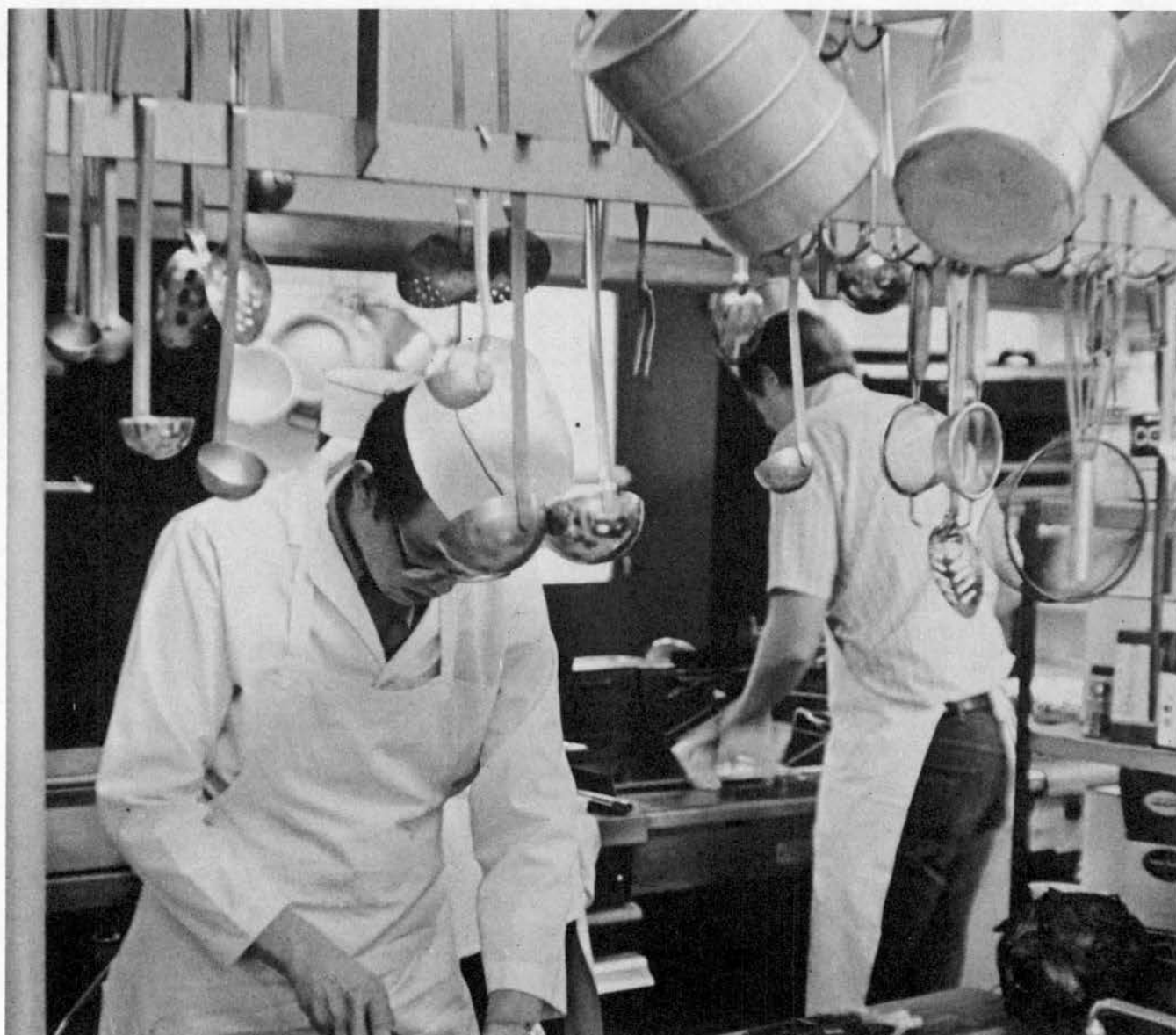
FOOD SERVICE (N)

This program is supported by appropriate related courses for those needing a program for self-employment or management entry. Completion of any one quarter in Food Production merits a Certificate of Completion. A Certificate of Achievement is awarded for completion of three quarters in Food Production plus electives totaling at least 18 credit hours and a minimum of 3 credit hours of Cooperative Work Experience. An A.D. will be awarded upon completion of Food Production and Management courses totaling 96 credit hours (or their equivalent in work experience) combined with 30 hours of appropriate electives; or for a combination of courses that include five quarters of Food Production and Management totaling 80 credit hours (or equivalent work experience) plus 49 credit hours of appropriate electives as specified in the program. In addition, the General Education requirements for an A.D. which are in effect at the time of enrollment must be met satisfactorily.

FOOD PREPARATION

THREE QUARTERS

First Quarter	Cr. Hrs.
F 101 Food Production I — Sanitation & Safety Equipment, Intro. to Food Prep.	16
EG 106 Occupational Communication	3
PY 107 Psychology of Personal Develop.	3
	22



Second Quarter	Cr. Hrs.
F 102 Food Produc. II	16
M 100 Develop. Math	3
SO 105 Fund of Job Seeking	3
	<u>22</u>

Third Quarter	
F 103 Food Produc. III	16
F 108 Nutrition	3
MG105 Intro. to Business.....	3
	<u>22</u>

Total Credit Hours: 66
Total Contact Hours: 780

EMPLOYMENT OPPORTUNITIES: There are varied opportunities for trained workers in entry level jobs in the field of food production and management. Training programs offered are designed to give students a salable skill in food production by the end of any quarter. Job skills needed to work in one of the basic work stations of a commercial kitchen can be learned in approximately a 200 hour training block depending on

the student's previous experience, available time and effort.

FOOD MANAGEMENT

3-6 QUARTERS

The Food management program may be taken as part of the two year program in food service or may be elected without the first year program by the student having work experience in food production and wanting to expand production skills and/or enter the management phase of commercial eating establishments.

Fourth Quarter	Cr. Hrs.
F 201 Food Mgmt. I	16
AC 109 Bookkeeping & Accounting.....	5
	<u>21</u>

Fifth Quarter	
F 202 Food Mgmt. II	16
MG 201 Business Mgmt.	3
MG 250 Business Policies	3
	<u>22</u>

Sixth Quarter	Cr. Hrs.
F 203 Food Mgmt. III	16
F 297 Coop. Work Exp. or *Electives (at least 6 hrs.)	1-10
	<u>17-26</u>
Total Credit Hours: 125-135	
Total Contact Hours: (721-810) or 1501-1590	

ELECTIVES

*Business and Management	3 credit hours
Accounting	5 credit hours
Social Sciences	3 credit hours

*Cooperative Work Experience is mandatory for each Food Production or Food Management program. It may be taken either as part of the course block or in addition to it depending upon the student's occupational objectives and training needs. Arrangements will be made through instructor and the division director.

EMPLOYMENT OPPORTUNITIES: Completion of the two year program in the food production option will qualify the students for food service occupations in hotels, motels, restaurants, public schools, hospitals and similar institutional jobs. The management option provides occupational up-grading or entry to management careers related to commercial food service.

DIETARY ASSISTANT (N)

THREE QUARTER PROGRAM

This program is designed to prepare dietary assistants, nutritionist aides, and school food service personnel with a limited background in sound food and nutrition principles. There is not, at this time, any such program open to the general public. There is a demonstrable need for individuals with this type of training in hospitals, extended care facilities, nursing homes, with migrant nutrition or with the extension service.

First Quarter	Cr. Hrs.
F 101 Food Prod. I (Sanitation & Safety — Equipment — Basic Food Science — Intro. to Food Preparation)	16
EG106 Occup. Commun.	3
	<u>19</u>

Second Quarter	Cr. Hrs.
B 100 Basic Human Biology	4
F 108 Nutrition	3
F 201 Food Mgmt. I(B)	4
HE 100 Medical Term.	2
PY 107 Psych. of Pers. Development	3
SO 105 Fund. of Job Seeking	3
	<u>19</u>

Third Quarter	Cr. Hrs.
AC 109 Accounting & Bookkeeping	5
F 201 Food Mgmt. I(C)	4
F 210 Diet Therapy	3
F 297 Coop. Work Experience	7
	<u>19</u>

Total Credit Hours: 57

Total Contact Hours: 620

Depending on the vocational interest of the student he may take various elective options:

I-Nutrition aides to work with migrants or the disadvantaged:

First Quarter	Cr. Hrs.
F 101 Food Production I (Sanitation & Safety — Basic Food Science — Intro. to Food Prep.)	12
SK 106 Study Skills	2
SP 100 Basic Applied Spanish	2
EG 106 Occup. Communication	3
	<u>19</u>

These students would schedule the F 108 Nutrition section dealing with nutrition for low income families, as well as the F 210 Diet Therapy section which will emphasize deficiency diseases and their dietary management.

II-School food service supervisors could substitute MG 221 Personnel Administration-3 credit Hours for SO 105 Fundamentals of Job Seeking-3 Credit Hours. They would also schedule F 211 The School Nutrition Program-3 Credit Hours.

III-Extended care or nursing home dietary assistants. PY 223 Developmental Psychology (Maturity and Aging) — 3 credit Hours. (They should also schedule the section of F 210 Diet Therapy emphasizing geriatric nutrition.)

EMPLOYMENT OPPORTUNITIES: The limited number of persons available in the area of dietetic support personnel is inadequate to fill current needs. The Colorado Department of Health is anxious to have at least one such person in every small hospital or extended-care facility in the State. If Title XVIII and XIX, Medicare and Medicaid legislation now pending becomes law, trained dietetic assistants will be required for all such patient care, with the employment of persons with higher levels of competency such as dietetic technicians strongly recommended.

HOTEL-MOTEL OPERATIONS (A)

The Hotel-Motel personnel training programs has been designed to meet the needs of hotel-motel business and industry. Student completing the two-year program will be awarded an Associate Degree. In less than one year the student can acquire a Certificate of Completion. One year of training . . . Certificate of Achievement. Occupations which require less than an A.D. will allow enrollees to enter the job market after one, two, three or four quarters of training.

FIRST YEAR

First Quarter	Cr. Hrs.
EG 106 Occ. Comm.	3
*HM 105 Front Office Procedures	3
*HM 151 Hotel-Motel Org. & Adm.	3
*HM 103 Intro. to Hotel-Motel Mgt.	3
*HM 203 Hotel-Motel Motor Mg. or Elective	3
	<u>15</u>

Second Quarter	Cr. Hrs.
M 100 Dev. Math	3
SO 111 Intro. to Sociology	3
*HM 115 Hotel-Motel Law	3
*HM 109 Supervisory Housekeeping	3
HM 297 Coop. Wk. Ex. or Elective	4
	<u>16</u>

Third Quarter		Cr. Hrs.
AC 109	Bookkeeping and Acctg.	5
MG 203	Princ. of Marketing	3
*HM 111	Supervisory Development or	
*HM 205	Training & Coaching Tech.....	3
*HM 297	Coop. Wk. Exp. or Elective.....	4
		<u>18</u>

SECOND YEAR

Fourth Quarter		Cr. Hrs.
MG 201	Bus. Org. & Mgt.	3
PY 107	Psy. of Pers. Dev.	3
*HM 117	Hotel-Motel Basic Acctg.	3
HM 297	Coop. Wk. Exp. or Elective.....	6
		<u>15</u>

Fifth Quarter		Cr. Hrs.
MG 221	Pers. Management	3
PY 100	Hum. Rel. in Bus. & Ind.	3
MG 212	Case Studies in Adm. Asst.	3
*HM 119	Food & Bev. Mgt. & Serv. or	
*HM 123	Food & Bev. Purchasing.....	3
HM 297	Coop. Wk. Ex. or Elective.....	4
		<u>16</u>

Sixth Quarter		Cr. Hrs.
*HM 201	Hotel-Motel Sales	3
*HM 121	Food & Bev. Control.....	3
Elective	.....	3
HM 297	Coop. Wk. Exp. or Elective.....	6
		<u>15</u>

Total Credit Hours: 95
Total Contact Hours: 950

EMPLOYMENT OPPORTUNITIES: Successful completion of this program affords student the opportunity for immediate job entry level assignments. Graduates will be offered employment in hotels, motels, clubs, commercial food establishments, hospitals, and other private and public institutions.

INFORMATION MEDIA TECHNOLOGY (N)

A new flexible approach to Information and Library Employment through education and occupational skills training.

PROGRAMS

Library Media Assisting
Library Media Technology

SHORT COURSES

Information Assisting
Micromedia Assisting

COMMUNITY SERVICES

CONFERENCES, SEMINARS AND WORKSHOPS

Information use, service and production are of essential concern to administrators, businessmen, librarians. The past decade has produced improvements in equipment and techniques of library/information systems.

An important part of pre-job and up-grading skills training for para-professional support personnel are the use of new equipment technology and associated management, in a host of related information handling occupations throughout industry, business offices, and government.

The program is a flexible basic skill approach to information and library employment. It utilizes integrated block period methods to instruct in basic system characteristics of equipment and supplies, management presentations, and actual work experience, allowing the student to fit functionally into many existing and developing jobs.

The two year Associate Degree is granted upon graduation from the Library Media Technology Program. A certificate of Achievement is awarded for the one year Library Media Assisting plan.

Certificates of completion are given for Micromedia and Records Information Management skills.

LIBRARY MEDIA ASSISTING

THREE QUARTER PROGRAM

First Quarter		Cr. Hrs.
I 100	Information Media Services I.....	6
I 150	Information Media Skills I.....	6
SC 105	Filing & Records Control.....	3
SC 110	Typing I	4
		<u>19</u>

Second Quarter		Cr. Hrs.
I 101	Information Media Services II	9
I 151	Information Media Skills II	9
		<u>18</u>

Third Quarter		Cr. Hrs.
I 200	Technical Supervision Skills.....	9
I 297	Coop. Work Experience	3
EG 095	Com. Business English.....	3
		<u>15</u>

Total Credit Hours: 52
Total Contact Hours: 73

LIBRARY MEDIA TECHNOLOGY

SIX QUARTER PROGRAM

Fourth Quarter		Cr. Hrs.
AC 109	Accounting & Bookkeeping.....	5
DP 111	Prin. of Bus. Data Processing.....	3
EG 106	Occup. Comm. or	
EG 111	English Comp.	3
M 100	Introduction to Math or	
M 110	Math	3
SC 103	Business Mach.	3
		<u>17</u>

Fifth Quarter		Cr. Hrs.
EG 107	Basic Comm. or	
EG 112	English Comp.	3
I 290	Community Infor./Library Media Seminar....	3
SC 111	Typing II	4
Approved Electives Spec. Development.....		6-9
		<u>16-19</u>

Sixth Quarter		Cr. Hrs.
EG 108	Occup. Comm. or	
EG 113	English Comp.	3
I 290	Community Infor./Library Media Seminar....	3
Approved Electives Spec. Development.....		9-12
		<u>15-18</u>

Total Credit Hours: 100-106
Total Contact Hours: 1480-1500

Electives: Must be approved by a counselor or advisor by consulting the student's transcript and may be taken at any time during the two year program.

EMPLOYMENT OPPORTUNITIES: Industrial-Economic growth studies conducted in the Denver Metropolitan region indicate an increasing need for Library and Information Services. Growing information demands are an index which points to the rapid rising potential and advancement for employees in area libraries, resource and information centers. A large work force of technical support staff is necessary to operate the more than 500 various academic, government, public, school, and special libraries in which graduates of the program may seek employment. Many hundreds of business and industrial offices in the region are employing technical information personnel to cope with the records management, micro-media publishing explosion and national data bank information network developments. Demand for the pre-trained job ready worker is in excess of the supply.

INSTITUTIONAL HOUSEKEEPING (A)

TWO YEAR PROGRAM

The Institutional Housekeeping program is a two year program offering an Associate Degree. In less than one year the student can acquire a Certificate of Completion. One year of training . . . Certificate of Achievement. Occupations which require less than an Associate Degree will allow enrollees to enter the job market after one, two, three or four quarters of training.

FIRST YEAR

	Cr. Hrs.
First Quarter	
EG 106 Occ. Comm.	3
SO 111 Intro. to Sociology	3
EH 100 Intro. to Inst. Housekpg.	3
LA 107 The Paralegal and the Structure of Gov't	4
HM 151 Hotel-Motel Org. & Adm.	3
Elective	3
	18

Second Quarter

PY 111 General Psychology	3
EH 105 Maintenance & Controls	3
M 100 Dev. Math	3
Elective	3
EH 297 Coop. Work Exp. or Elective	4
	16

Third Quarter

EC 109 Applied Economics	3
Elective	3
EH 109 Basic Interior	3
AC 111 Accounting	5
EH 297 Coop. Wk. Exp. or Elective	3
	17

SECOND YEAR

	Cr. Hrs.
Fourth Quarter	
EH 111 Purchasing Budget & Rec.	4
HM 115 Hotel-Motel Law	3
MG 201 Bus. Org. & Mgt.	3
PY 107 Psychology of Pers. Dev.	3
	13

	Cr. Hrs.
Fifth Quarter	
MG 216 Pers. Adm.	3
PY 100 Human Rel. in Bus. & Ind.	3
EH 297 Coop. Wk. Exp. or Elective	6
	12

Sixth Quarter

EH 115 Pers. Mgt.	3
MG 212 Case Studies in Adm. Asst.	3
EH 297 Coop. Wk. Exp. or Elective	6
Elective	3
	15

Total Credit Hours: 91

Total Contact Hours: 1040

EMPLOYMENT OPPORTUNITIES: Upon successfully completing the requirements of the Institutional Housekeeping Program, the graduate will be qualified for immediate job entry level assignments in hospitals, educational institutions and business and industry.

PARALEGAL (A)

THREE QUARTER PROGRAM

The Paralegal training program has been designed to meet the needs of law offices and corporations, both in the public and private sector. Students completing this program will be prepared to enter law offices in the capacity of a legal assistant. This is a three quarter program and Certificate of Completion will be awarded by the college upon successful course completion.

	Cr. Hrs.
First Quarter	
LA 100 Intro. to Paralegal Training	4
SC 110 Typing I	4
AC 109 Bookkeeping and Accounting	5
SC 105 Filing and Records	3
LA 107 The Paralegal and the Structure of Gov't	4
	20

Second Quarter

LA 101 Domestic Relations	4
LA 102 Corporations	4
LA 103 Real Estate Procedures or	
LA 104 Law Office Efficiency and Proc.	4
<i>Note: Student may take three out of four of the above courses</i>	
SC 111 Typing II	4
	16

Third Quarter

LA 105 Litigation	4
LA 106 Probate	4
LA 210 Paralegal Workshop	6
SC 112 Typing III	4
	18

Total Credit Hours: 54

Total Contact Hours: 680

EMPLOYMENT OPPORTUNITIES: The paralegal training program has been designed to meet the needs of law offices in both the law the public and private sector. Those students completing this program will be prepared to enter law offices in the capacity of a legal assistant. This is a 3 quarter program and certificates of completion will be awarded by the college upon successful course completion.

RECREATIONAL LEADERSHIP (R)

TWO YEAR PROGRAM

The Recreational Leadership program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Recreational Leadership from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
RL 100 Intro. to Recreation Services	3
RL 102 Tech. of Prog. Plan. & Organ.	3
RL 111 Field Work	4
RL 112 Field Work	4
RL 113 Field Work	4
RL 120 Creative Dramatics	2
RL 140 Social Recreation	3
RL 141 Arts & Crafts	2
RL 200 Team Sports	2
RL 202 Ind. Lifetime Sports	2
RL 203 Outdoor Recreation & Camping	3
RL 204 Games and Rhythms	2
RL 206 Dance Activities	2
RL 207 Equipment & Facilities	3
Recreational Leadership Electives	14

Related Courses

Course Title	Cr. Hrs.
B 130 Basic Health Science	4
EG 106 Occupational Communication or	
EG 111 English Composition	3
PS 114 Amer. State & Local Gov't.	3
PY 107 Psych. of Pers. Dev.	3
PY 111 General Psychology	3
PY 210 Social Psychology	3
PY 221 Developmental Psychology	3
S 110 Introduction to Speech	3
SO 111 Intro. to Sociology	3
SO 120 Marriage and Family	3
Music Elective	3
Related Elective	6

Total Credits Required: 93

Total Contact Hours: 1800

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives must be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: Employment opportunities for talented and well-trained persons are presently very good and expected to improve in the future. May be employed in private clubs, schools and institutions, voluntary agencies, industrial plants, community and municipal programs, health studios, hospitals, resorts, urban programs, and other organizations.

SENIOR CITIZEN ACTIVITY ASSISTING (A)

NINE-MONTH PROGRAM

The courses listed below must be completed satisfactorily in order to meet the requirements of the Certificate of Achievement in the Senior Citizen Assisting program.

	Cr. Hrs.
First Quarter	
SR 100 Intro. to Geriatrics	3
RL 100 Intro. to Rec. Services	3
B 130 Basic Health Science	4
PY 107 Psy. of Personal Devel.	3
SR 105 A.D.L. Laboratory	3
	<u>16</u>

Second Quarter	
PE 101 First Aid	1
SO 107 Socio. of Pers. Dev.	3
RL 141 Arts and Crafts	2
SR 110 Institutional Organization	3
SR 297 Coop. Work Experience	6
	<u>15</u>

Third Quarter	
SR 112 Activities for Sr. Citizens	3
RL 201 Group Leadership	3
SW 100 Intro. to Social Work	3
SR 297 Coop. Work Exp.	6
	<u>15</u>

EMPLOYMENT OPPORTUNITIES: The purpose of an activity program is to create as near to a normal environment as possible, thereby encouraging persons in a long-term facility to exercise their abilities. The program provides these challenges in a planned, coordinated, structured manner. The activities provided are carefully selected so that they are not only enjoyable, but are especially beneficial in overcoming specific problems. An activity program creates the environment of challenge and achievement, helping a person along the road to recovery. The ever-increasing number of senior citizens who are in need of long-term care has created a demand for trained individuals who can make a nursing home more of a home for its residents.

Total Credit Hours: 46

SOCIAL WORKER ASSISTING (A)

TWO-YEAR PROGRAM

The Social Worker Assisting program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Social Worker Assisting from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
SW 100 Intro. to Social Work	3
SW 102 Princ. of Interviewing and Report Writing	4
SW 106 Special Social Problems	3
SW 110 Field Work	3
SW 111 Field Work	4
SW 112 Field Work	4
SW 113 Field Work	3

Related Courses

Course Title	Cr. Hrs.
B 130 Basic Health Science	4
EC 107 Consumer Economics	3
EG 106 Occupational Communication	
or	
EG 111 English Composition	3
HS 110 History of Chicano People	3
HS 120 History of Black People	3
PS 114 American State & Local Gov't.	3
PY 107 Psych. of Personal Dev.	3
PY 111 General Psychology	3
PY 112 General Psychology	3
PY 210 Social Psychology	3
PY 221 Developmental Psychology	3
S 110 Introduction to Speech	3
SO 111 Introduction to Sociology	3
SO 112 Introduction to Sociology	3
SO 113 Introduction to Sociology	3
SO 120 Marriage and the Family	3
SO 211 Current Social Issues	3
SO 220 Minority Groups in Amer. Soc.	3
SO 223 Youth in Society	3
Social Science Elective	3
Related Electives	6

Total Credits Required: 91

Total Contact Hours: 1110

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives and Field Work *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: This program is designed to prepare students for entry into a variety of agencies which provide social services to the community. Upon completion of the program, the graduate is prepared for employment in private or public enterprises of a human welfare nature.

TRAFFIC ENGINEERING TECHNOLOGY (R)

TWO-YEAR PROGRAM

The Traffic Engineering Technology program is made up of occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, Industrial Occupations, and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Traffic Engineering Technology from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
TE 100 Intro. to Traffic Eng.	3
TE 102 Technical Physics I	4
TE 103 Technical Physics II	4
TE 106 Princ. of Traffic Admin. & Safety	3
TE 108 Control Devices	3
TE 200 Field Traffic Survey	6
TE 202 Traffic Laws & Regulations	3
TE 203 Model Traffic Ordinances	3
TE 204 Geometric Design	6
TE 210 Traffic Studies	6
TE 211 Traffic Accident Investigation	4
TE 212 Urban Transportation Planning	6
TE 297 Cooperative Work Experience	8

Related Courses

Course Title	Cr. Hrs.
AV 200 Prod. of AV Materials	4
D 111 Drafting I	4
EG 107 Occupational Communications	3
EG 108 Occupational Communications	3
M 102 Applied Math I	3
M 103 Applied Math II	3
M 104 Applied Math III	3
M 120 Statistics for Bus. and Ind.	3
UP 202 Data Processing for Planning	3
Social Science Elective	3
Related Electives	6

Total Credits Required: 93

Total Contact Hours: 1150

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's advisor.

URBAN HORTICULTURE (N)

SEVEN-QUARTER PROGRAM

Horticulture in Colorado presents many diverse opportunities for persons interested in landscape and floral work. Because of this, the program is made up of seven quarters for persons interested in learning about the total field of horticulture while the three quarter programs are geared to specific job entry categories.

First Quarter	Cr. Hrs.
*UH 100 Intro. to Urban Horticulture	2
UH 102 Landscape Plant Materials	4
UH 104 Plant Science	4
EG 106 Occupational Comm. or	
EG 111 English Composition	3
Math Elective	3
	16

Second Quarter	Cr. Hrs.
UH 106 Plant Science	4
UH 108 Landscape Planning	4
EG 107 Occupational Communic. or	
EG 112 English Composition	3
Elective	3
	14

Third Quarter		Cr. Hrs.
UH 110	Soils & Fertilizers	4
UH 112	Horticultural Science	4
EC 211	Principles of Economics	3
PY 100	Human Relations in Bus. & Ind.	3
		14

Fourth Quarter		
UH 297	Cooperative Work Experience	8
UH 299	Independent Study	4
		12

Fifth Quarter		
UH 201	Nursery Management	4
UH 203	Horticultural Equipment & Facilities	3
AC 109	Bookkeeping & Accounting or	
AC 111	Accounting	5
Business Management Elect.		3
		15

Sixth Quarter		
UH 205	Landscape Maintenance	3
UH 207	Greenhouse Management	4
UH 209	Horticulture Bus. Oper.	3
***Suggested Elective		3
Industrial Occup. Elective		3
		16

Seventh Quarter		
UH 211	Diseases & Pests	4
UH 213	Turf Prod. & Management	4
UH 297	Cooperative Work Exp. or	
***Elective		4
PY 107	Psychology of Pers. Develop.	3
		15

Total Credit Hours: 102
Total Contact Hours: 1420

*Optional—Student may substitute elective with instructor's approval.

**Evening Courses will require Saturday Field Trips.

***Suggested Electives: Horticulture-Floral Design Workshop-UH114; Horticulture Seminar-UH 221; Perspective Drawing-UH219; Merchandising Horticulture Products-UH-116. Business & Management: Business & Organization Management-MG201 (Prerequisite: Intro. to Business-MG105); Principles of Marketing-MG203; Principles of Retailing & Merchandising-MG215.

EMPLOYMENT OPPORTUNITIES: As our society has become more affluent, it has also created more leisure time for recreational activities which utilize park, golf course and other outdoor areas, all of which must be managed and maintained. Flowers increasingly appear in and around our homes, and we have become more concerned about the beautification of our nation's landscapes. Consequently, career opportunities have been increasing in the field of urban horticulture, and the industry is looking for ambitious and well-trained people. Successful completion of this program will result in the granting of an Associate Degree in Horticulture.

**URBAN HORTICULTURE (N)
THREE-QUARTER PROGRAM
NURSERY MANAGEMENT AND
LANDSCAPE MAINTENANCE OPTION**

First Quarter		Cr. Hrs.
UH 102	Landscape Plant Materials	4
UH 104	Plant Science	4
UH 201	Nursery Mgmt.	4
Math Elective		3
		15

Second Quarter		Cr. Hrs.
UH 108	Landscape Plann.	4
UH 111	Small Engine & Carb. Repair for U.H.	5
UH 205	Landscape Maint.	3
Bus. Mgmt. Elective		3
EG 106	Occup. Communic.	3
		18

Third Quarter		
UH 110	Soils & Fert.	4
UH 211	Diseases & Pest.	4
PY 107	Psychology of Pers. Development	3
**Elective		3
		14

Total Credit Hours: 47
Total Contact Hours: 520

*Evening courses will require Saturday Field Trips.

**Suggested Electives: Horticulture Seminar, Perspective Drawing.

EMPLOYMENT OPPORTUNITIES: The Nursery Management and Landscape Maintenance Option provides entry level job skills as assistant Nurseryman, Garden Center Employee and Landscape Maintenance man. Successful completion of this program will result in the granting of a Certificate of Achievement.

**THREE QUARTER PROGRAM
GREENHOUSE MANAGEMENT OPTION**

First Quarter		Cr. Hrs.
UH 104	Plant Science	4
UH 203	Hort. Equipment & Facilities	3
Industrial Occup. Elective		5
Math Elective		3
		15

Second Quarter		
UH 106	Plant Science	4
UH 111	Small Engine & Carb. Repair for U.H.	5
UH 207	Greenhouse Mgmt.	4
PY 107	Psychology of Pers. Development	3
		16

Third Quarter		
UH 110	Soils & Fert.	4
UH 112	Hort. Science	4
UH 211	Diseases & Pest.	4
UH Elective		3
		15

Total Credit Hours: 46
Total Contact Hours: 620

*Evening courses will require Saturday field trips.

**Suggested Electives: Horticulture Seminar, Floral Design Seminar, Merchandising Horticultural products.

EMPLOYMENT OPPORTUNITIES: The Greenhouse Management Program is designed to equip an individual with the basic knowledge and skills to work as an assistant grower in a greenhouse. Foreman and supervisory level jobs are available upon completion of the two year program and further greenhouse training. Successful completion of this program will result in the granting of a Certificate of Achievement.

URBAN HORTICULTURE (N)

THREE-QUARTER PROGRAM TURF MANAGEMENT OPTION

	Cr. Hrs.
First Quarter	
UH 104 Plant Science	4
UH 203 Hort. Equip. & Facilities	3
UH 111 Small Engine & Carb. Repair for U.H.	5
Math Elective	3
	15

Second Quarter

UH 106 Plant Science	4
UH 205 Landscape Maint.	3
UH 299 Independent Study	4
EG 106 Occup. Communic.	3
PY 107 Psychology of Pers. Development.	3
	17

Third Quarter

UH 110 Soils & Fert.	4
UH 211 Diseases & Pests	4
UH 213 Turf. Prod. & Mgt.	4
**Elective	3
	15

Total Credit Hours: 47

Total Contact Hours: 520

*Evening courses will require Saturday field trips.

**Suggested Electives: Horticulture Seminar, Merchandising Horticultural Products.

EMPLOYMENT OPPORTUNITIES: The Turf Management option provides the basis for entry level job skills in Golf Course maintenance.

LANDSCAPE CONSTRUCTION (AND DESIGN) OPTION

	Cr. Hrs.
First Quarter	
UH 101 Intro. to Landscape Construc. Drafting ..	5
UH 102 Landscape Plant Materials	4
UH 104 Plant Science	4
UH 201 Nursery Mgmt.	4
	17

Second Quarter

CT 122 Contracts & Spec.	5
PY 107 Psychology of Pers. Development.	3
UH 108 Landscape Plann.	4
UH 205 Landscape Mgmt.	3
Math Elective	3
	18

Third Quarter

UH 110 Soils & Fert.	4
UH 208 Landscape Surv.	4
UH 217 Adv. Landscape Planning.	4
UH 219 Landscape Persp. Drawing.	4
Bus. Mgmt. Elective	3
	19

SUMMER QUARTER

UH 212 Basic Landscape Const. Estimating & Bidding	8 8
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Total Credit Hours: 62

Total Contact Hours: 700

EMPLOYMENT OPPORTUNITIES: This program is designed to prepare the student for positions with landscape contractors as supervisory personnel; and with landscape architects as landscape technicians and assistants. Upon completion a Certificate of Achievement will be granted.

URBAN PLANNING TECHNOLOGY (R)

TWO-YEAR PROGRAM

The Urban Planning Technology program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Science, Industrial Occupations, and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Urban Planning Technology from the Community College of Denver.

Occupational Courses

Course Title	Cr. Hrs.
UP 100 Introduction to Planning.	3
UP 102 Data Collecting Tech. & Eval.	3
UP 110 Problems in Urban Planning.	3
UP 200 Statistics for Planners	3
UP 202 Data Processing for Planners.	3
UP 205 Map Reading & Photo Interp.	3
UP 207 Pictorial Drafting	4
UP 210 Planning Law	3
UP 297 Cooperative Work Experience	7
UP 299 Independent Study	3

Related Courses

Course Title	Cr. Hrs.
AR 105 Basic Design	3
AV 200 Production of AV Materials.	4
B 110 Introduction to Environment.	3
D 111 Drafting I	4
EC 109 Applied Economics	3
EG 106 Occupational Communications	3
EG 107 Occupational Communications or	
S 110 Introduction to Speech.	3
EG 108 Occupational Communications	3
G 111 Introduction to Geology	4
GE 230 Urban Geography	3
HS 251 History of Cities	3
M 102 Applied Math I	3
M 103 Applied Math II	3
M 104 Applied Math III	3
PS 114 American State & Local Gov't	3
SU 103 Basic Surveying	4
Related Electives	6

Total Credits Required: 93

Total Contact Hours: 1220

Electives in both Occupational and Related Areas are available to meet the requirements of this program. Electives *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: The program is designed primarily to qualify students, upon completion of the curriculum and requirements, for employment as assistants to professional planners and urban renewal specialists in both public and private city county, regional and state planning offices, urban renewal agencies and other organizations concerned with various aspects of urban development.

WATER-WASTEWATER TECHNOLOGY (R)

TWO-YEAR PROGRAM

The Water-Wastewater Technology program is made up of Occupational Courses designed specifically to meet the needs of individuals participating in this profession and offered exclusively by the Division of Community and Personal Service Occupations.

Related Courses in the areas of Science and Math, Social Sciences, Industrial Occupations and Communications and Arts are also required to meet the needs of individuals in this profession.

Listed below are the Occupational and Related Courses necessary to meet the requirements to receive an Associate Degree in Water-Wastewater Technology from the Community College of Denver.

Occupational Courses

Course Title		Cr. Hrs.
WW 100	Intro. to Water-Wastewater	3
WW 102	Water & Wastewater Systems	3
WW 105	Water-Wastewater Mechanics	3
WW 200	Hydraulics for Water and Wastewater Technology	5
WW 203	Water Purification	3
WW 204	Wastewater Treatment Methods	3
WW 205	Water & Wastewater Equipment Maintenance	3
WW 206	Water & Wastewater Admin. and Finance	3
WW 210	Microbiology for Water & Wastewater Technology	4
WW 220	Sanitary Chemistry	4
WW 225	Instrumentation and Controls	4
WW 297	Cooperative Work Experience	7

Related Courses

Course Title		Cr. Hrs.
B 111	General Biology	5
B 112	General Biology	5
C 101	Fundamentals of Chemistry	4
C 103	Fundamentals of Chemistry	4
EG 106	Occupational Communication	3
EG 107	Occupational Communication	3
EG 108	Occupational Communication	3
FP 203	Fundamentals of Hydraulics and Pneumatics	3
M 102	Applied Math I	3
M 103	Applied Math II	3
PY 100	Human Relations in Bus. & Ind.	3
Related Electives	.....	9

Total Credits Required: 93

Total Contact Hours: 1190

Electives in both Occupational and Related areas are available to meet the requirements of the program. Electives *must* be approved by the student's advisor.

EMPLOYMENT OPPORTUNITIES: Persons who master the Water-Wastewater Technology program can serve as assistants to engineers, scientists, and public health personnel concerned with water supply developments and distribution, and with wastewater collection and treatment to abate and prevent pollution. The water and wastewater technician can function as a member of the team engaged in research, plant development, or operation; as an operator or assistant operator of water purification or wastewater-treatment facilities supervising and coordinating the efforts of workmen; as a member of the public health team.

COURSE DESCRIPTIONS

AUDIO-VISUAL TECHNOLOGY

AV 100 Introduction to Media (R) 3 credit hours

Course is designed to impart the philosophy, aims, and goals of the educational media field. Stress will be placed on understanding of the role of audio-visual aids. (3 hours per week)

AV 102 Audio-Visual Basic Electricity (R) 3 credit hours

This course will help the student develop competencies in recognizing and applying basic principles of electricity, magnetism, electric motors, circuitry (series and parallel) as they apply to audio-visual equipment. It will also prepare the student to do basic electrical repair on projectory and transcription machines. (3 hours per week)

AV 103 Audio-Visual Library Services (R) 4 credit hours

Provides the student with a brief overview of a modern library or materials center, emphasizes the role of a A-V materials and equipment. Also prepares the student in the technical processes of acquisition, preparation and circulation of audio-visual materials. (4 hours per week)

AV 200 Production of Audio-Visual Materials (R) 4 credit hours

Prerequisite: AV 100 Introduction to Media

This course will help the student to develop proficiencies in creating and producing sound-slide presentations, overhead transparencies, single concept films and posters. It also will prepare the student to operate slide and tape duplicators, laminating equipment and basic lettering devices. (4 hours per week)

AV 201 Television Production (R) 6 credit hours

This course is designed to develop competencies in the production of Video and Audio tapes for instructional purposes. It will also provide opportunities to develop basic skills in motion picture photography. (6 hours per week)

AV 202 Audio-Visual Photography (R) . . 3 credit hours

A basic course in theory of photography, construction and operation of cameras. This course will help the student develop skills in photography as related to audio-visual presentation techniques. (3 hours per week)

AV 203 Projection Equipment Maintenance (R) 4 credit hours

This course enables the individual student to attain basic knowledge and skills in maintenance and care of slide, filmstrip, overhead, opaque projectors as well as 8mm and 16mm motion picture pictures. (4 hours per week)

AV 204 Transcription Equipment Maintenance (R) 4 credit hours

This course enables the student to attain general knowledge of the maintenance and repair of audio tape recorders, video tape recorders, as well as disc and cassette players. (4 hours per week)

AV 205 Audio-Visual Electronics (R) ... 4 credit hours

A basic course in vacuum and solid state devices as they pertain to audio-visual equipment. The student will have the opportunity to develop skills in trouble shooting and repair of electronic components in projectors, video tape equipment, phonographs and audio recorders. (4 hours per week)

AV 206 Duplicating Processes (R) 3 credit hours

Training in the technology related to reproductions of various graphic designs; provides opportunity to develop skills in offset printing, mimeographing and spirit duplicating. (3 hours per week)

AV 297 Cooperative Work Experience (R) 1-6 credit hours

In the Audio-Visual Technology program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

AV 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

BUILDING INSPECTION

BI 100 Building Codes and Standards (R) 3 credit hours

An analysis of the building laws and their sources regulating construction. (3 hours per week)

BI 102 Construction Materials (R) 4 credit hours

A qualitative study of wood, masonry, concrete, and steel construction, and survey of roofing, glazing wall

and floor finishes. (3 hours lecture, 2 hours lab per week)

BI 103 Mechanical Inspection (R) 3 credit hours

An introduction to the art of inspecting the heating and ventilating, and refrigeration work on the construction job. (3 hours per week)

BI 104 Field Inspection Techniques (R) 4 credit hours

An introduction to the art of inspecting construction job-in-progress with special emphasis on problems encountered in the field. (2 hours lecture, 4 hours lab per week)

BI 105 Soils and Grading (R) 3 credit hours

A study of the problems and solutions encountered in the soils of a construction job. (3 hours per week)

BI 106 Electrical Inspection (R) 3 credit hours

An introduction to the art of inspecting the electrical work on the construction job. (3 hours per week)

BI 110 Plumbing Inspection (R) 3 credit hours

An introduction to the art of inspecting the plumbing work on the construction job. (3 hours per week)

BI 112 Plan Review (R) 3 credit hours

Evaluation of building design for life safety, environmental health features, and structural stability. (3 hours per week)

BI 214 Construction Organization and Management (R) 3 credit hours

An introduction to modern management theory and techniques with application to modern construction problems. The student is given an understanding of supervisory principles as they apply to managerial positions. (3 hours per week)

BI 215 Utilities Inspection (R) 3 credit hours

An examination of the installation of larger, more complex plumbing systems and trench backfill. (3 hours per week)

BI 216 Introduction to Design Fundamentals (R) 3 credit hours

Evaluation of building design for features of structural stability. (3 hours per week)

BI 218 Housing Inspection and Programs (R) 3 credit hours

An examination of the inspection problems unique to existing residential buildings. (3 hours per week)

BI 297 Cooperative Work Experience (R) 1-6 credit hours

In the Building Inspection program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

BI 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

CI 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

CLASSROOM INSTRUCTIONAL ASSISTING

CI 110 Classroom Instructional Techniques I (R) 3 credit hours

An introductory course in education, designed to acquaint the classroom instructional assistant major with public education. Study of the nature of growth and development and of the principles and theories of learning as they apply to school children. Study of the role and responsibility of a classroom instructional assistant in instructional techniques and communications techniques with children. Relationship of the classroom instructional assistant to the professional teacher and administrator. (3 hours per week)

CI 111 Classroom Instructional Techniques II (R) 3 credit hours

A study of the procedures used in every day classroom experience including an introduction to school plant, schedules, attendance reports and records and other clerical functions performed by the teacher. An analysis of the basic procedures of test composition, interpretation and evaluation, with special emphasis on scoring recording objective tests, classroom papers and outside assignments. (3 hours per week)

CI 112 Classroom Instructional Techniques III (R) 3 credit hours

Opportunity to explore specific grade levels and subject areas. Observation in actual classroom under supervision of a credentialed teacher. Develop understanding of the school's role in the community and discuss problems which typically arise in school-community relations. Trainees are introduced to the use of available community resources and agencies. (1 hour lecture, 3 hours lab per week)

CI 297 Cooperative Work Experience (R) 1-6 credit hours

In the Classroom Instructional Assisting program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the division director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

CRIMINAL JUSTICE (R)

CJ 110 Criminal Justice I (R) 3 credit hours

The law enforcement field and the criminal justice system is introduced to the student. The various police professions including federal, state, county and municipal agencies will be studied. The vocational opportunities and functions at all levels of law enforcement will be considered. Includes the history, administrative problems, and philosophical view of the criminal justice system. A survey of the relationship within the American system of justice—between law enforcement activities and the courts, and between the courts and correctional activities. (3 hours per week)

CJ 111 Criminal Justice II (R) 3 credit hours
Prerequisite: CJ 110

Principles of organization, administration, and public service. Administration as applied to field operations. Discussions of fundamentals of patrol and crime prevention; community problems associated with enforcement, vice, traffic, and other duties; special units; duties of supervisory officers. (3 hours per week)

CJ 112 Constitutional Law (R) 3 credit hours

The development of U.S. Constitutional Law. Covers vital issues, definitions of constitutional terms and case law as it relates to constitutional issues. (3 hours per week)

CJ 113 Civil Law (R) 3 credit hours

The course concerns the legal protection afforded in civil procedures against interference by others with the security of one's person, property of intangible interests. Three fundamental theories of liability emerge: intentional interference, negligence and strict liability. The influences of theories and underlying social and economic factors is studied in the content of recognized categories of tort liability, interference with peace of mind, negligence, trespass to property nuisance, fraud, and other misrepresentation, defamation, and invasion of privacy. Through these illustrations the course seeks to develop an understanding of the law's search for basic principles to govern the resolutions of conflicts arising out of human relationships. (3 hours per week)

CJ 114 Criminal Law (R) 3 credit hours

The purpose of this course is to explore criminal law viewed as a device for controlling socially undesirable behavior. It is intended to give the students a working knowledge of the criminal code, the basic questions of public policy in the administration of criminal justice and of the legal principles of determining criminal liability. (3 hours per week)

CJ 116 Rules of Evidence (R) 3 credit hours

The student becomes familiar with the kinds and degrees of evidence, and with the rules governing the admissibility of evidence in court. (3 hours per week)

CJ 120 The Court System (R) 3 credit hours

The court system of the United States is explained at all levels, emphasizing adversary procedures in the criminal and civil or equity procedures in the juvenile court, together with recent Supreme Court decisions regarding both. (3 hours per week)

CJ 122 Probation, Pardon, and Paroles (R) 3 credit hours

Probation as a judicial process and parole as an executive function are examined as community-based correctional programs and the use of pardons is reviewed. (3 hours per week)

CJ 210 Criminal Investigation I (R) 3 credit hours

Probation as a judicial process and parole as an executive function are examined as community-based correctional programs and the use of pardons is reviewed. (3 hours per week)

CJ 211 Criminal Investigation II (R) 3 credit hours

Prerequisite: CJ 210

Followup investigation techniques. A continuation of CJ 210, Criminal Investigation I. Attention is given to interviewing and statements; the importance of knowing the criminals *modus operandi*; and sources of information. Emphasis is placed on the practical aspects of criminal investigation such as the techniques used in special kinds of investigation; case preparation; and methods of dealing with news media. (3 hours per week)

CJ 212 Criminal Investigation III (R) 3 credit hours

Prerequisite: CJ 211

The collection, identification and preservation of evidence. Attention is given to comparative evidence and current laboratory capabilities and limitations. Students are made aware of available technical methods used in criminal investigation. (3 hours per week)

CJ 220 Juvenile Delinquency (R) 3 credit hours

Analysis of delinquency and the family structure; social theories of causality; methods of classification; delinquency control; preventive measures by courts and law enforcement; treatment process and programs of training schools; diagnostic methods; detention facilities. Development of the Juvenile Court system in the United States. (3 hours per week)

CJ 222 Traffic Enforcement (R) 3 credit hours

Course includes the traffic problem; patrolling procedures; pursuit driving; stopping the violator; officer-violator relationships; drinking driver investigations; traffic direction; and roadblocks. (3 hours per week)

CJ 224 Community Relations (R) 3 credit hours

The role of the individual officer in achieving and maintaining public support; human relations, public information; relationships with violators and complainants. (3 hours per week)

CJ 230 Police Supervision (R) 3 credit hours

Principles of personnel management as applied to the police enterprise evaluation and promotion, discipline,

training, employee welfare, problem solving, leadership. (3 hours per week)

CJ 234 Narcotics and Drugs (R) 3 credit hours

This course will include the discovery and investigation of narcotics peddlers and users; behavior and treatment of the addict; prevention techniques; cooperation with federal agencies; description, chemical properties and results of the use of narcotic and other dangerous drugs. (3 hours per week)

CJ 236 Advance Emergency Techniques (R) 2 credit hours

Skills to be used in the treatment of injuries in an emergency situation; including emergency childbirth and other situations frequently encountered by police. (2 hours per week)

CJ 238 Correctional Services in the Community (R) 3 credit hours

Community resources that can be brought to bear on the correctional task are examined, such as vocational rehabilitation, alcohol detoxification and other units, welfare services, child guidance, and mental health clinics, employment services, private volunteer professional assistance, legal aid and other pertinent services. (3 hours per week)

CJ 297 Cooperative Work Experience (R) 0-6 credit hours

Students who are not presently employed will be required to take a minimum of 8 credit hours of Cooperative work Experience before they can receive their associate degree.

EARLY CHILDHOOD EDUCATION AND MANAGEMENT

CC 101 Day Care Teaching Techniques and Program Design 4 credit hours

An overview of duties and responsibilities of the assistant within day care centers. A study of day care schedules and State requirements for day care centers. Survey of the assistant in relation to the child parents, and total center staff. This course will include a strong emphasis on the "team" approach, and the value of constant communication from the assistant to the teacher of who he/she is assisting. (4 hours per week)

CC 102 Creative Activities (A, N, R) 3 credit hours

The intent of this course is to provide learning experiences encouraging creativity and self-expression in children through the use of suitable activities and materials. Experiences in basic drawing, painting, pasting, cutting, clay and play dough are included. (2 hours lecture, 2 hours lab per week)

CC 103 Orientation to Program Practicum (A, N, R) 6 credit hours

Analysis and interpretation of children's activities and experiences based on observations in the Children's Center at Community College or other approved licensed facility, in relation to early childhood education and development. Appropriate licensing regulations are introduced and qualified. (2 hours lecture, 8 hours lab per week)

CC 104 Supervised Laboratory Experience (A, N, R) 6 credit hours

Prerequisite: CC 103

Practicum in the Community College Children's Center or other approved licensed facility. Participation as well as discussion and application of methods for guiding children's learning experiences are involved. (2 hour lecture, 8 hours lab per week)

CC 105 Supervised Student Participation (A, N, R) 6 credit hours

Prerequisite: CC 104

Practicum in approved day care center; continuation of CC 104. (1 hour lecture and 10 hours lab per week)

CC 106 Supervised Student Participation (R, N) 6 credit hours

Prerequisite: CC 105

Practicum in approved day care center; continuation of CC 105. (1 hour lecture and 10 hours lab per week)

CC 107 Supervised Student Participation (R, N) 6 credit hours

Prerequisite: CC 106

Practicum in approved day care center; continuation of CC 106. (1 hour lecture and 10 hours lab per week)

CC 108 Introduction to Teaching the Young Child (A, N, R) 4 credit hours

Theory and methods of teaching the young child, two to six years of age, in relation to his developmental patterns. Survey of relevant learning theories and current learning models. (3 hours lecture and 2 hours lab per week)

CC 109 Methods of Teaching the Young Child (A, N, R) 4 credit hours

Prerequisite: CC 108 or permission of instructor

Application of basic philosophy and theory of teaching the child two to six years of age. Student design various materials and aides for use in teaching. (3 hours lecture and 2 hours lab)

CC 201 Workshop of Ideas (A, N, R) . . . 4 credit hours

Prerequisite: Permission of Instructor

This course is designed to meet needs of teachers currently in the field. It includes a brief review of basic early childhood practices and an introduction to recent learning models and theories. (4 hours per week)

CC 202 Workshop of Things (A, N, R) . . 4 credit hours

Prerequisite: CC 201 or permission of instructor

Examination of commercial and teacher made materials related to current learning models. Teachers design and create teaching materials for their own classroom. (4 hours per week)

CC 210 Child Care Program Supervision & Administration I (A, N, R) . . . 4 credit hours

Analysis and interpretation of supervision and administration procedures relevant to early childhood education programs. State licensing regulations appropriate to staff and staff responsibilities are presented. (4 hours per week)

CC 211 Child Care Program Supervision & Administration II (A, N, R) . . 4 credit hours

Analysis and interpretation of supervision and administration procedures relevant to early childhood education

programs specifically related to the involvement of parents. Community resources are studied in application to home and school needs. (5 hours per week)

CC 212 Child Care Center Business Operations (A, N, R) 4 credit hours

A study of the methods and problems involved in operating a small business. Inquiry into the areas of zoning restrictions, licensing requirements, tax information, funding procedures, basic bookkeeping techniques. (4 hours per week)

ENVIRONMENTAL CONTROL TECHNOLOGY (R)

EV 101 Environmental Health (R) 3 credit hours

A broad study of the principles of public health practices. Specific problems concerning air, water, noise, and solid waste pollution relative to the environment will be investigated in quantitative terms and various solutions discussed. Field trips used to complement and illustrate class work. (3 hours per week)

EV 107 Solid Waste Pollution (R) 3 credit hours

An in-depth study of source of solid waste pollution and methods of control and abatement. Specific attention is paid to modern sewage treatment in all forms with frequent field trips to investigate facilities. (3 hours per week)

EV 201 Atmospheric Pollution (R) 4 credit hours

A study of air pollution in relation to public health. Sources and classification of pollutants, pollution meteorology, sampling and measurement techniques, principles and methods employed in control are covered in lectures, field work, and class projects. (5 hours per week)

EV 203 Food Sanitation (R) 3 credit hours

The application of sanitary principles to the processing, storage, distribution and serving of foods including meats, poultry, and sea food, canned and frozen foods, bakery products, and beverages. (3 hours per week)

EV 205 Pollution Control Systems (R) . . 4 credit hours

Prerequisite: M 105 Introduction to Algebra

Hydraulic, pneumatic, mechanical, electrical and electronic control systems and components. Basic description, analysis and explanation of operation. Typical performance characteristics, limitations on performance, accuracy, application and their utilization in industrial processes. (6 hours per week)

EV 207 Vectors and Pesticides (R) 5 credit hours

This course includes the study of those parasites which produce disease with particular reference to the human host, and those animals and arthropods that are important in the transmission of disease. (6 hours of lecture and field experience per week)

EV 220 Pollution Sampling and Analysis (R) 4 credit hours

A basic course defining the pollution problems with emphasis on training technicians in the methods of determining pollutants of common interest. (5 hours per week)

EV 297 Cooperative Work Experience (R) 1-6 credit hours

In the Environment Control Technology Program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

EV 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

FIRE SCIENCE TECHNOLOGY

FS 100 Introduction to Fire Science and Suppression (R) 3 credit hours

Philosophy and history of fire protection; history of loss of life and property by fire; review of municipal fire defenses; study of the organization and function of federal, state, county, and private fire protection agencies; survey of professional fire protection career opportunities. Fire suppression organization; fire suppression equipment; characteristics and behavior of fire; fire hazard properties of ordinary materials; building design and construction; extinguishing agents; basic fire fighting tactics; public relations. (3 hours per week)

FS 104 Fire Company Organization and Procedure (R) 3 credit hours

Review of fire department organization; fire company organization; the company officer; personnel administration; communications; fire equipment; maintenance; training; fire prevention; fire fighting, company fire fighting capability; records and reports. (3 hours per week)

FS 106 Fire Fighting Tactics and Strategy (R) 3 credit hours

Prerequisite: FS 110 Fire Apparatus and Equipment
Review of fire chemistry, equipment, and manpower; basic fire fighting tactics and strategy; methods of attack; pre-planning fire problems. (3 hours per week)

FS 108 Fire Hydraulics (R) 3 credit hours

Prerequisite: M 102 Applied Math I
Review of basic mathematics; hydraulic laws and formulas as applied to the fire service; application of

formulas and mental calculation to hydraulic problems; water supply problems; underwriters' requirements for pumps. (3 hours per week)

FS 110 Fire Apparatus and Equipment (R) 3 credit hours

Driving laws, driving techniques, construction and operation of pumping engines, ladder trucks, aerial platforms, specialized equipment; apparatus maintenance. (3 hours per week)

FS 112 Defensive Driving for Firemen (R) 3 credit hours

Familiarization with national, state, and local driving laws; emergency vehicle driving techniques with emphasis on safety. (3 hours per week)

FS 199 Fire Command Officer Training School (R) 3 credit hours

A comprehensive 3 day Command Officer Training Seminar and Workshop. Conducted during the summer quarter utilizing nationally known speakers in Fire Service Management, Command Strategy and Company Operations.

FS 202 Fundamentals of Fire Prevention (R) 3 credit hours

Prerequisite: FS 100 Introduction to Fire Science & Suppression

Organization and function of the fire prevention organization; inspections; surveying and mapping procedures; recognition of fire hazards; engineering a solution of the hazard; enforcement of the solution; public relations as affected by fire prevention. (3 hours per week)

FS 204 Related Codes and Ordinances I (R) 3 credit hours

Familiarization with national, state, and local laws and ordinances which influence the field of fire prevention. (3 hours per week)

FS 205 Related Codes and Ordinances II (R) 3 credit hours

Prerequisite: F 204 Related Codes and Ordinances I
Continuation of Related Codes and Ordinances I with an emphasis on an analysis of building codes. (3 hours per week)

FS 206 Rescue Practice (R) 3 credit hours

Rescue practices, the human body, emergency care of victims, childbirth, artificial respiration, toxic gases, chemicals and diseases, radioactive hazards, rescue problems, and techniques. (3 hours per week)

FS 208 Hazardous Materials I (R) 3 credit hours

Prerequisite: C 101 Fundamentals of Chemistry
A review of basic chemistry, storage, handling, laws, standards, and fire fighting practices pertaining to hazardous materials. (3 hours per week)

FS 209 Hazardous Materials II (R) 3 credit hours

Prerequisite: FS 208 Hazardous Materials I
Continuation of the study of hazardous materials covering storage, handling laws, standards, and fire fighting practices with emphasis on fire fighting and control at the company officer level. (3 hours per week)

FS 212 Fire Protection Equipment and Systems (R) 3 credit hours

Portable fire extinguishing equipment sprinkler systems, protective systems for special hazards; fire alarm and detection systems. (3 hours per week)

FS 214 Fire Department Administration (R) 3 credit hours

Prerequisite: FS 104 Fire Company Organization and Procedure

Consideration of basic concepts and principles of administration applicable to the organization and administration of an efficient fire department. (3 hours per week)

FS 216 Private Fire Protection Systems (R) 3 credit hours

Prerequisite: FS 212 Fire Protection Equipment and Systems

An analysis of private protection and alarm systems. Course covers organization and operation of private Fire Brigades, complete water system layouts. A study and evaluation of Fire Detection, Alarm and Supervisory systems. (3 hours per week)

FS 218 Fire Investigation (R) 3 credit hours

Prerequisite: FS 208 Hazardous Materials I

Introduction to arson and incendiarism, arson laws, and types of incendiary fires. Methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses. Procedures in handling juveniles, court procedures and giving court testimony. (3 hours per week)

FS 220 Fire Insurance (R) 3 credit hours

An analysis of the fire insurance rating structure. Elements involved in establishing insurance rates. The grading system for cities and towns, the classification of cities and towns, and hazard factors in occupancy, construction and exposures. (3 hours per week)

FS 222 Fire Service Training Technique (R) 3 credit hours

Familiarization with the modern concepts of instruction; Methods of Organizing, Planning and Conducting Fire Service Training. Study and evaluation of objective writing and student motivation. Introduction to Audio-Visual Teaching Techniques. (3 hours per week)

FS 230 Blueprint Reading for Firemen (R) 3 credit hours

This course will give the student a working knowledge of blueprint reading and sketching as applied to the construction industry. Building terms and abbreviations are taught along with symbols and conventions for other major trades. Construction features, beginning with details of component parts and advancing to a complete set of working drawings. (3 hours per week)

FS 297 Cooperative Work Experience (R) 1-6 credit hours

In the Fire Science Technology program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved,

with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (credit hours arranged)

FS 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (credit hours arranged)

FOOD SERVICE COURSE DESCRIPTIONS

F 101 Food Production I (N) 16 credit hours

An introduction to commercial food preparation. Course will cover the proper utilization of commercial food service equipment, the science of food preparation and sanitation and safety practices. Training at the second cook and fry station will be emphasized. (20 hours per week)

F 102 Food Production II (N) 16 credit hours

Prerequisite: F 101

This segment will detail safety procedures and programs; the importance and procedures for care and maintenance of hand and stationary food equipment. Demonstration and participation in preparing various soups, consommés, and meat dishes as well as the composite effects of cooking. (20 hours per week)

F 103 Food Production III (N) 16 credit hours

Prerequisite: F 102

Effects of refrigeration and freezing of various foods and food products, the prevention of food spoilage. Understanding specifications and contracts for equipment. Demonstration and participation in the preparation of main entree items. (20 hours per week)

F 108 Nutrition (N) 3 credit hours

Orientation in nutritional values, their effect on the healthy human body as well as their therapeutic use in regaining health; their effect on the social, physical and psychological development of children; their application to commercial food service, and the procedures necessary to assure the preservation of these values through proper preparation and service. (3 hours per week)

F 201 Food Management I (N) 16 credit hours

Menu planning for food services, cafeteria, coffee shop, restaurant and banquets. Food and beverage costing; wine cellar operations; perpetual inventories; sales and cost distribution. A study of the marketing world and how it operates. (20 hours per week)

F 202 Food Management II (N) 16 credit hours

Prerequisite F 201

Making production schedules from menus; use of order lists; personnel operating reports and portion control.

Application of food control systems for all types of feeding operations. Buying fresh, frozen, dried foods, using written and verbal specifications. (20 hours per week)

F 203 Food Management III (N) 16 credit hours
Prerequisite: F 202

Preparation and service of complete menus. Menu planning, plate composition as related to haute cuisine in hotels and restaurants. French Food terminology. (20 hours per week)

F 210 Diet Therapy (N) 3 credit hours
Prerequisite: F 108 Nutrition, HE 100 Medical Terminology

An intensive study of more detailed diet therapy emphasizing the teamcase study approach. In addition to an understanding of diet as a therapeutic means in general illnesses, special emphasis will be given to work with geriatrics and deficiency diseases. (3 hours per week)

F 211 School Nutrition Program (N) . . . 3 credit hours
Prerequisite: F 108 Nutrition

An indepth study of the school nutrition program as currently implemented and supported by school food service. (3 hours per week)

HOTEL-MOTEL MANAGEMENT

HM 103 Introduction to Hotel-Motel Management (A) 3 credit hours

This course is designed to give the background of hotel-motel management from early innkeeping to the modern skyscraper hotel. Organization of hotel operations, opportunities and trends will be stressed. (3 hours per week)

HM 105 Front Office Procedures (A) . . . 3 credit hours

Develops the area of human and public relations responsibilities of the front office salesmanship, cashier's charges, posting machines and some legal aspects of innkeeping. (3 hours per week)

HM 107 Maintenance and Engineer (A) 3 credit hours

Examines the organization of the engineering department. Discusses plumbing, heating ventilation, refrigeration and air conditioning, and electrical systems. Vertical transportation, structural maintenance, painting, landscaping, contracts, communication, acoustics, fire protection and maintenance of kitchen equipment represent the content of this course. (3 hours per week)

HM 109 Supervisory Housekeeping (A) . 3 credit hours

Provides a functional knowledge of the supervisor's duties such as record keeping, staffing, and employee training. (3 hours per week)

HM 111 Supervisory Development (A) . . 3 credit hours

Critical study of selected areas such as interpersonal relations in the industry, understanding and motivating people, handling grievances, training and evaluation, and cost control. (3 hours per week)

HM 115 Hotel-Motel Law (A) 3 credit hours

An exploration of problems related to theories of lia-

bility, casual relationships and intentional torts, negligence, labor laws, liens, evictions and crimes. (3 hours per week)

HM 117 Hotel-Motel Basic Accounting (A) 3 credit hours

Develops the basic principles of accounting as applied to the hospitality industry. Student progresses from an initial transaction to an analysis of the financial statement. (3 hours per week)

HM 119 Food & Beverage Management and Service (A) 3 credit hours

An overview for complete food and beverage operations which extends from purchasing, receiving and storage to preparation and service. (3 hours per week)

HM 121 Food and Beverage Control (A) 3 credit hours

Outlines the essentials of effective food and beverage control. Establishes a system for determining sale values for food and beverages. (3 hours per week)

HM 123 Food and Beverage Purchasing (A) 3 credit hours

A detailed study of the major groups of food purchased by quantity buyers. Establishes quality procurement procedures for food, beverage, and related items. (3 hours per week)

HM 151 Hotel-Motel Organization & Administration (A) 3 credit hours

Analysis of management functions and responsibilities in the lodging industry. (3 hours per week)

HM 201 Hotel-Motel Sales (A) 3 credit hours

A critical study of effective techniques for promoting the industry through application of principles of sales, service, marketing, advertising media, and public relations. (3 hours per week)

HM 203 Hotel-Motel Motor Management (A) 3 credit hours

A study for operators of small properties. Emphasizes administrative techniques for today's motel operators such as history, space utilization and business practices. (3 hours per week)

HM 205 Training and Coaching Techniques for Hotel-Motel Supervisor (A) 3 credit hours

Course is designed to assist the student in learning supervisory skills and organizational methods for maximizing the employer's day-to-day work performance. (3 hours per week)

INFORMATION MEDIA TECHNOLOGY

I 100 Information Media Services I . . . 6 credit hours

Introduces the student to a brief history of Information Media, including books, non-book media-microforms and audio-visual materials. Library and information center organization and management are studied, with vocabulary, equipment and personnel. Tasks and operations involved in the Technical Assistant staff role, in all service areas. Major instruction is given in technical circulation duties of materials control systems and associated records. (8 hours per week)

I 101 Information Media Services II 9 credit hours

Continues staff role study and service areas-reference study; stresses research materials methods and user services duties. Laboratory skills in the function of preparing materials in the technical operations, also acquisition and maintenance of materials in all types of information library facilities. Technical cataloging operations in operating bibliographic information storage and retrieval methods are emphasized. (12 hours per week)

I 105 Library Use 1 credit hour

A 1 hour course designed to introduce students to the library, its resources and how to use them. The course includes explanations of the card catalog, indexes and various reference materials. (A total of 9 contact hours)

I 110 Records & Information Management 4 credit hours

The course will include a practical simplified approach to organization of office collections of 100 to 1000 items. There will be instruction in use of standard and non-conventional organizational methods. The program will instruct in the use and preparation of special materials and files. Additional exercises provide information for application of library and office filing practices. Executive oriented training in dictionaries, hand books, looseleaf services and other references in business and science will be covered. Special arrangement offers individual experience methods application practice in management of the office Information Center to make it function when assembled. (6 hours per week)

I 115 Micromedia Skills 6 credit hours

Three phases of training are integrated into this course. Basic and important characteristics of equipment — its use and manual-automated machine practices are primary methods studied. Management elements are examined in simulation to train students in designing, operating and managing microform systems. Occupationally related uses in libraries, business and industry and also specialized fields in both present and potential applications. Field trips, manufacturer and use presentations with general and special application purposes will be part of the learning laboratory experience. Guided investigation of students will relate executive, middle management and operative staff in microform use. (9 hours per week)

I 150 Information Media Skills I 6 credit hours

This is a familiarization course of communication media; instruction includes the operation of audio-visual equipment, records control methods and use. Transparencies graphic and display techniques for a variety of graphic materials are an integral part of the course. (8 hours per week)

I 151 Information Media Skills II 9 credit hours

Prerequisite: I 100; I 101

Introduces the student to advanced cataloging techniques and several existing subject classifications for all types of information and library collections. Materials selection instructs the student to incorporate pamphlets, audio-visual materials, etc., into the collection. Standard catalogs are utilized, and lists plus basic skills in procurement systems of materials are practiced. Information sources from business, science and

educational research are related to technical-service duties and responsibilities. (12 hours per week)

I 200 Technical Supervision Skills 9 credit hours

Prerequisite: I-100, 101, 150, 151

Develop skills related to the supervisory principles of the Technical Supervision role, gives basic instruction in the supervising of other clerical personnel. Explores the management of information/library and related equipment use for effective arrangement by field experience, laboratory exercises and case study methods. Faculty supervision in applied skills of computer automation, micrographics and advanced storage and retrieval methods operating in libraries and information facilities in which the student plans to seek employment. (12 hours per week)

I 290 Community Information/Library Media Seminars 1-6 credit hours

Seminars and workshops can be offered as needed to meet community demand to familiarize the student with modern information/library technology such as systems research methods, instructing in the most efficient system and effective way to use contemporary and advanced systems. Technical simulation would allow the uninitiated technician to work on problems and skills with contemporary and advanced equipment and become familiar with automated processes. This type of educational program may be used for technical advancement and improvement to initiate research and study problems.

Independent study or group projects can be arranged as needed to meet community demand. Courses may be offered at convenient community campus locations and times.

INSTITUTIONAL HOUSEKEEPING (A)

EH 100 Introduction to Institutional Housekeeping (A) 3 credit hours

Defines and discusses responsibilities assigned to the housekeeping department. Establishes the relations of a housekeeper to the paying guests, visitors, other employees and the employer. (3 hours per week)

EH 105 Maintenance & Control (A) 3 credit hours

Emphasizes the care and maintenance of rooms, floors, walls, miscellaneous area and equipment. Also includes the supervision of personnel and the management of equipment, materials, and laundry. (3 hours per week)

EH 107 Safety and Sanitation (A) 3 credit hours

Develops procedures for coping with fire and planning evacuations; analyzes component elements of disaster planning and accident prevention. Principles and methods of controlling bacteria and pests; familiarization with isolation cleaning. Knowledge of state, city and county regulations for sanitation and safety and their application to actual operations. (3 hours per week)

EH 109 Basic Interior (A) 3 credit hours

Principles of decorating involving color schemes, styles, room planning and furnishing, lighting and psychological effects on occupants. (3 hours per week)

EH 111 Purchasing, Budgeting and Records (A) 4 credit hours

Projection of expenses involving equipment, labor and supplies; analysis of principles of accounting and typing; conducting research on the quality and utilization of textiles, construction characteristics of furniture, rugs, mattresses, springs and institutional equipment. Consideration for line control and room arrangement. (4 hours per week)

EH 115 Personnel Management (A) 3 credit hours

Functions of departmental organization with particular emphasis on job designation, work simplification and daily inspection routines. Application of theoretical concepts to conducting interviews, employee training and supervision. (3 hours per week)

PARALEGAL (A)

LA 100 Introduction to Paralegal Training 4 credit hours

The intent of this course is to give the student interested in becoming a paralegal, exposure to his career options, a working knowledge of legal concepts and terminology, familiarity with legal research techniques, techniques of getting a job, and exposure to five substantive areas of the law and the attorneys and paralegals who practice in these areas. (4 hours per week)

LA 101 Domestic Relations 4 credit hours

This course will be work product oriented and will give the paralegal the actual law office skills required to be an integral part of the domestic relations or family law operation of law office. (4 hours per week)

LA 102 Corporations 4 credit hours

Emphasis will be placed on drafting the forms necessary to incorporate a corporation, do the upkeep on it, etc. The course should prepare the student to step directly into a law office and be an integral part of the firm corporate department. The paralegal will learn to do such things as draft stock option agreements, promissory notes and other such form relevant to corporate or commercial law. (4 hours per week)

LA 103 Real Estate Procedures 4 credit hours

Emphasis will be placed on drafting such things as partnership agreements, filling out forms necessary to complete a real estate transaction, how to comply with subdivision requirements, relevant legislation and other procedures relevant to a successful real estate law practice. (4 hours per week)

LA 104 Law Office Efficiency and Procedures 4 credit hours

Most law firms exist in chaos, attorneys spend time managing rather than practicing law. This course will be geared to teach the paralegal how to create order out of chaos, i.e., it will teach such skills as time-keeping, management control, client files, checklists, etc. (4 hours per week)

LA 105 Litigation 4 credit hours

This course will teach the student court procedures, investigative research techniques, how to draft forms necessary to the attorney who concentrates on litigation. (4 hours per week)

LA 106 Probate 4 credit hours

Stress will be primarily on drafting wills, settling estates, trusts, and the tax considerations involved in each of these. (4 hours per week)

LA 107 The Paralegal and the Structure of Government 4 credit hours

This course will be an overview of the structure and work of the State and Federal Government, furthermore this course will instruct students as to which legal document should be filed in which agency or office of the Federal and State Government, that is articles of corporation with Secretary of State, sub division plats with county planning commissions in environmental impact statement with E.P.A., etc., etc. (4 hours per week)

LA 210 Paralegal Workshop 6 credit hours

This course will be taught by a consortium of instructors from the disciplines mentioned above. It will allow the student to become a specialist in one of the substantive areas mentioned above. This course will stress legal tools, systems, techniques, problems and checklists. It will also give the student the opportunity of working directly with attorneys practicing in the student's chosen specialty area. (6 hours per week)

It should be noted that great stress will be placed in each of the above courses on the student's ability to write clear, concise sentences utilizing appropriate legal terminology. The student in most cases will be required to prepare at least one legal document per week in each course.

RECREATIONAL LEADERSHIP

RL 100 Introduction to Recreation Services (R) 3 credit hours

Introduces the basic fundamentals of the nature, scope, and significance of organized recreation services. It includes study of factors involved in the operation of basic recreation units, major program areas, organizational patterns, and the interrelationships of special agencies and institutions which serve the recreation needs of society. (3 hours per week)

RL 102 Techniques in Program and Organization (R) 3 credit hours

A study of the essential elements and basic principles involved in the organization, supervision, promotion, and evaluation of various types of recreation programs. Emphasis is on organized programs and services. (6 hours per week)

RL 111 Field Work (R) 4 credit hours
Prerequisite: RL 100 and Recreational Leadership major

A course designed to give the recreation student practical experience under supervision. The first experience should have the student working with an agency leader. Exposure to leadership responsibilities of planning, conducting, and evaluating an activity or program should result. (6 hours per week)

RL 112 Field Work 4 credit hours
Prerequisite: RL 111

The second supervised course designed to give the recreation student practical experience in developing recreation leadership skills. This experience should

have the student working as direct leader with the responsibility for planning, conducting, and evaluating an activity or program. (6 hours per week)

RL 113 Field Work (R) 4 credit hours
Prerequisite: RL 112

The third course designed to give the recreation student practical experience under supervision. This experience should involve the student working as an indirect leader by assisting a group or individual in the planning, conducting, and evaluating the group's or individual's desired experience. (6 hours per week)

RL 120 Creative Drama (R) 2 credit hours

A survey of the scope, values, and fundamental skills of drama and its role in recreation. Emphasis is on knowledge, understanding, and promotion of drama rather than mastery of performance skills. (4 hours per week)

RL 121 Tumbling and Gymnastics (R) . . 2 credit hours

Designed to acquaint the student with skills, teaching techniques and progression of tumbling, stunts and gymnastics for elementary and secondary school students. (4 hours per week)

RL 122 Sports Officiating (R) 2 credit hours

Instruction and experience in organizing, officiating and conducting competitive and recreational sports. (4 hours per week)

RL 140 Social Recreation (R) 3 credit hours

Introduces methods and materials for planning, organizing, and conducting social activities for groups of various sizes and ages in a variety of social situations. Emphasis is on the mechanics of planning and presenting a repertoire of activities for social recreation events. Major activities will be discussed, played, and/or demonstrated. (6 hours per week)

RL 141 Arts and Crafts (R) 2 credit hours

Demonstrates the methods and materials used in arts and crafts projects for a variety of recreational settings; school, camp, playground, recreation center, and clubs. Emphasis is on constructing, administering, promoting and teaching crafts. (4 hours per week)

RL 200 Team Sports (R) 2 credit hours

A survey of the basic terminology, skills, and rules of selected team sports and their use in recreation. Emphasis is upon knowledge and understanding of the organization, administration, and promotion of sport rather than mastery of performance skills. (4 hours per week)

RL 201 Group Leadership (R) 2 credit hours

Provides insight into the theory, principles and practice of planning, organizing, and conducting effective recreation programs for various groups. Emphasis is on group involvement. (4 hours per week)

RL 202 Individual Lifetime Sports (R) . 2 credit hours

A survey of the basic terminology, skills, and rules for selected individual lifetime sports and their use in recreation. Emphasis is on knowledge and understanding of the organization, administration and promotion of sports which have carry-over value rather than on mastery of performance skills. (4 hours per week)

RL 203 Outdoor Recreation and Camping (R) 3 credit hours

Includes study of the history, development, and trends of outdoor recreation, conservation, and organized camping. Emphasis is on laboratory work, field trips, and the development of outdoor skills. (6 hours per week)

RL 204 Games and Rhythms (R) 2 credit hours

Introduces methods and procedures in the instruction of recreational games and rhythmical activities. Course includes basic skills of games and rhythms at the elementary and secondary level. (4 hours per week)

RL 205 Aquatics Programming (R) 2 credit hours

Includes the basic terminology, skills, and techniques of selected water related activities and their use in recreation programs. (4 hours per week)

RL 206 Dance Activities (R) 2 credit hours

Introduces methods and materials for folk, square, and social dance. Attention is given to terminology, skills, selection, and presentation of dances. Emphasis is on knowledge and understanding of administration and promotion, rather than on mastery of performance skills. (4 hours per week)

RL 207 Equipment & Facilities (R) 2 credit hours

Designed to acquaint and familiarize student with recreational equipment and program facilities. (4 hours per week)

RL 208 Recreation in Special Settings (R) 3 credit hours

Insight into special recreation programming: therapeutic recreation; recreation for aged; recreation for the handicapped as related to community and volunteer services; recreation rehabilitation for the alcoholic, juvenile delinquent and criminal. (3 hours per week)

RL 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

SENIOR CITIZEN ACTIVITY ASSISTING (A)

SR 100 Introduction to Geriatrics (A) . 3 credit hours

Physical, mental and psychological changes which occur in aging are considered. Problems which may occur in later years with possible solutions and prevention are discussed. Nutritional implications in geriatrics will be included. (3 hours per week)

SR 105 A.D.L. Laboratory (A) 3 credit hours

Procedures that relate to the Activities of Daily Living, awareness of range of motion mechanics that are utilized in rehabilitation to the maximum potential of the individual. (3 hours per week)

SR 110 Institutional Organization (A) . . . 3 credit hours

General procedure followed in the home for senior citizens; psychology of relations with senior citizens. Responsibilities of personnel to self, employer and residents. Communication skill necessary to record information relevant to activities. (3 hours per week)

SR 112 Activities for Senior Citizens (A) 3 credit hours

Prerequisite: SR 100 Introduction to Geriatrics

Planning and conducting meaningful recreational opportunities that meet the interests of senior citizens, are adapted to their physical limitations, and contribute to their adjustment to the home. (3 hours per week)

EMPLOYMENT OPPORTUNITIES: The purpose of an activity program is to create as near to a normal environment as possible, thereby encouraging persons in a long-term care facility to exercise their abilities. The program provides these challenges in a planned, coordinated, structured manner. The activities provided are carefully selected so that they are not only enjoyable, but are especially beneficial in overcoming specific problems. An activity program creates the environment of challenge and achievement, helping a person along the road to recovery. The ever-increasing number of senior citizens who are in need of long-term care has created a demand for trained individuals who can make a nursing home more of a home for its residents.

SOCIAL WORKER ASSISTING

SW 100 Introduction to Social Work (A) 3 credit hours

A study of public and private welfare agencies and social services with an emphasis on the basic philosophy, techniques and functions of the professional social worker in the handling and working with people on an individual and direct basis. (4 hours per week)

SW 102 Principles of Interviewing and Report Writing (A) 4 credit hours

Application of concepts and methodology to the investigation of social problems. Use of proper interviewing techniques with individuals and/or groups involved in social work. The preparation of formal and informal reports for various types of welfare agencies and social services. Report data will be compiled from the results of statistical applications, case histories and surveys. (6 hours per week)

SW 106 Special Social Problems (A) . . . 3 credit hours

Study of social institutions as reflected in such current problems as crime and delinquency, human mobility, alcoholism, divorce, unemployment, mental derangement, housing, and personal demoralization. (3 hours lecture, 2 hours lab per week)

SW 110 Field Experience (A) 3 credit hours

Prerequisite: SW 100 Introduction to Social Work and completion of 15 credit hours of approved course work or permission of Division Director.

The field experience course provides the opportunity for the student to enlarge his scope through direct service in agencies providing help to clients, under professional supervision. The student will be enabled to

integrate his educational understanding with the field experience, and learn how he relates to people. (1 day per week)

SW 111 Field Experience (A) 4 credit hours

Prerequisite: SW 110 Field Experience

See description for SW 110. (8 hours per week)

SW 112 Field Experience (A) 4 credit hours

Prerequisite: SW 111 Field Experience

See description for SW 110. (8 hours per week)

SW 113 Field Experience (A) 3 credit hours

Prerequisite: SW 112 Field Experience

See description for SW 110. (6 hours per week)

SW 299 Independent Study (A) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

TRAFFIC ENGINEERING TECHNOLOGY PROGRAM

TE 100 Introduction to Traffic Engineering (R) 3 credit hours

This course offers a general overview of the field of traffic engineering technology and provides an insight into related career opportunities. It relates human factors and driver characteristics to the vehicle, roadway and environment. Traffic characteristics are defined in terms of speed, design, speed zoning, density, gaps and lags, and traffic volume. The course serves as an introduction for traffic engineering technology students and as a survey course for students majoring in other related fields. (3 hours per week)

TE 102 Technical Physics I (R) 4 credit hours

This is an introductory course in practical physics covering matter, measurements, mechanics, and machines. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class. (3 hours lecture, 2 hours lab per week)

TE 103 Technical Physics II (R) 4 credit hours

This is an introductory course in practical physics covering heat, light, sound, magnetism and electricity. Laboratory time is provided for demonstrations and experiments to help clarify the principles and procedures covered in class. (3 hours lecture, 2 hours lab per week)

TE 106 Principles of Traffic Administration and Safety (R) . . 3 credit hours

By studying traffic administration and safety, the student learns how budget, public relations, interagency problems and other systems operations affect traffic engineering. Stresses traffic safety as a basic consideration for all technical aspects of the field. The student is shown that the field traffic surveys, control

devices, geometric design, traffic studies, traffic laws and urban transportation planning constitute the major subject areas of traffic engineering technology. (3 hours per week)

TE 108 Control Devices (R) 3 credit hours

In the general context of design maintenance and placement, the course emphasizes sign (illumination, lettering, response time, type and design) signals (cycle lengths, phases, offsets, equipment and maintenance) markings, lighting (highway, intersections, special areas) and delineation. (3 hours per week)

TE 200 Field Traffic Survey (R) 6 credit hours

By collecting actual field data, the student solves problems relating to accident reporting, collision diagramming, intersection surveys, pedestrian volumes, and parking studies related to control, financing, design, demand characteristics, meters, terminals, vehicle dimension, signs and parking. Emphasis will be placed on the method and equipment required for the collection of field data, the writing of reports and the formulation of recommendations to solve these related problems. (3 hours lecture, 6 hours lab per week)

TE 202 Traffic Laws and Regulations (R) 3 credit hours

A thorough study of federal, state, and local laws and regulations provides the legal framework to be used in geometric design, vehicle characteristics, wheel loads, bus stops, parking signs, signals, markings, pedestrian and driver characteristics, warrants and general traffic law enforcement. (3 hours per week)

TE 203 Model Traffic Ordinances (R) . . 3 credit hours

(Course descriptions and curricula are presently being developed by experts in this field.)

TE 204 Geometric Design (R) 6 credit hours

Horizontal, vertical, and transitional curves, vertical curves, super elevation, pavement grip, widening curb radii, shoulders, acceleration and deceleration lanes, channelization, stopping distance, reaction in braking time, sight distance, and channelization combine with other considerations in the geometric design of roadways in rural, urban and down-town areas. The design laboratory is used for the geometric layout and the preparation of geometric design plans for the solution of practical field problems. (3 hours of lecture, 6 hours lab per week)

TE 210 Traffic Studies (R) 6 credit hours

Using actual field problems the student is taught how to plan and execute traffic engineering studies. Studies concerned with illumination, origin and destination, speed and volume stress the basic concepts of counting procedures, counting equipment ADT, cordons, flow maps, short counts, peak hour platoon flow, composition, thirtieth HV, and other traffic concepts. Emphasis is also placed on the use of data processing and statistics to reduce bulk data and analyze results. (3 hours lecture, 6 hours lab per week)

TE 211 Traffic Accident Investigation (R) 4 credit hours

This course will include such things as the nature and causes of accidents, planning an investigation, classification of accidents, taking measurements, accident scene evidence, road and weather conditions, tire mark

evidence and interpretation, and interpreting facts. (3 hours lecture, 2 hours lab per week)

TE 212 Urban Transportation Planning (R) 6 credit hours

This course combines new concepts in benefit, cost, economics, analysis, traffic forecasting and needs studies with the fundamental concepts learned in previous courses to plan large scale transportation systems. Although a traffic engineering technician would probably not be involved in such a large scale undertaking early in his career, he is shown how small segments of a project are carefully woven into a master planning concept. (3 hours lecture, 6 hours lab per week)

TE 297 Cooperative Work Experience (R) 1-6 credit hours

In the Criminal Justice program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

TE 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

URBAN HORTICULTURE COURSE DESCRIPTIONS

UH 100 Introduction to Urban Horticulture (N) 2 credit hours

Rocky Mountain Horticulture is different, but not impossible. Cultural methods and plant materials are suggested which will aid the horticulturist in adjusting to our existing climatic conditions. Basic design principles and maintenance are also covered. (2 hours per week)

UH 101 Introduction to Landscape Construction Drafting (N) 5 credit hours

This course introduces the student to basic orthographic projections and sketching coupled with line quality, scale work, basic plot plans, symbols used in Urban Horticulture and introduction to two point perspectives. (8 hours per week)

UH 102 Landscape Plant Materials (N) . 4 credit hours

The identification, culture and use of deciduous and evergreen plant materials. (6 hours per week, lecture and lab)



UH 104 Plant Science I (N) 4 credit hours

A study of fundamentals of plant growth with major emphasis upon the seed plants. Plant processes and growth related to commercial horticultural practices. (6 hours per week, lecture and lab)

UH 106 Plant Science II (N) 4 credit hours

A continuation of Plant Science UH 104, including factors affecting flowering, seeds, fruits, plant genetics and the lower plants, related to plant diseases likely to be encountered in the field. (6 hours per week, lecture and lab)

UH 108 Landscape Planning (N) 4 credit hours

Prerequisite: UH 102

Practical experience in drafting and design principles used in planning the home grounds and other areas. (6 hours per week, lecture and lab)

UH 110 Soils & Fertilizers (N) 4 credit hours

Prerequisite: UH 104

The properties and management of soils in relation to plant growth with emphasis on the principles of solid fertility and practice of fertilizer use. (6 hours per week, lecture and lab)

UH 111 Small Engine & Carburetion Repair for U.H. (N) 5 credit hours

The principles, design, construction, servicing, operation, troubleshooting and major overhaul of small engines (both two- and four-cycle) are studied, both in theory and practical application on live chain-saws, mowers, tillers, spraying equipment and small garden tractors. (6 hours lecture and lab per week)

UH 112 Horticultural Science (N) 4 credit hours

Basic horticultural practices are considered; soil and water management, pruning, propagation, grafting and the relationship of plants to their environments. (6 hours per week, lecture and lab)

UH 114 Floral Design (N) 4 credit hours

Practical experience in handling and arrangement of flowers. Students will design their own centerpieces, corsages, floral arrangements for special occasions and holidays. (6 hours per week, lecture and lab)

UH 116 Merchandising Horticultural Products (N) 1 credit hour

Display and selling of plants produced in horticultural greenhouse. (2 hours per week, lab)

UH 201 Nursery Management (N) 4 credit hours

Prerequisite: UH 102 and UH 108

Propagation, planting, crop rotation, business and cultural practices involved in operating a nursery. (6 hours per week, lecture and lab)

UH 203 Horticultural Equipment & Facilities (N) 3 credit hours

A study of the equipment, structures and facilities utilized in horticultural operations. Their uses and applications, construction methods and bidding and estimating. (3 hours per week, lecture and lab)

UH 205 Landscape Maintenance (N) . . 3 credit hours

Identification, cultural requirements and use of herbaceous plant materials and maintenance practices. (3 hours per week, lecture and lab)

UH 207 Greenhouse Management (N) . . 4 credit hours

Prerequisite: UH 104

Environmental control, culture and production methods employed in producing some of the leading florist crops. (6 hours per week, lecture and lab)

UH 208 Landscape Surveying (N) 4 credit hours

The student will learn how to use surveying equipment; topographical plotting as pertains to landscape development and construction, establishing grades, contouring, estimating top soil quantities and placing grade stakes in the field. (6 hours per week lecture and lab)

UH 209 Horticultural Business Operations (N) 4 credit hours

A study of the methods and problems involved in operating a small business. (6 hours per week, lecture and lab)

UH 211 Diseases and Pests (N) 4 credit hours

Identification, prevention and control of diseases and insect problems. Special consideration will be given to the use of insecticides and other chemicals. (6 hours per week, lecture and lab)

UH 212 Basic Landscape Construction, Estimating & Bidding (N) 8 credit hours

Prerequisite: Math, UH 102, UH 108, UH 110, UH 201, UH 203

Students will learn basic landscape construction methods and equipment operation, i.e., grading and sod laying, seeding, retaining wall and step construction, edging gravel and mulching techniques and estimating costs. (10 hours lecture and lab per week)

UH 213 Turf Production & Management (N) 4 credit hours

Prerequisite: UH 104

The principles and practices involved in the establishment and maintenance of lawns and turfs for parks, playgrounds, golf courses and home grounds. (6 hours per week, lecture and lab)

UH 217 Advanced Landscape Planning (N) 4 credit hours

Prerequisites: UH 101, UH 102, UH 108, UH, 110 UH 208

Most of the class activity will be advanced field work which includes use of surveying procedures. Class-

room lecture time will be held to a minimum. Enrollment will be limited. (6 hours per week, lecture and lab)

UH 219 Landscape Perspective Drawing (N) 4 credit hours

Prerequisite: UH 108

Students will learn how to illustrate landscaping plans in three dimensional drawings. (6 hours per week, lecture and lab)

UH 221 Seminar in Horticulture (N) 1 credit hour

Student must have completed 45 credit hours, at least 15 of which, must be in horticulture or a related science. (hours arranged)

URBAN PLANNING TECHNOLOGY

UP 100 Introduction to Planning (R) . . . 3 credit hours

An introduction to the planning process as it is currently operating in the urban setting with an emphasis on basic planning philosophy, techniques, and the function of the planning technician in development of solutions to urban problems including mass transportation, housing, and pollution. (3 hours per week)

UP 102 Data Collecting Techniques and Evaluation (R) 3 credit hours

Prerequisite: UP 100 Introduction to Planning

Basic principles of sampling; survey design; systems of sampling; methods of estimation; problem definition; evaluation of information collected; organization and preparation of reports, including techniques of collecting, interpreting and presenting information useful in urban planning. (2 hours of lecture, 3 hours lab per week)

UP 110 Problems in Urban Planning (R) 3 credit hours

Social, economic and psychological factors which influence social stratification and their effect on urban planning. Urban planning issues and problems of contemporary importance such as social attitudes, public opinion, etc. (3 hours per week)

UP 200 Statistics for Planners (R) 3 credit hours

Prerequisite: M 104 Applied Math III

Data handling; methods of analysis of interpretation; application of techniques to data rather than development of formulas; with examples drawn from urban planning studies. (3 hours per week)

UP 202 Data Processing for Planners (R) 3 credit hours

Prerequisite: M 104 Applied Math III and UP 102 Data Collecting Techniques and Evaluation

Effective use of automatic equipment necessary to meet the information needs of urban planners. Study of the basic data processing concepts and procedures including management information systems, the hardware and software necessary for system implementation and intra-firm and agency coordination. (3 hours per week)

UP 205 Map Reading and Photo Interpretation (R) 3 credit hours

Prerequisite: SU 102 Basic Surveying, and UP 100 Introduction to Planning

Interpretation and information gathering from maps and aerial photos. Use and application of black and white and color photos to urban planning. Final projects will be an evaluation of an area for specific proposal. (6 hours lab per week)

UP 207 Pictorial Drafting (R) 4 credit hours

Prerequisite: D 111 Introduction to Drafting

Problems involving the construction, layout, and rendering of pictorial illustrations of a technical nature, including exploded assemblies and assembled sections, using axonometric, and perspective projection. (6 hours each week, lecture and laboratory)

UP 210 Planning Law (R) 3 credit hours

An introduction to the legal basis for planning including such topics as the basic court cases and Federal laws which delineate the planning function in the urban setting, the State enabling legislation, and a review of local jurisdiction ordinance forms. This is followed by a review of the process which is required for the passage of new state and local laws. (3 hours per week)

UP 297 Cooperative Work Experience (R) 1-6 credit hours

In the Urban Planning Technology program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

UP 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

WATER-WASTEWATER TECHNOLOGY

WW 100 Introduction to Water and Wastewater (R) 3 credit hours

Overview of subject field; disease transmittal, hygienic excreta disposal, sources, protection and treatment of water, insect and rodent control, solid waste collection and disposal, food sanitation, swimming pool sanitation, industrial hygiene, radiological sanitation. (3 hours per week)

WW 102 Water and Wastewater Systems (R) 3 credit hours

Prerequisite: WW 100 Introduction to Water and Wastewater

A course to familiarize the student with the elementary engineering aspects of water and wastewater systems. Included are water quality and composition, ground and surface water supplies, water and wastewater treatment processes, plant equipment operation and maintenance, and related topics. (3 hours per week)

WW 105 Water-Wastewater Mechanics (R) 3 credit hours

An introduction to analysis and design of linkages, cams, gears and other machine components. The components are studied in terms of their motion characteristics and their application in the design of a mechanism. (3 hours per week)

WW 200 Hydraulics for Water and Wastewater Technology (R) .. 5 credit hours

Prerequisite: M 103 Applied Math II and WW 102 Water and Wastewater Systems

A basic study of closed conduit and open channel flow, including stream flow, subterranean flow, runoff, pump characteristics and wave action. (3 hours lecture, 4 hours lab per week)

WW 203 Water Pollution (R) 3 credit hours

Prerequisite: WW 100 Introduction to Water and Wastewater

Elementary engineering aspects of design, operation and maintenance of water purification systems. Aeration sedimentation, filtration, chlorination, coagulation, bacteriological control, softening, storage, health standards, maintenance, safety. (3 hours per week)

WW 204 Wastewater Treatment Methods (R) 3 credit hours

Prerequisite: WW 100 Introduction to Water and Wastewater

Elementary engineering aspects of design, operation and maintenance of wastewater systems, treatment methods, selection, plant, industrial wastes, rules and regulations, maintenance, safety. (3 hours per week)

WW 205 Water and Wastewater Equipment Maintenance (R) .. 3 credit hours

Prerequisite: WW 200 Hydraulics for Water and Wastewater Technology

A course designed to make the student aware of sound practices in general equipment repair and maintenance. Specific tools, protective coatings and record keeping are to be stressed. (3 hours per week)

WW 206 Water and Wastewater Administration and Finance (R) 3 credit hours

Prerequisite: WW 100 Introduction to Water and Wastewater

Sound practices in project service costs, rate structures, municipal finance, safety programs and personal practices are to be taught. Guest lecturers representing various water utilities will present their views, methods and practices. (3 hours per week)

WW 210 Microbiology for Water and Wastewater Technology (R) . . . 4 credit hours

Prerequisite: B 112 General Biology

A basic course in microbiology with emphasis on microorganisms, and on the laboratory procedures for identifying and differentiating organisms peculiar to water and wastewater treatment, and related public health and stream sanitation problems. (3 hours lecture, 2 hours lab per week)

WW 220 Sanitary Chemistry (R) 4 credit hours

Prerequisite: C 102 Fundamentals of Chemistry

Theory and laboratory techniques for all control tests of water purification and wastewater treatment. It includes basic in-plant studies. (2 hours lecture, 3 hours lab per week)

WW 225 Instrumentation and Controls (R) 4 credit hours

An elementary study of hydraulic, pneumatic, mechanical, electrical and electronic control systems and components. It includes a basic description, analysis, and explanation of operation of instrumental controls for water and wastewater plants. Typical performance characteristics, accuracy and application of instruments are studied. (3 hours lecture, 2 hours lab per week)

WW 297 Cooperative Work Experience (R) 1-6 credit hours

In the Water-Wastewater Technology program, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the division director.

The amount of time spent in cooperative work experience will vary to meet student's individual needs. (Credit and Contact Hours Arranged)

WW 299 Independent Study (R) 1-6 credit hours

This course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (Credit and Contact Hours Arranged)

SEMINARS AND WORKSHOPS

Most of the courses offered by the Division of Community and Personal Service Occupations can be

adapted for seminars and workshops to meet specific occupational needs. For further information, contact the Director of Community and Personal Service Occupations on your campus.

COOPERATIVE WORK EXPERIENCE

— 297 Cooperative Work Experience (A, N, R) 3-12 credit hours

In some program areas, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing coordination. Prerequisites for enrollment in Cooperative Work Experience are permission of the instructor and approval of the Division Director.

The amount of time spent in cooperative work experience will vary somewhat from program to program and to meet student's individual needs. (credit hours arranged)

OCCUPATIONAL PRACTICUM

— 298 Occupational Practicum (R) . . 1-6 credit hours

This course is designed for students having previous work experience in their major field of study. Emphasis will be placed upon job analysis, development of long-range career goal planning, upgrading of present job, supervisory training, and the like. Planned and supervised learning experiences will be provided in the business-industry sector of the community, depending on individual student needs and interests. Learning experiences will be supervised by the Coordinator of Cooperative Education. Prerequisites are completion of — 297 Cooperative Work Experience or the equivalent job-related work experience and the approval of the Coordinator of Cooperative Education. (credit hours arranged)

INDEPENDENT STUDY

— 299 Independent Study (A, N, R) . 1-12 credit hours

Independent study is available in each of the major areas of the Division of Community & Personal Service Occupations. The course provides opportunity for a student to study intensively a specific topic of interest under the direction of a qualified faculty member. Permission to enroll for independent study must be obtained from the Division Director and the assigned instructor. The number of credit hours to be allowed for successful completion of the course will be determined cooperatively by the instructor and the Division Director. (credit hours arranged)

DIVISION OF HEALTH OCCUPATIONS

CONTENTS

	*Campus
Dental Assisting	N
Respiratory (Inhalation) Therapy Technology	N
Medical Insurance Clerk	A
Nurse Assisting	A, N, R
Nursing	A, N
Practical Nursing	A
R.N. Refresher Course	R
Optometric Assisting	N
Radiologic Technology	N
Surgical Technician	A
Ward Clerk	A

*Auraria Campus — A
North Campus — N
Red Rocks Campus — R

DIVISION OF HEALTH OCCUPATIONS

GENERAL INFORMATION

Each health occupation program includes class room instruction and experience in patient care. The patient care experience will be in the actual hospital, clinic or similar unit typical of where the student will work upon completion of the program. Enrollment in each program is based on the availability of these clinical resources for patient care; therefore, the number of students in each program is limited to the number that can be accommodated at the clinical units. It is recommended that students with an interest in entering these occupational areas apply at least one year prior to the time planned for program entrance. Early application to the health program will also provide an opportunity for the student to take courses that will refresh or supplement previous high school work.

The Community College of Denver does not require the G.E.D. or high school graduation for entrance, but this is required by regulatory agencies in the health



field. A student must have the G.E.D. or high school diploma prior to entering the Practical Nursing and Dental Assisting Programs. This requirement must be met before the student can take the Nursing Licensing Examination; the X-Ray and Inhalation Therapy Registry Examinations; and the Dental Assisting Certification Examination.

Associate Degree programs are structured within the basic frame work of two years; however, each program may be individualized according to the student's needs. The individual with family responsibilities should plan to allot more than two years for completion of the Associate Degree requirements.

CONTINUING EDUCATION

Two basic types of continuing education programs are available to the practitioners in the health occupations.

Refresher courses will be offered, as indicated by community needs, to renew the knowledge and skills of the practitioners who have been inactive. For example, a nurse refresher course is offered for nurses currently licensed in Colorado who feel the need for additional theory and clinical practice before returning to the active practice of nursing.

The second group of programs is designed to augment the knowledge and skills of the practitioner in the health occupations. These courses will enable the practitioner to acquire an increased depth of knowledge in basic practice areas; an awareness of progress; developments and new therapy measures; and to meet requirements for recertification in such areas as Dental Assisting.

DENTAL ASSISTING (N) TWO-YEAR PROGRAM FIRST YEAR

	Cr. Hrs.
First Quarter	
Communications	3
SC 110 or 112 Typing.....	4
B 100 Basic Human Bio.	4
DA 110 Ornt. Dnt. Ass't.....	3
F 108 Nutrition	3
	17
Second Quarter	
Communications	3
AC 109 Bookkeeping & Accounting.....	5
B 123 Human Ant. Phys.	4
DA 112 Int. Dental Ass't.	3
	15
Third Quarter	
Communications	3
Elective	3
DA 120 Dent. Sci.	4
DA 118 Dent. Matrls.	3
DA 114 Dent. Off. Procedures	3
	16

SECOND YEAR

		Cr. Hrs.
Fourth Quarter		
PY 100	Hum. Rel. in Bus. & Ind.	3
HE 210	Emergency Meas.	2
DA 200	Dent. Opr. Pro.	5
DA 205	Dent. Roent.	3
DA 212	Intro. Clin. Ex.	2
		15

Fifth Quarter		
DA 220	Adv. Dent. Oper. Proc. I.	8
DA 240	Adv. Clinical Experience I.	8
		16

Sixth Quarter		
DA 222	Adv. Dent. Oper. Proc. II.	8
DA 242	Adv. Clinical Experience II.	8
		16

EMPLOYMENT OPPORTUNITIES: The program is designed to prepare students to become direct assistants to dentists in general and specialized practice. In addition to the responsibilities of chairside assisting, the dental assistant is prepared to assume office responsibilities and laboratory duties.

TOTAL CREDIT HOURS: 95

**RESPIRATORY THERAPY ASSISTING (N)
NINE-MONTH PROGRAM**

		Cr. Hrs.
First Quarter		
M 100	Dev. Math.	3
EG 106	Occ. Com.	3
HE 107	Basic Science	5
IT 101	Ther. Dev.	5
		16

Second Quarter		
HE 105	Nursing Proc. & Ethics	3
EG 107	Occ. Comm.	3
HE 106	Basic Science	5
IT 103	Basic Ther. Meas.	5
		16

Third Quarter		
HE 100	Med. Term.	2
PY 100	Hum. Rel. in Bus. & Ind.	3
HE 108	Basic Science	3
IT 105	Patient Care Measures.	5
Elective	.....	3
		16

EMPLOYMENT OPPORTUNITIES: Under the supervision of a physician or respiratory therapist, the therapy assistant is qualified to administer basic respiratory therapy measures. Positions may be obtained in hospitals, clinics and extended care resources.

TOTAL CREDIT HOURS: 48

**RESPIRATORY THERAPY TECHNOLOGY (N)
21-MONTH PROGRAM**

FIRST YEAR

		Cr. Hrs.
First Quarter		
Communications	.....	3
C 101	Fund. of Chem.	4
M 105	Introductory Alg.	4
Psych. Elective	.....	3
IT 100	Intro. to Resp. Tech.	3
		17

Second Quarter		
Communications	.....	3
B 123	Human Anat. & Phys.	4
P 101	Fund. Physics	3
HE 100	Med. Term.	2
HE 110	Drugs & Drug. Adm.	3
		15

Third Quarter		
Communications	.....	3
B 124	Human Anat. & Phy.	4
C 103	Fund. of Chem.	4
IT 106	Basic Therapy Equip.	4
		15

SECOND YEAR

		Cr. Hrs.
Fourth Quarter (Summer)		
IT 107	Clinical Appl.	8
B 140	Intro. to Micro.	4
		12

Fifth Quarter		
IT 200	Resp. Pathophysiology	4
IT 206	Prolonged Art. Vent.	4
IT 207	Applied P.A.V.	6
		14

Sixth Quarter		
IT 210	Dept. Admin.	3
IT 220	Seminar	3
IT 297	Coop. Work Exp.	6
		12

Seventh Quarter		
IT 202	Ped. Resp. Tech.	3
IT 204	Pulmon. Func.	3
IT 205	Applied Pulmon. Func.	2
IT 212	Adv. Resp. Tech.	4
		12

EMPLOYMENT OPPORTUNITIES: The Program in Inhalation Therapy Technology is designed to prepare therapists to work under the supervision of a physician. The therapist is employed in hospitals, clinics and research laboratories. Upon completion of the Program the student is eligible to take the Registry Examination offered by the American Association of Respiratory Therapy.

TOTAL CREDIT HOURS: 97

MEDICAL INSURANCE CLERK (A)**NINE-MONTH PROGRAM**

	Cr. Hrs.
First Quarter	
MO 100 Intro. Med. Off. Proc.	3
MO 104 Basic Ins. Concepts	3
SC 110 Typing I	
or	
SC 111 Typing II	4
HE 100 Med. Term.	2
EG 106 Occupational Comm.	
or	
*EG 131 Business Comm.	3
	15
Second Quarter	
MO 110 Intro. to Health Ins.	3
MO 120 Legal & Med. Ethics.	1
M 130 Med. Filing Proc.	3
HE 107 Basic Science	5
SC 112 Intermediate Typing	4
	16
Third Quarter	
MO 150 Ins. Info. Methods	6
MO 170 Health Ins. Claim Rptng.	6
SC 130 Med. Machine Trans. I	3
MO 297 Coop. Work Exp.	2
	17

*EG 131 is required for program completion. The student needing basic communication skills should take EG 106 prior to EG 131.

EMPLOYMENT OPPORTUNITIES: Employment is available in many health care facilities such as hospitals, clinics, and doctors' offices. This worker is also utilized by insurance companies and other businesses concerned with health insurance claims.

TOTAL HOURS: 48

NURSE ASSISTING (A, N, R)**THREE-MONTH PROGRAM**

This one quarter (10-12 week) course is to prepare the student for employment as a nurse assistant. The nurse assistant will work as a part of the health team, under the direction and supervision of a registered nurse, caring for patients in hospitals, extended care facilities and nursing homes.

The student will spend 20 hours each week in classes at the College or in supervised patient care experiences in a hospital or nursing home.

	Cr. Hrs.
First Quarter	
NA 110 Basic Personal Care	8
NA 120 Patient Care Measures	8
	16

EMPLOYMENT OPPORTUNITIES: Graduates will qualify for service in hospitals, extended care facilities, nursing homes, and home-care agencies. Persons who qualify for a more advanced program will be counseled to enter practical, technical or professional nursing programs.

NURSING (N)**ASSOCIATE DEGREE NURSING PROGRAM****FIRST YEAR**

	Cr. Hrs.
First Quarter	
Communications	3
HE 100 Med. Term.	2
B 100 Basic Human Biology (C 101 Alternate)....	4
Psychology Elective	3
*N 100 Intro. to Nursing.....	6
	18
Second Quarter	
B 123 Human Anatomy & Physiology	4
HE 110 Drugs & Drug Admin. (Nutrition-Alternate). 3	
PY 221 Child Growth & Development.....	3
*N 102 Nursing Prob. I	8
	18
Third Quarter	
B 124 Human Anatomy-Physiology	4
F 108 Nutrition (HE 110 Drugs & Drug Admin. Alternate)	3
PY 222 Child Growth & Development.....	3
*N 104 Nursing Prob. II	8
	18

SECOND YEAR

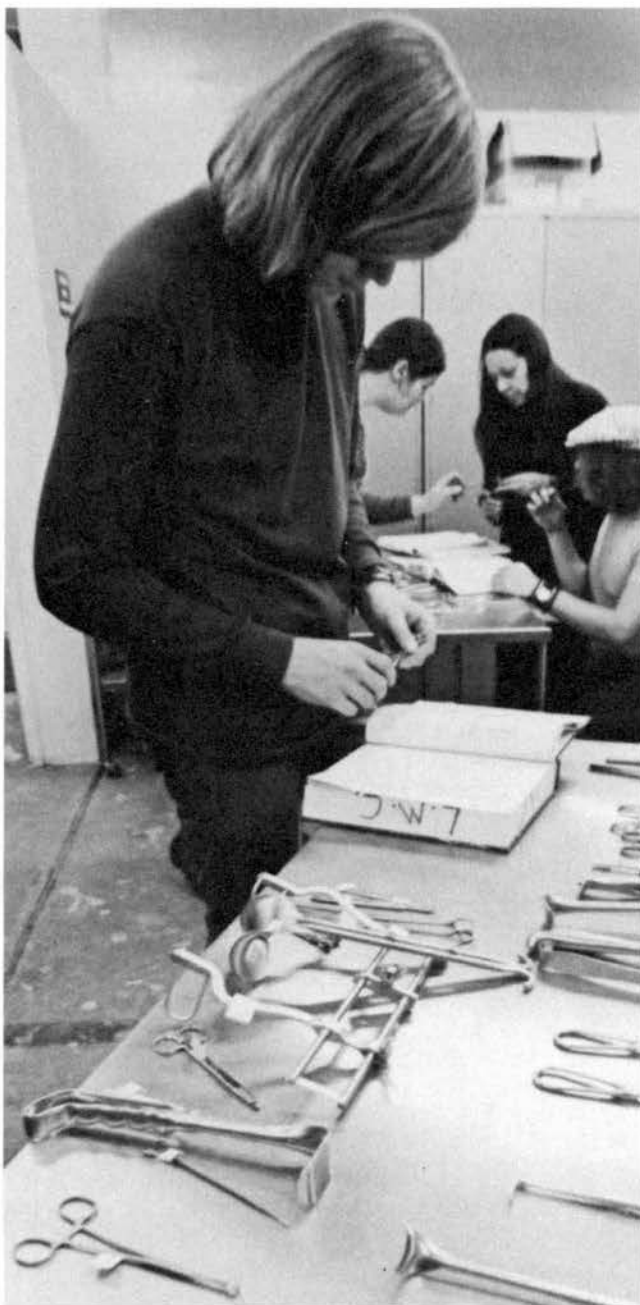
	Cr. Hrs.
Fourth Quarter	
Communications	3
B 140 Intro. to Microbiology	4
*N 200 Maternal Child Nursing	8
	15
Fifth Quarter	
Communications	3
P 101 Fundamentals of Physics.....	3
*N 202 Nursing Intervention in Emotional Crises... 8	
	14
Sixth Quarter	
Elective if Desired (Social Science).....	3
*N 204 Contemporary Nursing	9
	12

TOTAL CREDIT HOURS: 90-95

*Each nursing course includes laboratory (patient care experience). Three laboratory hours earn one credit, and 2 auto-tutorial hours earn one credit.

PRACTICAL NURSING (A)

	Cr. Hrs.
First Quarter	
HE 100 Medical Term.	2
HE 107 Basic Science	5
VN 100 Personal Care of Patients.....	6
VN 102 Nutrition	2
English Elective	3
	18
Second Quarter	
HE 106 Basic Science	5
VN 110 Maternal & Child Care.....	7
English Elective	3
Psychology Elective	3
	18



Third Quarter

HE 108	Basic Science	3
VN 120	Medical-Surgical Nursing	10
VN 122	Personal & Vocational Rel.	1
	Sociology Elective	3
		<u>17</u>

EMPLOYMENT OPPORTUNITIES: Following successful completion of this program and the State Board for Practical Nursing Examination for licensure, the graduate will be prepared to work in beginning licensed practical nurse positions. He or she will be qualified to administer basic nursing care to people of all ages who have common illnesses. Positions may be obtained in hospitals, doctors' offices, clinics, or nursing homes. Many opportunities for employment are available.

TOTAL CREDIT HOURS: 53

REGISTERED NURSE REFRESHER COURSE (R) SIX-WEEK COURSE

A six-week course designed for the inactive registered nurse to review and update knowledge and skills as they relate to planning and giving nursing care to a patient or group of patients. Clinical practice on medical-surgical services in a nearby hospital will be correlated with classroom instruction.

N 230 Registered Nurse Refresher Course 8 credit hours

EMPLOYMENT OPPORTUNITIES: Registered nurses who have been inactive for five years or more are advised to complete refresher course before seeking employment in hospitals, nursing homes, extended care facilities and other health care agencies and institutions.

OPTOMETRIC ASSISTING (N) NINE-MONTH PROGRAM

First Quarter		Cr. Hrs.
EG 131	Bus. Comm.	3
B 100	Basic Human Biology	4
SC 110 or 112	Typing	4
OA 100	Intro. to Optom. Assisting	3
OA 101	Opt. Terminology, Methology	3
		<u>17</u>

Second Quarter		
EG 132	Bus. Comm.	3
AC 109	Bookkeeping & Accounting	5
OA 120	Ocular Anat. & Phys.	3
OA 102	Opt. Office Procedures	3
OA 104	Frame Selection-Adjustment	2
		<u>16</u>

Third Quarter		
PY 123	Child Guidance Tech.	3
PY 107	Psych. of Pers. Dev.	3
OA 106	Opt. Clin. Procedure	6
OA 110	Vocational Relationships	3
		<u>15</u>

EMPLOYMENT OPPORTUNITIES: The prepared optometric assistance will work under the supervision of the optometrist or ophthalmologist in offices or clinics. Increased emphasis on visual health will increase the need for this worker.

TOTAL CREDIT HOURS: 48

RADIOLOGIC TECHNOLOGY (N) GENERAL DIAGNOSTIC (X-Ray)

FIRST YEAR

First Quarter		Cr. Hrs.
	Communications	3
HE 100	Med. Term.	2
B 100	Basic Hum. Bio.	
	or	
C 101	Fund. of Chem.	4
RT 100	Intro. to Rad. Tech.	4
M 105	Introductory Algebra	4
		<u>17</u>

Second Quarter	
Communications	3
B 123 Hum. Anat. & Phys.	4
C 101 Fund. of Chem.	
or	
RT 100 Intro. to Rad. Tech.	4
HE 105 Nurs. Proc.	3
M 106 Intermed. Algebra	4
RT 101 Clinical Orientation	2
	<hr/> 20

Third Quarter	
P 105 Radiation Physics	4
RT 110 Intro. to Rad. Positioning	4
XT 111 Intro. to Clinical X-ray Tech.	4
B 124 Human Anat. & Phys.	4
	<hr/> 16

SECOND YEAR

Fourth Quarter	
Psychology (Elective)	3
HE 205 Survey of Med. & Surgical Diseases	3
XT 212 Rad. Positioning	4
XT 213 Adv. Clinical Tech.	8
	<hr/> 18

Fifth Quarter	
XT 214 Special Pos. Techniques	4
XT 215 Applied Special Positioning Techniques	12
	<hr/> 16

Sixth Quarter	
XT 216 Spec. Proc. & Tech.	3
XT 217 Applied Special Procedures Techniques	12
	<hr/> 15

Seventh Quarter	
XT 218 Advanced Rad. Tech.	3
XT 219 Applied Advanced Radiographic Techniques	12
	<hr/> 15

Eighth Quarter	
XT 220 Reg. Review	6
XT 297 Coop. Work Exp.	6
	<hr/> 12

EMPLOYMENT OPPORTUNITIES: Upon successful completion of this program and the Registry Examination, the graduate is prepared to work in hospitals, clinics, physicians' offices, government health facilities and research laboratories anywhere in the United States and Canada. With increased use of X-ray for both diagnosis and treatment, there is a growing shortage of qualified technologists, both male and female. There are many opportunities for advancement to supervisory and administrative positions.

A student is required to complete the total twenty-four month program to be eligible for the Associate Degree. Upon successful completion of this program the graduate will be eligible for the Registry Examination given by the American Registry of Radiologic Technologists and the American College of Radiology. The program is being conducted in cooperation with Denver hospitals and is approved by the Council of

Medical Education of the American Medical Association. The American College of Radiology, The Board of Trustees of The American Registry of Radiologic Technologists, The American Society of Radiologic Technologists, and Veteran's Administration.

TOTAL CREDIT HOURS: 129

RADIOLOGIC TECHNOLOGY (N)

NUCLEAR MEDICINE

FIRST YEAR

First Quarter	
Communications	3
HE 100 Med. Term.	2
B 100 Basic Human Biology	
or	
C 101 Fund. of Chemistry	4
RT 100 Intro. to Rad. Tech.	4
Elective (Math)	4
	<hr/> 17

Second Quarter	
Communications	3
B 123 Hum. Anat. & Phys.	4
C 101 Fund. of Chem.	
or	
RT 100 Intro. to Rad. Tech.	4
HE 105 Nurs. Proc.	3
Elective (Math)	4
RT 101 Clinical Orientation	2
	<hr/> 20

Third Quarter	
B 124 Hum. Anat. & Phys.	4
RT 108 Intro. to Rad. Positioning	2
P 105 Rad. Physics	4
Psychology (Elective)	3
*M 111 College Algebra	5
	<hr/> 18

*A student may select the mathematics courses as needed but must complete M 111 prior to Fall Quarter of the second year.

SECOND YEAR

Fourth Quarter (Fall)	
NT 200 Intro. Nuc. Physics and Statistics	3
NT 202 Int. Nucl. Med. Method Tech.	4
NT 203 Intro. to App. Nucl. Tech.	8
HE 205 Survey of Med.-Surg. Diseases	3
	<hr/> 18

Fifth Quarter	
R 210 Rad. Bio. & Path. I	3
NT 204 Intern. Nucl. Med. Tech.	4
NT 205 Intern. App. Nucl. Med. Tech.	8
C 102 Fund. of Chemistry	4
	<hr/> 19

Sixth Quarter	
NT 206 Adv. Nucl. Tech.	4
NT 207 Adv. Nucl. Med. Tech.	8
NT 215 Chem. of Nucl. Med.	3
	<hr/> 15

Seventh Quarter (Summer)	
NT 220 Reg. Review	6
NT 297 Coop. Work Exp.	6
	12

EMPLOYMENT OPPORTUNITIES: Upon successful completion of this program and the examination of the American Registry of Radiologic Technologists, the graduate is prepared to work in any Nuclear Medicine department in the United States and Canada. There is an increasing need for Registered Nuclear Medicine Technologists and employment opportunities are unlimited.

TOTAL CREDIT HOURS: 119

RADIOLOGIC TECHNOLOGY (N)

RADIATION THERAPY

FIRST YEAR

First Quarter		Cr. Hrs.
Communications		3
HE 100 Med. Term.		2
B 100 Basic Hum. Bio.		
or		
C 101 Fund. of Chem.		4
RT 100 Intro. to Rad. Tech.		4
M 105 Introductory Algebra		4
		17

Second Quarter		
Communications		3
B 123 Human Anat. & Phys.		4
C 101 Fund. of Chem.		
or		
RT 100 Intro. to Rad. Tech.		4
HE 105 Nurs. Proc.		3
M 106 Intermediate Algebra		4
RT 101 Clinical Orientation		2
		20

Third Quarter		
B 124 Hum. Anat. & Phys.		4
RT 108 Intro. to Rad. Positioning		2
P 105 Rad. Physics		4
Psychology (Elective)		3
M 107 Intro. Geom. & Trig.		4
		17

SECOND YEAR

Fourth Quarter		Cr. Hrs.
R 202 Intro. to Rad. Therapy		4
R 203 Intro. to App. Rad. Ther.		8
HE 205 Survey of Med.-Surg. Disease		3
		15

Fifth Quarter		
R 204 Interm. Rad. Therapy		4
R 205 Interm. Applied Rad. Ther.		8
R 210 Rad. Bio. & Path. I		3
		15

Sixth Quarter		
R 206 Adv. Rad. Therapy		4
R 207 Adv. Applied Rad. Therapy		8
R 212 Rad. Bio. & Path. II		3
		15

Seventh Quarter		
R 220 Reg. Review		6
R 297 Coop. Work Exp.		6
		12

EMPLOYMENT OPPORTUNITIES: Upon successful completion of this program and the examination of the American Registry of Radiologic Technologists, the graduate is prepared to work in any radiation therapy department in the United States and Canada. There is an increasing need for Registered Radiation Therapy Technologists and employment opportunities are unlimited.

TOTAL CREDIT HOURS: 111

RADIOLOGIC TECHNOLOGY (N)

NUCLEAR MEDICINE

*Certificate Program

First Quarter		Cr. Hrs.
NT 200 Intro. Nuc. Physics and Statistics		3
NE 202 Intro. Nucl. Tech.		4
C 101 Fund. of Chem.		4
NT 203 Intro. to Applied Nucl. Tech.		8
		19

Second Quarter		
R 210 Rad. Bio. & Path. 1		3
NT 204 Interm. Nucl. Med. Tech.		4
NT 205 Interm. App. Nucl. Med. Tech.		8
C 102 Fund. of Chem.		4
		19

Third Quarter		
NT 206 Adv. Nucl. Tech.		4
NT 207 Adv. Applied Nucl. Med. Tech.		8
NT 215 Chem. of Nucl. Med.		3
		15

Fourth Quarter (Summer)		
NT 220 Reg. Review		6
NT 297 Coop. Work Exp.		6
		12

*CERTIFICATE PROGRAM: For those persons who do not wish to obtain an Associate Degree, a 12-month Certificate Program in Nuclear Medicine Technology is available. To be eligible for this program, the person must be registered (or eligible for registry) as an MT (ASCP), RT (ARRT), or RN, and have completed M 111 or the equivalent. Upon successful completion of the 12-month training program, these persons will be eligible for certification and registration as Nuclear Medicine Technicians by the American Registry of Radiologic Technologists. Acceptance into the Certificate Program is dependent on the availability of clinical positions in the participating hospitals.

TOTAL CREDIT HOURS: 65

RADIATION THERAPY

*Certificate Program

	Cr. Hrs.
First Quarter	
R 202 Intro. to Rad. Therapy	4
R 203 Intro. to Applied Rad. Therapy	8
	12
Second Quarter	
R 204 Interm. Rad. Therapy	4
R 210 Rad. Bio. & Path. I	3
R 205 Interm. Applied Rad. Therapy	8
	15
Third Quarter	
R 206 Adv. Rad. Ther.	4
R 212 Rad. Bio. & Path. II	3
R 207 Adv. Applied Rad. Therapy	8
	15
Fourth Quarter	
Communications	3
R 220 Reg. Review	6
R 297 Coop. Work Exp.	6
	15

*For those persons who do not wish to obtain an Associate Degree, a 12-month Certificate Program in Radiation Therapy Technology is available. To be eligible for this program the person must be eligible for registry as an RT (ARRT), or RN. Upon successful completion of the 12-month training program, these persons will be eligible for certification and registration as Radiation Therapy Technologists. Acceptance into the certificate program is dependent on the availability of clinical positions in the participating hospitals.

TOTAL CREDIT HOURS: 57

SURGICAL TECHNICIAN (A)

NINE-MONTH PROGRAM

	Cr. Hrs.
First Quarter	
English Elective	3
HE 105 Nsg. Proc. & Prof. Rel.	3
HE 106 Basic Science	5
HE 100 Medical Terminology	2
ST 100 Intro. to Surg. Tech.	4
	17
Second Quarter	
HE 107 Basic Science	5
Psychology Elective	3
ST 105 Operating Room Tech.	9
	17
Third Quarter	
HE 108 Basic Science	3
ST 110 Applied Surgery Tech.	12
	15

EMPLOYMENT OPPORTUNITIES: The program is designed to prepare students to become direct assistants in hospital operating rooms.

TOTAL CREDIT HOURS: 49

WARD CLERK (A)

THREE-MONTH PROGRAM

A short term course to prepare the individual to assume routine clerical duties related to the provision of Health Care Services.

	Cr. Hrs.
First Quarter	
WC 100 Intro. to Unit Management	3
WC 105 The Ward Clerk & Her Job	5
HE 100 Medical Terminology	2
HE 105 Nursing Procedures and Professional Relationships	3
English Elective	3
	16

EMPLOYMENT OPPORTUNITIES: Graduates will qualify for services in hospitals, with limited opportunities in extended-care facilities, nursing homes, and home-care agencies.

TOTAL CREDIT HOURS: 16

COURSE DESCRIPTIONS

Where course description does not indicate the campus by the key A, N, or R, we would suggest you call the campus of your choice for information.

DENTAL ASSISTING

DA 110 Orientation to Dental Assisting (N) 3 credit hours

Prerequisite: Admission to Dental Assisting Program

An orientation to dental assisting and the role of the Certified Dental Assistant in relation to other members of the dental health team. A brief history of the field, the code of ethics and legal controls are also included. (3 hours per week)

DA 112 Introduction to Dental Assisting (N) 3 credit hours

Prerequisite: DA 110 (may be taken concurrently)

An introduction to basic responsibilities of the dental assistant. The prevention control program, fundamental equipment and terminology are also introduced in this course. (2 hours lecture and 2 hours laboratory per week)

DA 114 Dental Office Procedure (N) ... 3 credit hours

Prerequisite: AC 109 Recordkeeping and Accounting or Equivalent

Office practices necessary in the dental office; case history planning and records, treatment planning as related to appointment scheduling, bookkeeping and business letters. Field trips with limited experience to private offices included in curriculum. (2 hours lecture and 4 hours laboratory per week)

DA 118 Dental Materials (N) 3 credit hours

Prerequisite: DA 112

Chemical properties and uses of dental materials and solutions. Manipulative techniques, dental pharmacol-

ogy and anesthesia are included in this course. (2 hours lecture and 4 hours laboratory per week)

DA 120 Dental Sciences (N) 4 credit hours

Prerequisites: B 100, DA 112, or B 123
(may be taken concurrently)

This course covers oral anatomy and physiology, microscopic anatomy, pathology and bacteriology, physiology of eating and breathing, oral structures and terminology. (3 hours lecture and 4 hours laboratory per week)

DA 200 Dental Operator Procedures (N) 5 credit hours

Prerequisite: DA 112

This is a study of the names and uses of dental instruments, proper chairside assistance and operation of equipment, bacteriology and sterilization. (3 hours lecture and 8 hours laboratory per week)

DA 205 Dental Roentgenology (N) 3 credit hours

Prerequisite: DA 120

Principles, practices, and precautions in the operation of dental X-ray units are studied. (2 hours lecture and 4 hours laboratory per week)

DA 212 Introductory Clinical Experience (N) 2 credit hours

Prerequisite: DA 200 (may be taken concurrently)

Field trips combined with supervised clinical experience in clinics, hospitals, and selected private offices. (1 hour lecture and 4 hours laboratory per week)

DA 220 Advanced Dental Operator Procedures I (N) 8 credit hours

DA 222 Advanced Dental Operator Procedures II (N) 8 credit hours

DA 240 Advanced Clinical Experience I (N) 8 credit hours

DA 242 Advanced Clinical Experience II (N) 8 credit hours

Prerequisite: First 4 quarters of Dental Assisting Program

Students are placed in dental offices and clinics to acquire the applied knowledge and skills essential for employment as a dental assistant. Instruction in the expanded functions of the dental assistant and clinical conferences are also included in these courses.

HEALTH EDUCATION

HE 090 Overview of Health Occupations 1 credit hour

This course is designed for the student who is interested in a health occupations program. It includes information about scheduling, program planning, the structure of the curriculum, study methods, and test taking procedures, and the health field. It offers the student an opportunity to "belong" to the Division, to communicate with health occupations faculty and to

identify his needs for remedial study before beginning the chosen program.

HE 100 Medical Terminology (A, N, R) . 2 credit hours

A study designed to acquaint the student with the origin and structure of medical terms. The intent of this course is to help the student interpret and understand medical terms, reports and therapy requests to his field. (2 hours per week)

HE 105 Nursing Procedures & Professional Relationships (A, N) . 3 credit hours

Nursing measures common to the health occupations. Roles of members of health professions, principles of ethics and professional relationships and simple nursing techniques needed for care, evaluation of the patient and treatment recording are included. Measures for common hospital emergencies are included. (3 hours per week)

HE 106 Basic Science (A, N) 5 credit hours

This course provides an opportunity to acquire knowledge of selected and fundamental principles in the fields of Chemistry, Physics, and Microbiology. The Chemistry and Physics module will consist of selected principles and their application to health fields. A module in Medical Microbiology deals with methods of identification and control of those organisms which are responsible for infectious disease. Emphasis is placed on individual and community role in prevention and control. (4 hours lecture, 2 hours laboratory per week)

HE 107 Basic Science (A, N) 5 credit hours

A study of the structure and function of the human body. The course consists of 2 modules which deal with the erect and moving body and body metabolism. The main focus is on principles of anatomy and physiology which are used as a base for practice in health occupations. (4 hours lecture, 2 hours laboratory per week)

HE 108 Basic Science (A, N) 3 credit hours

A study of the major classes of drugs used as therapeutic agents and their effect on the human body. Emphasis is placed on anticipated effects of a drug, and appropriate response if anticipated effects do not appear. (3 hours per week)

HE 109 Drugs and Solutions (N) 3 credit hours

Prerequisite: Math Pre-Test — Mini-Math Review Course

This course provides an opportunity for study of various systems of weights and measures as applied to the administration of drugs and solutions within the health care system. Included are conversions from one system to another, practice solving typical problems of drug administration, basic principles of preparation and administration. (3 hours per week)

HE 110 Drugs & Drug Administration (A, N) 3 credit hours

Prerequisite: HE 100, B 123, or instructor's permission (may be taken concurrently)

A beginning course in drugs and drug administration designed to provide opportunities to become familiar with drugs, drug administration, therapeutics, and toxic effects of drugs.

HE 205 A Survey of Medical and Surgical Diseases (N) 3 credit hours

Prerequisites: HE 100 and B 123 and B 124

The basic cause of diseases, changes that occur in disease and trauma and related diagnostic and therapeutic measures. Discussion, case examples will be related in the student's particular occupational interest. (3 hours per week)

HE 210 Emergency Measures (N) 2 credit hours

Prerequisite: HE 105 or permission of instructor

The cause and primary therapy measures of common medical emergencies. Ethics, legal implications and roles of members of the health professions in emergencies are included. (2 hours per week)

RESPIRATORY THERAPY ASSISTING

IT 101 Care and Use of Therapy Devices (A, N) 5 credit hours

An introduction to the field of Respiratory Therapy. Oxygen, humidity, aerosol therapy, safety measures, cleaning and maintenance of related equipment. (5 hours lecture per week)

IT 103 Basic Therapy Measures (A, N) . . 5 credit hours

Therapy with gases other than oxygen, airway management, pressure breathing treatments. Cleaning and maintenance of basic equipment included. (5 hours lecture per week)

IT 105 Patient Care Measures (A, N) . . 5 credit hours

Continuation of IT 103, more complex therapy measures related to pulmonary pathophysiology (mechanical ventilation, resuscitation, chest physiotherapy). Emergency care and adaption to special needs of patients. (3 hours lecture and 8 hours of laboratory and clinical experience per week)

RESPIRATORY THERAPY TECHNOLOGY

IT 100 Introduction to Respiratory Technology (N) 3 credit hours

An overview of the field of respiratory therapy and an introduction to basic therapy measures and equipment. (3 hours per week)

IT 106 Basic Therapy Equipment (N) . . 4 credit hours

Prerequisite: IT 100

Introduction to procedures of aerosol techniques, intermittent positive pressure therapy, oxygen analyzers, and the principles of safety. Students will study, operate, and learn the mechanics of all respiratory therapy devices. They will learn to assemble, disassemble, clean, and sterilize all respiratory therapy apparatus. The application of concepts from the sciences is included. (3 hours lecture, 3 hours laboratory per week)

IT 107 Clinical Application (N) 8 credit hours

Prerequisite: IT 106

Clinical experience in medical, surgical, coronary care, and intensive care units of hospitals to enable the student to develop skill in the therapy measures included in IT 106. (1 hour clinical conference and 24 hours clinical experience per week)

IT 200 Respiratory Pathophysiology (N) 4 credit hours

Prerequisite: B 124

An in-depth study of cardiopulmonary anatomy-physiology and disorders. Etiology and course of the disease are discussed. Treatment by the Respiratory Therapist is emphasized. (4 hours per week)

IT 202 Pediatric Respiratory Technology (N) 3 credit hours

Prerequisites: IT 106, IT 200

This course emphasizes Inhalation Therapy as applied to children (e.g., IPPB, U.S. and aerosol therapy) Applied anatomy and physiology with emphasis on the pediatric cardio-pulmonary system. (3 hours lecture per week)

IT 204 Pulmonary Function (N) 3 credit hours

Prerequisites: IT 106, IT 200

This course will familiarize the student with pulmonary function studies. He will learn the meaning of the studies and be able to interpret them. He will become familiar with the machinery and use it for the tests. (e.g., Collins, Stead-Well's body plethysmograph). (3 hours lecture)

IT 205 Applied Pulmonary Function (N) 2 credit hours

Prerequisite: IT 204

A combined hospital and college laboratory experience to provide the opportunity for the student to become thoroughly familiar with diagnostic pulmonary function equipment and to develop the primary skills related to the use of this equipment. (8 hours per week)

IT 206 Principle of Prolonged Ventilation (N) 4 credit hours

Prerequisites: IT 108, IT 120

This course is a detailed study of setting up and maintaining a patient on a continuous ventilator. Emphasis is placed on all types of ventilators. (e.g., MA-1, Bird, Ohio 560) The student will be able to maintain and troubleshoot this equipment. (4 hours lecture)

IT 207 Applied Prolonged Artificial Ventilation (N) 6 credit hours

Prerequisite: IT 206

Clinical experience to develop the more complex skills of respiratory therapy. (1 hour conference - 20 hours clinical experience per week)

IT 210 Department Administration (N) . . 3 credit hours

This course includes an introduction to departmental administration. Attention is directed to the organization and operation of an Inhalation Therapy department. The administrative problems, factors influencing a solution, and methods of solution are emphasized. (3 hours per week)

IT 212 Advanced Respiratory Therapy (N) 4 credit hours

Prerequisite: IT 210

A seminar course in the more complex techniques and specialized equipment of respiratory therapy. (4 hours per week)

IT 220 Seminar in Inhalation Therapy (N) 3 credit hours

Seminar discussion on new advances in Inhalation Therapy. The students will present papers for discussion in this class. This class will be used to integrate all previous course work in Inhalation Therapy. (3 hours per week)

MEDICAL INSURANCE CLERK

MO 100 Introduction to Medical Office Procedures (A) 3 credit hours

Introductory course in the duties of the Medical Insurance Clerk. Includes fundamental instruction toward the training and development of proper medical office routine and the technical aspects of daily medical office procedure. (2 hours lecture and 2 hours laboratory per week)

MO 104 Basic Medical Insurance Concepts (A) 3 credit hours

Basic concepts of medical insurance claims and forms. Includes basic information on types of health and hospitalization insurance and methods of filing claims. (3 hours per week)

MO 110 Introduction to Health Insurance (A) 3 credit hours

The nature and function of health insurance in today's society with particular emphasis on types of policies and their provisions will be taught. This course will include the basic principles of State Compensation, Third Party Liability, Medicare, Medicaid and the private insurance carrier. (3 hours per week)

MO 120 Legal and Medical Ethics (A) . . . 1 credit hour

This course will prepare the student with knowledge of the fundamentals of medical licensure, registration, statutory reports, the patient-doctor contract and privileges, patient consent and other medical records as well as all other aspects of professional ethics including the concept of confidentiality. (1 hour per week)

MO 130 Medical Filing Procedures (A) 3 credit hours

The primary objective of this course is to acquaint the student with basic filing techniques. Proper procedures in filing medical insurance and statistical data and the method of maintaining follow-up records will be taught. This course will also include various methods of obtaining, preserving and using this data. (3 hours per week)

MO 150 Insurance Information Methods (A) 6 credit hours

This course will cover in detail an analysis of all health insurance functions especially applicable to the Medical Insurance Clerk. The Practical application of the initiation of insurance claims to the proper agencies utilizing actual claim forms will be emphasized. (4 hours lecture, 4 hours laboratory per week)

MO 170 Health Insurance Claim Reporting (A) 6 credit hours

All phases of claim reporting will be discussed in this class. The methods by which information is obtained

from hospitals, insurance companies and the patient will be studied. The financial responsibility of both the patient and the physician will be examined. (4 hours lecture, 4 hours lab per week)

NURSING

N 090 Nursing Directed Laboratory 1 credit hour
(For 6 weeks, six hours per week, arranged according to student's needs)

Selected laboratory experiences designed to meet individual student needs and to supplement required nursing courses.

N 100 Introduction to Nursing (N) 6 credit hours
Prerequisites: HE 100, B 100 or equivalent, or permission of instructor
(may be taken concurrently)

An introduction to nursing and the role of the nurse technician, in relation to other members of the health team. The course includes basic nursing skills necessary in caring for patients of all ages with common health problems. Based on the needs of people, the content is organized around psychosocial and physiologic needs. The knowledges and skills needed to meet these needs are included. This course presents correlated theory and guided clinical learning experiences. (3 hours lecture, 6 hours laboratory-clinical experience per week and 2 hours auto-tutorial lab)

N 102 Nursing Problem I (N) 8 credit hours
Prerequisites: N 100, B 123, or permission of instructor (may be taken concurrently)

Further development of nursing skills with assessment and planning of nursing care. Diet therapy principles are integrated throughout the course. Emphasis is placed on the problem-solving process in reducing patient stress and effecting patient rehabilitation care and prevention of illness. Subject areas include deviations from homeostasis caused by injury, infection, cancer, and neurological impairment. Principles from the biologic sciences are included as they relate to the pathological processes. (5 hours lecture, 6 hours laboratory-clinical experience, and 2 hours ATL per week)

N 104 Nursing Problems II (N) 8 credit hours
Prerequisites: N 102, B 124, HE 110, or permission of instructor (B 124 and HE 110 may be taken concurrently)

A continuation of the principles of nursing intervention closely correlated with anatomy and physiology. This third Nursing course builds on physiological principles and psychological concepts presented in N 102. The Nursing Problems consist of deviations from homeostasis in transportation of oxygen, chemicals, and nutrients throughout the circulatory, respiratory, renal, and gastrointestinal systems, along with problems of elimination of metabolic wastes. Appropriate therapeutic diets are included in discussions of nursing care. Mental health concepts are emphasized to assist the patient to cope with his disease processes. (5 hours lecture, 6 hours lab, and 2 hours ATL per week)

N 120 Title: Concentrated Nursing Skills 3-9 credit hours

Prerequisite: Instructor's Permission

This is a laboratory course of concentrated nursing skill development designed to follow the first year of nursing. Students may request this course for reinforcement of clinical practice and to gain confidence in the clinical area. The number of hours will be scheduled each quarter with two, three-hour laboratory times and one post clinical conference per day. The variable credit will allow the student to take as many sessions per week as needed. (1-3 hours lecture, 6-18 hours laboratory per week)

N 200 Maternal Child Nursing (N) 8 credit hours

Prerequisites: PY 121 and 122, N 100, HE 110, B 124, or instructor's permission

This is an introductory course in Maternal Child Nursing, utilizing the family centered approach within the framework of developmental tasks. It deals with nursing care of the family unit during the maternity cycle and the infants and children from birth to adolescence. The course deals with maternal-child care as normal entities and with complications in both as deviations from the norm. The student gains experience in modifying basic principles common to nursing to meet the individual needs of patients who are working through a particular developmental task. (5 hours lecture, 9 hours lab)

N 202 Nursing Intervention in Emotional Crises (N) 8 credit hours

Prerequisites: 9 hours of psych, including PY 121 and 122, N 100, or with instructor's permission

This course is designed to develop an understanding of the role of the nurse as a member of the mental health team in prevention, crisis situations and care of the mentally ill. Basic principles of psychiatric nursing will be studied, building upon the knowledge previously gained in meeting the psychosocial needs of patients. Learning experiences will be offered in a variety of community settings and focused on nursing intervention in emotional crises of people of all ages. (5 hours lecture, 9 hours lab)

N 204 Contemporary Nursing (N) 9 credit hours

Prerequisite: N 200, N 202

This course is a summary and correlation of nursing experiences with emphasis upon total patient care and the functioning technical nurse as a member of the health team. An appreciation of nursing in the past, contemporary nursing problems and future needs directly involving a technical nurse will be included. There will be discussion and evaluation of problems and functions a technical nurse encounters. (5 hours lecture, 12 hours lab)

N 212 Review of Nursing Principles . . . 3 credit hours

Prerequisites: Instructor's Permission

Review and synthesis of nursing theory preparing the student for job readiness.

REGISTERED NURSE REFRESHER COURSE

N 230 Registered Nurse Refresher Course (N) 8 credit hours

Emphasis is on medical-surgical nursing knowledge and skills to include: new equipment, medication therapy, intravenous therapy, fluid and electrolytes, cardiopulmonary resuscitation, legal aspects and team nursing. Major trends in Maternal-Child and Psychiatric nursing also included. (4 hours lecture, 16 hours clinical experience per week)

NURSE ASSISTING

NA 110 Basic Personal Care (A, N, R) . . 8 credit hours

Nursing measures common to all patients with emphasis on the total nursing needs of the individual according to the type of needs: physical, cultural, social, emotional, and spiritual. Instruction in the nursing skills and opportunities for supervised practice in Laboratory sessions, hospitals, extended care facilities and nursing homes are included. (2 hours lecture, 8 hours laboratory-clinical experience per week)

NA 120 Patient Care Measures (A, N, R) 8 credit hours

Includes the discussion of common conditions and diseases, with introduction of specific procedures relating to the condition or disease. Measures for common medical emergencies are included. (2 hours lecture, 6 hours laboratory-clinical experience per week)

NUCLEAR MEDICINE TECHNOLOGY

NT 200 Introduction to Nuclear Physics Statistics 3 credit hours

Prerequisite: Hospital placement for Nuclear Technology Experience

A course dealing with the specific application of selected principles of physics and statistics to the field of Nuclear Medicine Technology. (2 hours lecture, 3 hours laboratory per week)

NT 202 Introductory Nuclear Technology (N) 4 credit hours

Prerequisite: Admission to the Nuclear Medicine Technology Program

Radiation Units, properties of nuclides, identification and calibration of nuclides, detectors and instrumentation, counting procedures scintillation spectrometry. (2 hours lecture and 3 hours laboratory per week)

NT 203 Introduction to Applied Nuclear Technology (N) 8 credit hours

Prerequisite: NT 202 (may be taken concurrently)

A laboratory course to introduce the student to the nuclear medicine clerical setting. The opportunity to perform simple routine examinations, under the direct supervision of a Registered Technologist, is included. (24 hours a week in an affiliated hospital)

NT 204 Intermediate Nuclear Medicine Technology (N) 4 credit hours

Prerequisite: NT 202

Oran scanning (manual and computerized), physiology of the thyroid gland, clinical studies of thyroid activity

utilizing radioisotope techniques, hematology studies. (2 hours lecture and 3 hours laboratory per week)

NT 205 Intermediate Applied Nuclear Medicine Techniques (N) 8 credit hours

Prerequisite: NT 203; NT 204 must be taken concurrently

A continuation of the development of skills from NT 203. The student will begin performing the more complex examinations under the supervision of a Registered Technologist. (24 hours per week in an affiliated hospital)

NT 206 Advanced Nuclear Technology (N) 4 credit hours

Prerequisite: NT 204

Ionizing radiations, Geiger-Mueller counters, scalers and count-rate meters, standardization and calibration of instruments, autoradiography, liquid scintillation studies and special topics. (2 hours lecture and 3 hours laboratory per week)

NT 207 Advanced Nuclear Medicine Techniques (N) 8 credit hours

Prerequisite: NT 205; NT 206 must be taken concurrently

A clinical laboratory course in which students gain a depth of skill in basic techniques and more advanced clinical techniques. (24 hours per week in affiliated hospitals)

NT 215 Chemistry of Nuclear Medicine (N) 3 credit hours

Prerequisites: Chem 101 or equivalent, Math 105 or equivalent

Radionuclide generators, dilution analysis, sterility and pyrogenicity tests, radiochemical and radioisotopic purity, labeling procedures, regulations, equipment and nuclide suppliers. (2 hours lecture and 4 hours laboratory per week)

NT 220 Registry Review (N) 6 credit hours

Prerequisites: NT 206, NT 215

A review of essential methodology and clinical work in preparation for the registry examination. (3 hours lecture and 9 hours lab or independent study)

OPTOMETRIC ASSISTING

OA 100 Introduction to Optometric Assisting (N) 3 credit hours

An introduction to visual health and therapy measures and the role and responsibilities of the optometric assistant. (3 hours per week)

OA 101 Optometric Terminology, Metrology 3 credit hours

A fundamental orientation to optical terminology, basic measuring equipment and measurements. (3 hours per week)

OA 102 Optometric Office Procedure (N) 3 credit hours

A general orientation to the technical tasks performed in the optometric office. Laboratory practice includes experience in keeping basic records, care of equip-

ment, examination assistance. (2 hours lecture and 4 hours office experience per week)

OA 104 Frame Selection-Adjustment (N) 2 credit hours

A detailed study of the fundamental principles of frame selection, styling and adjustment and the technical skills required by the assistant. (2 hours per week)

OA 106 Optometric Clinical Procedures (N) 6 credit hours

A continuation of OA 102 with emphasis on the more complex tasks of the optometric assistant (visual training-contact lens dispensing). Students will be placed in offices and clinics for clinical laboratory experience. (2 hours lecture and 16 hours clinical experience)

OA 110 Vocational Relationships (N) . . 3 credit hours

This course is designed to give the student a knowledge and understanding of the fundamentals of ethics, public relations and the legal responsibilities involved in the optometric profession. (3 hours per week)

OA 120 Ocular Anatomy and Physiology (N) 3 credit hours

A study of the human eye and surrounding structures as they relate to visual function and health. An introduction to diseases of the eye and orbit is included. (3 hours per week)

RADIATION THERAPY TECHNOLOGY

R 202 Introduction to Radiation Therapy (N) 4 credit hours

Prerequisite: Admission to Radiation Therapy Technology Program

Properties of nuclides, radiation measurements, characteristics of superficial and medium voltage X-ray and cobalt therapy machines. (2 hours lecture and 3 hours laboratory per week)

R 203 Introduction to Applied Radiation Therapy (N) 8 credit hours

Prerequisite: R 202 (may be taken concurrently)

A clinical laboratory course designed to introduce the student to the clinical therapy setting, basic equipment and therapeutic routines. The student will perform therapeutic treatments under the direct supervision of a physician or Registered Technologist. (24 hours per week in an affiliated hospital)

R 204 Intermediate Radiation Therapy (N) 4 credit hours

Prerequisite: R 202

Continuation of R 202 with emphasis on calibration of x, gamma and electron beams, dose calculations in phantoms and patients, and measuring percent doses. (2 hours lecture and 3 hours laboratory per week)

R 205 Intermediate Applied Radiation Therapy (N) 8 credit hours

Prerequisite: R 203; R 204 must be taken concurrently

A continuation of R 203 with increased opportunity for skill development. Treatment planning and external therapy measures are emphasized. (24 hours per week in an affiliated hospital)

R 206 Advanced Radiation Therapy (N) .4 credit hours

Prerequisite: R 204

Continuation of R 204 with emphasis on treatment planning, positioning patients, radium therapy, and computer programming in radiation therapy. (2 hours lecture and 3 hours laboratory)

R 207 Advanced Applied Radiation Therapy (N) 8 credit hours

An advanced clinical course offering the opportunity for adaptation of basic skills in a variety of clinical settings. Radium Therapy; interstitial and intercautary treatment measures are emphasized. (24 hours per week in affiliated hospital)

R 210 Radiation Biology and Pathology I (N) 3 credit hours

Discussion of biological and pathological effects of radiation at the chemical, cellular, organ, and whole body levels. Emphasis is placed upon the practical aspects of radiation biology with respect to radiation therapy. (3 hours per week)

R 212 Radiation Biology and Pathology II (N) 3 credit hours

Prerequisite: R 210

Continuation of R 210 Radiologic considerations for therapy of specific regions of the body. (3 hours per week)

R 220 Registry Review (N) 6 credit hours

Prerequisites: R 206, R 212

A review of essential methodology and clinical work in preparation for the registry examination. (3 hours lecture and 9 hours lab or independent study)

RADIOLOGIC TECHNOLOGY

RT 100 Introduction to Radiologic Technology (N) 4 credit hours

Prerequisite: Acceptance into program or permission from instructor

A basic general orientation course covering the three specialties of Radiologic Technology, X-ray Technology, Nuclear Medicine and Radiation Therapy Technology. The course includes the following: Ethics and departmental relationships, history of/and future trends in Radiologic protection, introduction to prime factors or variables used in the production of radiographs and the theory of latent image formation. The laboratory hours include tours of hospitals, assignments in Radiology Departments and working experiments with the X-ray equipment and phantom in the College lab. (3 hours lecture and 2 hours laboratory per week)

RT 101 Clinical Orientation (N) 2 credit hours

Prerequisite: Admission to Radiologic Technology Program

An orientation to the broad field of Radiology and the physical facilities common to the practice of Radiologic Technology. Departmental regulations and an opportunity for career exploration in the radiologic specialties are included. (40 hours per week for 2 weeks)

RT 108 Introduction to Radiographic Positioning (N) 2 credit hours

Prerequisite: RT 100

This course is specifically for Nuclear Medicine and Radiation Therapy students and includes the following: Basic Radiographic Techniques necessary for positioning, introduction to terminology and general principles of positioning, routine positioning and anatomy of the chest, abdomen, and skull. (3 hours lecture/lab per week)

RT 110 Introduction to Radiographic Positioning (N) 4 credit hours

Prerequisite: RT 100

This course is specifically for diagnostic (X-ray) students and includes the following: Basic radiographic techniques necessary for positioning, introduction to terminology and general principles of positioning, routine positioning and anatomy of the chest, abdomen, upper and lower extremities. (5 hours lecture/lab per week)

RT 200 Orientation to Technical Methodology (N) 3 credit hours

Prerequisite: Admission to a Radiologic Technology Program

This course provides an orientation to the foundation knowledge essential to the development of practical skills needed in the more complex methodology courses. (3 hours per week)

SURGICAL TECHNOLOGY

ST 100 Introduction to Surgical Technology (A) 4 credit hours

An introduction to the relationship of surgical therapy to the health care field. Basic functional areas such as sterilization, environmental and supply care measures are included. (2 hours lecture and 4 hours laboratory-clinical per week)

ST 105 Operating Room Techniques (A) 9 credit hours

Prerequisite: ST 100 and HE 107 or consent of instructor

An introduction to disease entities and related surgical therapy. The student will become thoroughly familiar with instruments, suture, etc., directly related to each surgical therapy measure. (5 hours lecture and 16 laboratory-clinical per week)

ST 110 Applied Surgical Technology (A) 12 credit hours

Prerequisite: ST 105 and TE 106 and HE 107 or consent of instructor

A continuation of ST 105 emphasizing the application of basic knowledge through clinical experience. (3 hours of lecture and 32 hours laboratory-clinical per week)

PRACTICAL NURSING

VN 100 Personal Care of Patients (A) . . 6 credit hours

This course is designed to introduce the student to basic principles and practices that relate to the health care of individuals. Practical application of principles

will take place in an environment essential for meeting the health needs of these individuals. (3 hours lecture and 12 hours laboratory-clinical experience per week)

VN 102 Nutrition (A) 2 credit hours

This course is designed to orient the student to normal nutritional needs of individuals throughout the developmental phases of life. Therapeutic modifications of the normal diet will be included. (2 hours per week)

VN 110 Maternal and Child Care (A) . 7 credit hours

Prerequisites: VN 100, VN 102, HE 107 or equivalent

This course focuses on the assisting role of the practical nurse in meeting the individual needs of the mother and the newborn, and the child from infancy through adolescence in both wellness and illness. Practical application will occur in institutions, clinics, and doctor's offices. (3 hours lecture and 16 clinical experiences per week)

VN 120 Medical-Surgical Nursing (assisting role of the LPN) (A) . 10 credit hours

Prerequisites: VN 110, HE 106 & 107 or equivalent

This course is designed to prepare the practical nurse to identify, discuss, assume an appropriate role in meeting the needs of patients with medical and/or surgical conditions. Pharmacology, applied nutrition, and mental health concepts are integrated. Practical application of these principles will take place in an institution designated for the care of patients with medical and surgical problems. (5 hours lecture and 20 hours clinical experience per week)

VN 122 Personal and Vocational Relationships (A) 1 credit hour

This course is designed to explore the changing general trends in nursing with emphasis on the specific legal and ethical implications for the practical nurse. It is intended to assist the practical nurse in identifying her role with other members of the health team.

WARD CLERK

WC 100 Introduction to Unit Management (A) 3 credit hours

A comprehensive course in individual, group and departmental relations, stressing communication. Ordering, inventory of basic supplies, environmental regulation, interdepartmental relationships are included (3 hours per week)

WC 105 The Ward Clerk and Her Job (A) 5 credit hours

Discussion and supervised experience in the specific ward clerk function. (2 hours lecture and 12 hours laboratory-clinical experience per week)

GENERAL DIAGNOSTIC (X-RAY)

XT 111 Introduction to X-ray Clinical Techniques (N) 4 credit hours

Prerequisites: RT 100, RT 110 (or may be taken concurrently with RT 110)

This is a laboratory course which will introduce the students to the clinical setting. Experience will be

gained working with patients, performing radiographic examinations under the direct supervision of a Registered Technologist. (12 hours per week in affiliated hospital)

XT 212 Radiographic Positioning (N) . 4 credit hours

Prerequisite: RT 110, XT 111, Biol. 123

This is a continuation of RT 110, in radiographic positioning and related anatomy. Included are the G.I. tract, urinary tract, skull, surgical, thoracic and lumbosacral spine, pelvis and hips and thorax. The laboratory hours include positioning demonstrations with positioning skill development by use of phantom in energized X-ray laboratory. (5 hours lecture/lab per week)

XT 213 Advanced Clinical Techniques (N) 8 credit hours

(Must be taken concurrently with XT 212)

A clinical laboratory course in which students will gain experience and develop skills in performing radiographic examination of patients under the direct supervision of Registered Technologists. This course includes 2 hours a week of film critique to be given at the hospital. (24 hours per week in affiliated hospital)

XT 214 Special Positioning and Techniques (N) 4 credit hours

(Must be taken concurrently with XT 215)

Prerequisite: XT 212, XT 213, Biol. 124, P 105, HE 105, HE 100

Includes a detailed study of factors affecting radiographic quality chemistry of radiography and film processing and a continuation of special positioning of skull, etc. Also included is the assignment of individual research papers. (4 hours of lecture/lab per week)

XT 215 Applied Special Positioning and Techniques (N) 12 credit hours

Prerequisites: XT 214 (or may be taken concurrently)

A clinical laboratory course in which students gain experience in advanced techniques and positioning as described in XT 214. Included are 2 hours a week of film critique given at the hospital. (36 hours per week in affiliated hospital)

XT 216 Special Procedures and Techniques (N) 3 credit hours

(Must be taken concurrently with XT 217)

Prerequisite: XT 214, XT 215.

A continuation of XT 214 with a study of pediatric radiography, special radiographic procedures, Nuclear Medicine and Radiation Therapy Techniques. (3 hours per week lecture/lab)

XT 217 Applied Special Procedures and Techniques (N) 12 credit hours

Prerequisite: XT 216 (or may be taken concurrently)

A clinical laboratory course in which students gain experience in special procedures and advanced clinical techniques. Included are 2 hours week of film critique given at the hospital. (36 hours week in affiliated hospital)

XT 218 Advanced Radiographic Techniques (N) 3 credit hours

(Must be taken concurrently with XT 219)

Prerequisite: XT 216, XT 217

A continuation of XT 216, includes mammography, intraoral radiography, equipment maintenance and departmental administration. (3 hours week of lecture/lab)

XT 219 Applied Advanced Radiographic Techniques (N) 12 credit hours

Prerequisite: XT 218 (or may be taken concurrently)

A clinical laboratory course in which students gain additional, more advanced experience in clinical techniques. Included are 2 hours a week of film critique given at the hospital. (36 hours per week in affiliated hospital)

XT 220 Registry Review (N) 6 credit hours

Prerequisite: XT 218 (or permission from Instructor)

A total review of all courses and clinical work in X-ray Technology in preparation for registry examination given by the American Registry of Radiologic Technologists in cooperation with the Council on Medical Education of the American Medical Association. (3 hours lecture and 9 hours laboratory per week)

Students will gain practical experience by working 4½ days a week in the Radiology Department of the affiliated hospitals under the direct supervision of Registered Technologist. This work experience is called a clinical internship and will consist of 12 months of continuous experience in the hospital. (52 weeks with

2 weeks vacation — total clinical hours = 2,290). Film critique and conferences will be conducted approximately two hours a week in the hospital during this internship.

COOPERATIVE WORK EXPERIENCE

297 Cooperative Work Experience (A, N, R) 0-6 credit hours

In some program areas, cooperative work experience is a part of the course of study. The student is placed at a work station, in the Metropolitan Denver area, which is related to his educational program and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College instructor providing general coordination. Prerequisites for enrollment to Cooperative Work Experience are permission of the instructor and approval of the Division Director.

INDEPENDENT STUDY

299 Independent Study (A, N, R) 3 credit hours

Prerequisite: Enrollment in a health program leading to an Associate Degree and permission from the Division Director

This course provides opportunities for the student to investigate an area of special interest or to further develop knowledge gained through prior experiences in the field, under the supervision of a qualified faculty member.

DIVISION OF INDUSTRIAL OCCUPATIONS

CONTENTS

Appliance and Refrigeration Mechanics	A
Architectural Drafting	N
Architectural Technology	N
Automotive Mechanics	A, N, R
Auto Body Service	N
Biomedical Equipment Technology	A
Bricklaying	R
Business Machine Technology	A
Carpentry	R
Civil Engineering Technology	N
Commercial Art	A
Commercial Industrial Electricity	R
Diesel Mechanics	R
Electronic Technology	A, N
Electronic Communications Option	N
Electronic Digital Technology	R
Electro-Mechanical Option	N
Industrial Electronics	R
Instrumentation Technology	A
Television Service Technology	N
Graphic Arts Technology	A
Heavy Equipment Operation Service	R
Hydraulic Mechanics	R
Fluid Power	R
Industrial-Commercial Drafting Technology	A, N, R
Machine Drafting Technology	N
Mechanical Drafting	A, N, R
Industrial Pipe Drafting	N
Inventory Control	A
Machine Shop	N
Mineral Industry Technology	R
Photography	A
Plumbing	R
Quality Assurance	A
Sports Crafts and Specialty Area Mechanics	N
Surveying	R
Technical Illustration	A
Vending Machine Repair	A
Welding and Fabrication	A, N, R

Note: Auraria Campus — A
North Campus — N
Red Rocks Campus — R

DIVISION OF INDUSTRIAL OCCUPATIONS

APPLIANCE AND REFRIGERATION MECHANICS (A)

NINE-MONTH PROGRAM

		Cr. Hrs.	Ct. Hrs.
First Quarter			
AE 100	App. & Ref. Mech.	16	200
	Math Elect.	3	30
	Elective	3	30
		22	260
Second Quarter			
AE 100	App. & Ref. Mech.	16	200
	Eng. Elect.	3	30
PY 100	Hum. Rel. in Bus. & Ind.	3	30
		22	260
Third Quarter			
AE 100	App. & Ref. Mech.	16	200
	Elective	3	30
IO 297	Coop Work Experience....	3-12	100-400
&			
IO 299	or Tech. Proj.	1-12	10-120
		23-43	340-750

Optional Courses:

EM 200	Refrigeration & Air Conditioning (A&B)
EM 200	Advanced Refrigeration & Air Conditioning (A&B)
EM 200	Adv. Ref. Air Conditioning & Heating

TOTAL CREDIT HOURS: 67-87

EMPLOYMENT OPPORTUNITIES: Installing and repairing appliances, refrigeration and air conditioning equipment. Students are qualified (when successfully completing the course) to enter service departments of appliance sales and service firms or to be self-employed.

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the adviser or instructor.

ARCHITECTURAL DRAFTING (N)

NINE-MONTH PROGRAM

		Cr. Hrs.	Ct. Hrs.
First Quarter			
AT 100	Arch. Draft.	16	200
EG 106	Occ. Comm.	3	30
M 102	App. Math I.....	3	30
M 140	Slide Rule & Calculator.....	1	10
		23	270
Second Quarter			
AT 100	Arch. Draft.	16	200
EG 107	Occ. Comm.	3	30
M 103	App. Math II	3	30
		22	260
AT 100	Arch. Draft.	16	200
EG 108	Occ. Comm.	3	30
M 104	App. Math III	3	30
or			
IO 297	Co-op Wk. Exp.	3-12	100-400
		22-31	260-600

EMPLOYMENT OPPORTUNITIES: The architectural draftsman will be prepared to accept employment in a number of professional areas: Architectural offices; structural design or detailing offices; fixture layout companies or in other drafting offices requiring the services of a draftsman familiar with architectural practice.

TOTAL CREDIT HOURS: 67-73

TOTAL CONTACT HOURS: 790-1130

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

ARCHITECTURAL TECHNOLOGY (N)

FIRST YEAR

		Cr. Hrs.	Ct. Hrs.
First Quarter			
AT 100	Arch. Draft.	16	200
EG 106	Occ. Comm.	3	30
M 102	App. Math	3	30
M 104	Slide Rule & Calculator.....	1	10
		23	270
Second Quarter			
AT 100	Arch. Draft.	16	200
EG 107	Occ. Comm.	3	30
M 103	App. Math II	3	30
		22	260
Third Quarter			
AT 100	Arch. Draft.	16	200
EG Occ.	Comm.	3	30
M 104	App. Math III	3	30
		22	260

SECOND YEAR

		Cr. Hrs.	Ct. Hrs.
Fourth Quarter			
AT 200	Arch. Design	12	150
CT 224	Structures I	5	50
AT 224	Arch. Hist. I	5	50
		22	200
Fifth Quarter			
AT 200	Arch. Design	12	150
CT 225	Structures II	5	50
AT 225	Arch. Hist. II	5	50
		22	200
Sixth Quarter			
AT 200	Arch. Design	16	200
Elective	.....	3	30
or			
IO 297	Co-Op Wk. Ex.	3-12	100-400
		19-28	230-600

EMPLOYMENT OPPORTUNITIES: The graduate of the Architectural Technology Program is prepared to enter the employment field as an architectural draftsman working with architects or structural engineers

or as draftsman or junior engineers, preparing working drawings for the building construction industry.

TOTAL CREDIT HOURS: 129-139
TOTAL CONTACT HOURS: 1420-1790

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

AUTOMOTIVE MECHANICS (A*, N, R)
NINE-MONTH PROGRAM

First Quarter		Cr. Hrs.	Ct. Hrs.
AM 100	Basic Automotive Mechanics ..	16	200
EG 106	Occ. Comm.	3	30
M 102	App. Math	3	30
		22	260
Second Quarter			
AM 100	Basic Automotive Mechanics ..	16	200
EG 107	Occ. Comm.	3	30
EC 108	Labor Rel.	3	30
		22	260
Third Quarter			
AM 100	Basic Automotive Mechanics ..	16	200
EC 107	Cons. Econ.	3	30
PY 107	Psy. of Per. Development.....	3	30
or			
IO 297	Co-op Wk. Exp.	3-12	100-400
		22-28	260-600



EMPLOYMENT OPPORTUNITIES: Entry level mechanic in a service station or garage.

TOTAL CREDIT HOURS: 66-72
TOTAL CONTACT HOURS: 780-1120

*Note: The Auraria Campus Automotive Program specializes in foreign cars.

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

AUTOMOTIVE MECHANICS (A*, N, R)
FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
AM 100	Basic Automotive Mechanics ..	16	200
EG 106	Occ. Comm.	3	30
M 102	App. Math	3	30
		22	260
Second Quarter			
AM 100	Basic Automotive Mechanics ..	16	200
EG 107	Occ. Comm.	3	30
EC 108	Labor Rel.	3	30
		22	260
Third Quarter			
AM 100	Basic Automotive Mechanics ..	16	200
EC 107	Cons. Econ.	3	30
PY 107	Psy. of Per. Development.....	3	30
		22	260

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
AM 200	Advanced Automotive Repair ..	16	200
Elective	.....	3	30
		19	230
Fifth Quarter			
AM 200	Advanced Automotive Repair ..	16	200
Elective	.....	3	30
		19	230
Sixth Quarter			
AM 200	Advanced Automotive Repair ..	16	200
Elective	.....	3	30
or			
IO 297	Co-op Wk. Exp.	3-12	100-400
		19-28	230-600

EMPLOYMENT OPPORTUNITIES: Entry into automotive service field as a line mechanic in a garage or service station. Employment in specialty shops rebuilding engines, transmissions, or charging systems. Opportunities in automotive parts, sales or as manufacturer's representative. A foundation for the potential service manager or garage foreman.

TOTAL CREDIT HOURS: 123-132
TOTAL CONTACT HOURS: 1470-1840

*Note: The Auraria Campus Automotive Program specializes in foreign cars.

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

AUTO BODY SERVICE (N)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EG 106 Occ. Comm.	3	30
M 102 App. Math	3	30
	22	260
Second Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EG 107 Occ. Comm.	3	30
EC 108 Labor Rel.	3	30
	22	260
Third Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EC 107 Cons. Ec.	3	30
PY 107 Psy. of Per. Develop.	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	22-28	260-600

EMPLOYMENT OPPORTUNITIES: Body repairman or helper, painter or painter's helper in automobile dealership, independent body shop, or automotive maintenance dept. of business or industry.

TOTAL CREDIT HOURS: 66-72

TOTAL CONTACT HOURS: 780-1120

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

AUTO BODY SERVICE (N)

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EG 106 Occ. Comm.	3	30
M 102 App. Math	3	30
	22	260
Second Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EG 107 Occ. Comm.	3	30
EC 108 Labor Rel.	3	30
	22	260
Third Quarter		
AB 100 Auto Body Repair & Refinish	16	200
EC 107 Cons. Ec.	3	30
PY 107 Psy. of Per. Develop.	3	30
	22	260

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
AB 200 Major Auto Body Repair & Refinish	16	200
Elective	3	30
	19	230



	Cr. Hrs.	Ct. Hrs.
Fifth Quarter		
AB 200 Major Auto Body Repair & Refinish	16	200
Elective	3	30
	19	230
Sixth Quarter		
AB 200 Major Auto Body Repair & Refinish	16	200
Elective	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	19-28	230-600

EMPLOYMENT OPPORTUNITIES: Auto Body repairman and/or painter in an automotive dealership, independent body shop or maintenance department of business and industry; or may be employed as insurance adjuster trainee, order writer in dealership, salesman in automotive supply house.

TOTAL CREDIT HOURS: 123-132

TOTAL CONTACT HOURS: 1470-1840

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

BIOMEDICAL EQUIPMENT TECHNOLOGY

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
M 105 Int. Algebra	3	30
Comm. Elect.	3	30
ET 101 Bas. Elect. & AC Theory	16	200
B 100 Bas. Hum. Bio.	4	40
	26	300

Second Quarter		Cr. Hrs.	Ct. Hrs.
M 106	Algebra	3	30
	Comm. Elect.	3	30
ET 102	Solid State Devices & Vacuum Tubes	16	200
BE 100	Biomed. Phys.	4	40
		<u>26</u>	<u>300</u>

Third Quarter		Cr. Hrs.	Ct. Hrs.
	Comm. Elective	3	30
ET 103	Appl. Elect. Layout & Fabrication	16	200
P 101	Fund of Phys.	3	50
BE 102	Biomed. Equip.	4	70
		<u>26</u>	<u>350</u>

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
M 111	Algebra	5	50
BE 210	Biophysics	4	80
BE 200	Biom. Instru.	4	60
		<u>13</u>	<u>190</u>

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
ET 240	Intro. to Inst. & Measurements	4	50
M 112	Trig. & Func.	5	50
Elective	(Soc. Sci.)	3	30
BE 204	Adv. Instru.	4	70
		<u>16</u>	<u>200</u>

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
ET 250	Int. to Digital Electronics	4	50
Elective	.....	3	30
BE 212	Med. Info. Proc.	2	30
BE 206	App. Biomed. Technology	6	110
		<u>15</u>	<u>220</u>

TOTAL CREDIT HOURS: 122
TOTAL CONTACT HOURS: 1,560

EMPLOYMENT OPPORTUNITIES: The introduction of complex equipment in medical therapy and research requires skilled operational support and maintenance. A recent survey indicated that 10,000 biomedical technicians will be needed in 1982.

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

BRICKLAYING (R) NINE-MONTH PROGRAM

First Quarter		Cr. Hrs.	Ct. Hrs.
BL 100	Bricklaying	16	200
M 100	Dev. Math	3	30
Elective	.....	4	50
		<u>23</u>	<u>280</u>



	Cr. Hrs.	Ct. Hrs.
Second Quarter		
BL 100 Bricklaying	16	200
EG 106 Occ. Comm.	3	30
Elective	4	50
	<u>23</u>	<u>280</u>

Third Quarter		
BL 100 Bricklaying	16	200
PY 100 Hum. Rel. in Bus. & Industry..	3	30
Elective	4	50
	<u>23</u>	<u>280</u>

OPTIONAL COURSES:

The student may elect the following: Carpentry, Plumbing, Commercial Industrial Electricity, Welding, Cooperative Work Experience.

EMPLOYMENT OPPORTUNITIES: At the end of the nine-month program, the student will be ready to enter the bricklaying trade at the home-building level. He will not be considered a journeyman.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 69
TOTAL CONTACT HOURS: 840

BUSINESS MACHINE TECHNOLOGY

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
OM 100 Intro. to Typewriters and Business Machine Term.	16	200
MG 105 Intro. to Business.....	3	30
	<u>19</u>	<u>230</u>

Second Quarter		
OM 100 Intro. to Typewriters and Salesmanship	16	200
SC 110 Typing I	3	30
	<u>19</u>	<u>230</u>

Third Quarter		
OM 100 Intro. to Typewriters and Typewriter trouble shooting..	16	200
	<u>16</u>	<u>200</u>

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
OM 200 Intro. to Office Machines.....	16	200
EG 106 Occ. Comm.	3	30
	<u>19</u>	<u>230</u>

Fifth Quarter		
OM 200 Intro. to Office Machines.....	16	200
	<u>16</u>	<u>200</u>

Sixth Quarter		
OM 200 Intro. to Office Machines.....	16	200
	<u>16</u>	<u>200</u>

OPTIONAL COURSES:

IO 297 Coop. Work Exp. 3-12
IO 299 Independent Study 1-12

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and

Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 113
TOTAL CONTACT HOURS: 1390

CARPENTRY (R)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
CA 100 Carpentry	16	200
CA 102 Blueprint Reading for the Bldg. Trades	4	50
	<u>20</u>	<u>250</u>

Second Quarter		
CA 100 Carpentry	16	200
M 100 Dev. Math	3	30
	<u>19</u>	<u>230</u>

Third Quarter		
CA 100 Carpentry	16	200
EG 106 Occ. Comm.	3	30
	<u>19</u>	<u>230</u>

OPTIONAL COURSES:

Labor Relations, Cooperative Work Experience, Contracts and Specifications, Estimating and Construction Costs, Electrical Installation.

EMPLOYMENT OPPORTUNITIES: Entry jobs in the carpentry trade as assistants to the carpenter in building such structures as residences and commercial and industrial buildings.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 58
TOTAL CONTACT HOURS: 710

CARPENTRY (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
CA 100 Carpentry	16	200
CA 102 Blueprint Reading for the Bldg. Trades	4	50
	<u>20</u>	<u>250</u>

Second Quarter		
CA 100 Carpentry	16	200
M 100 Dev. Math	3	30
	<u>19</u>	<u>230</u>

Third Quarter		
CA 100 Carpentry	16	200
EG 106 Occ. Comm.	3	30
	<u>19</u>	<u>230</u>



tial builders, general contractors and other industries that maintain their own buildings.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 117
TOTAL CONTACT HOURS: 1440

CIVIL ENGINEERING TECHNOLOGY (N) NINE-MONTH PROGRAM

The first year is devoted to a core curriculum that is a prerequisite to second year courses.

	Cr. Hrs.	Ct. Hrs.
First Quarter		
D 100 Draft. I	12	150
CT 111 Build. Const. & Methods.....	5	50
EG 106 Occ. Comm.	3	30
M 102 Appl. Math I	3	30
	23	260
Second Quarter		
CT 112 Phy. & Struc. Prop. of Soils & Rocks.....	5	50
M 103 App. Math II	3	30
CT 112 Contracts & Specifications...	5	50
CT 132 Civil Tech. Lab.	8	10
	21	140
Third Quarter		
CT 113 Surveying I	12	150
CT 123 Estimating Const. Costs.....	5	50
M 104 Appl. Math III.....	3	30
EG 108 Occ. Comm.	3	30
or		
IO 297 Coop. Wk. Exp.	3-12	100-400
	26-35	260-660

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
CA 200 Carpentry	12	150
PY 100 Hum. Rel. in Bus. & Ind.	3	30
Elective	4	50
	19	230
Fifth Quarter		
CA 200 Carpentry	12	150
CA 202 Const. Contracts & Spec.	4	50
Elective	4	50
	20	250
Sixth Quarter		
CA 200 Carpentry	12	150
CA 203 Est. Const. Costs.....	4	50
Elective	4	50
	20	250

OPTIONAL COURSES:

Plumbing, Bricklaying, Cooperative Work Experience, Labor Relations, Electrical Installation.

EMPLOYMENT OPPORTUNITIES: Occupational opportunities will be found with private builders, residen-

EMPLOYMENT OPPORTUNITIES: If employment is desired at the end of the core curriculum, the student is prepared for many jobs in private and governmental civil engineering, construction and drafting.

TOTAL CREDIT HOURS: 70-79
TOTAL CONTACT HOURS: 660-1060

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

CIVIL ENGINEERING TECHNOLOGY (N) FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
D 100 Draft. I	12	150
CT 111 Build. Const. & Methods.....	5	50
EG 106 Occ. Comm.	3	30
M 102 Appl. Math I	3	30
	23	260

	Cr. Hrs.	Ct. Hrs.
Second Quarter		
CT 112 Phy. & Struc. Prop. of Soils & Rocks	5	50
M 103 Appl. Math II	3	30
CT 122 Contracts & Specifications...	5	50
CT 132 Civil Tech. Lab.	8	100
	21	230

Third Quarter		
CT 113 Surveying I	12	150
CT 123 Estimating Const. Costs.....	5	50
M 104 Appl. Math III	3	30
EG 108 Occ. Comm.	3	30
	23	260

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
CT 214 Surveying II	12	150
CT 224 Structures I	5	50
CT 234 Fluid Dynamics	5	50
	22	250

Fifth Quarter		
CT 215 Photogrammetry	8	100
CT 225 Structures II	5	50
P 101 Fund. of Phy.	3	50
	16	200

Sixth Quarter		
CT 216 Route Location Surveys & Design	8	100
C 101 Fund. of Chem.	4	60
CT 226 Profess. Pract.	3	30
or		
IO 297 Coop. Wk. Exp.	3-12	100-400
	15-24	190-590

EMPLOYMENT OPPORTUNITIES: The Civil Engineering Technician is prepared with a broad background in civil engineering principles, related technical training, mathematics, science and communications. The graduate is qualified to fill positions as civil draftsmen, assistants to engineers, purchasing agents, building material salesmen, and laboratory technicians.

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 120-129
TOTAL CONTACT HOURS: 1390-1790

COMMERCIAL ART

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
English Elective	3	30
AR 101 Basic Draw.	3	60
AR 105 Basic Design	3	60
CM 100 Lettering & Topography	4	50
CM 150 Descriptive Drawing	3	40
	16	240

	Cr. Hrs.	Ct. Hrs.
Second Quarter		
English Elective	3	30
AR 102 Basic Draw.	3	60
AR 106 Basic Design	3	60
CM 101 Typography & Layout	4	50
PY 100 Hum. Rel. in Bus. & Ind.	3	30
Elective	3	30
	19	260

Third Quarter		
S 110 Intr. to Speech	3	30
AR 103 Basic Draw.	3	60
AR 107 Basic Design	3	60
CM 103 Typography & Layout	4	50
Elective	3	30
	16	230

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
PT 101 Basic Photo	4	50
CM 201 Adv. Design & Rendering....	4	50
AR 201 Second Year Drawing.....	3	60
CM 207 Adv. Theory & Production....	3	60
AR 245 Printmaking	3	60
	17	280

Fifth Quarter		
PT 102 Intermediate Photography	4	50
CM 202 Adv. Design & Rendering....	4	50
IO 297 Coop. Work Experience	2	40
GA 110 Offset Litho. Funds.	12	150
	22	290

Sixth Quarter		
CM 209 Adv. Illus.	4	50
CM 203 Adv. Design & Rendering....	4	50
PY 107 Psych. of Pers. Dev.	3	30
IO 297 Coop. Work Experience or Elective	3-12	100-400
CM 209 Advertising Illustration	4	50
Elective	3	30
	21-30	310-610

OPTIONAL COURSES:

IO 297 Coop. Work Experience.....	3-12
IO 299 Independent Study	1-12

TOTAL CREDIT HOURS: 111-120
TOTAL CONTACT HOURS: 1610-1910

EMPLOYMENT OPPORTUNITIES: The program is organized to develop skills in design, layout, lettering, typography, illustration, production, art services and studio procedure. Job opportunities as illustrators, layout men, letterers, paste-up and mechanical men in advertising agencies, art studios, art services, department stores, publishing house packaging service, product manufacturers, and silkscreen printing shops.

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

COMMERCIAL INDUSTRIAL ELECTRICITY (R)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elec. & AC Theory	16	200
M 117 Math for Electronics	3	30
EG 106 Occ. Comm.	3	30
	22	260
Second Quarter		
ET 102 Solid State Devices & Vacuum Tubes	16	200
M 118 Math for Electronics	3	30
EG 107 Occ. Comm.	3	30
	22	260
Third Quarter		
ET 105 Adv. Switch. & Logic Systems	12	150
M 119 Math for Logic Sys.	3	30
EG 108 Occ. Comm.	3	30
Elective	4	50
	22	260

NOTE: IE 205 Electrical Installation and Planning must be substituted for ET 105 for those students desiring employment after completing the above program.

EMPLOYMENT OPPORTUNITIES: Job entry as an electrician's helper. Assist electrician to install and repair electrical wiring, fixtures and equipment.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 66
TOTAL CONTACT HOURS: 780

COMMERCIAL INDUSTRIAL ELECTRICITY (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elec. & AC Theory	16	200
M 117 Math for Electronics	3	30
EG 106 Occ. Comm.	3	30
	22	260
Second Quarter		
ET 102 Solid State Devices & Vacuum Tubes	16	200
M 118 Math for Electronics	3	30
EG 107 Occ. Comm.	3	30
	22	260
Third Quarter		
ET 105 Adv. Switch. & Logic	12	150
M 119 Math for Logic Sys.	3	30
EG 108 Occ. Comm.	3	30
Elective	4	50
	22	260

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
IE 201 Elec. Instr. & Meas.	12	150
FP 102 Industrial Hydraulic Con. & Cir.	4	50
Elective	4	50
	20	250
Fifth Quarter		
IE 202 Alternating Current Mach.	8	100
IE 203 Ind. Controls	8	100
IE 204 National Elec. Code	4	50
	20	250
Sixth Quarter		
IE 205 Elec. Inst., Planning	12	150
IE 206 Elec. Trades Blueprint Reading	4	50
Elective	4	50
	20	250

NOTE: Elective courses may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: A graduate of the two-year Commercial Industrial Electricity Program will be capable of performing a variety of jobs in the field of electrical power distribution and in the design and manufacture of electrical equipment.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 126
TOTAL CONTACT HOURS: 1530

DIESEL MECHANICS (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
DM 100 Basic Diesel Mechanics	16	200
WE 100 Basic Welding & Theory	4	50
M 100 Dev. Math	3	30
	23	280
Second Quarter		
DM 100 Basic Diesel Mech.	16	200
FP 100 Hydraulic Mechanics	4	50
EG 106 Occ. Comm.	3	30
	23	280
Third Quarter		
DM 100 Basic Diesel Mechanics	16	200
EC 108 Labor Rel.	3	30
Elective	4	50
	23	280

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
DM 200 Adv. Diesel Mechanics	16	200
PY 100 Human Rel. in Bus. & Industry	3	30
Elective	4	50
	23	280



covers all phases of engine service and care and repair of the vehicles involved, both on-and-off highway types.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 132
TOTAL CONTACT HOURS: 1620

ELECTRONIC TECHNOLOGY (A, N)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elect. & AC Theory.....	16	200
M 117 Math for Electronics	5	50
M 140 Slide Rule & Calculator.....	1	10
	22	260
Second Quarter		
ET 102 Solid State Devices & Vacuum Tubes	16	200
M 118 Math for Electronics	3	30
EC 106 Occ. Comm.	3	30
	22	260
Third Quarter		
ET 103 App. Elect. Layout & Fab.	16	200
EC 107 Cons. Ec.	3	30
EG 107 Occ. Comm.	3	30
or		
IO 297 Co-op Wk. Ex.	3-12	100-400
	22-28	260-600

TOTAL CREDIT HOURS: 66-72
TOTAL CONTACT HOURS: 780-1120

EMPLOYMENT OPPORTUNITIES: Opportunities include beginning work as Service Technicians, Assembly and Testing. The program provides general basic knowledge to advance into more detailed and specific areas of electronics with further training.

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

ELECTRONICS TECHNOLOGY (A, N)

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elect. & AC Theory.....	16	200
M 117 Math for Electronics	5	50
M 140 Slide Rule	1	10
	22	260
Second Quarter		
ET 102 Solid State Devices & Vacuum Tubes	16	200
M 118 Math for Electronics	3	30
EC 106 Occ. Comm.	3	30
	22	260

	Cr. Hrs.	Ct. Hrs.
Fifth Quarter		
DR 200 Adv. Diesel Mechanics	16	200
Elective	4	50
	20	250

	Cr. Hrs.	Ct. Hrs.
Sixth Quarter		
DM 200 Adv. Diesel Mechanics	16	200
Elective	4	50
	20	250

NOTE: Elective courses may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: This course gives a thorough preparation for entering the Diesel Service Field, such as heavy equipment mechanics, construction equipment mechanics. The course prepares the student in learning service of Diesel engines and Diesel powered equipment of many types. Training

Third Quarter		Cr. Hrs.	Ct. Hrs.
ET 103	App. Elect. Layout & Fab.	16	200
EC 107	Cons. Ec.	3	30
EG 107	Occ. Comm.	3	30
		<u>22</u>	<u>260</u>

GENERAL OPTION

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
ET 240	Intro. to Instruments & Measurements	8	100
ET 250	Intro. to Digital Elect. I (Sec. 1)	4	50
M 119	Math for Electronics.....	3	30
		<u>15</u>	<u>180</u>

Fifth Quarter

ET 250	Digital Elect. Electronics (Sec. 2)	4	50
ET 221	Comm. Sys. I	4	50
ET 242	Electronic	4	50
P 101	Fund. Physics	3	50
		<u>15</u>	<u>200</u>

Sixth Quarter

ET 231	Intro. to Electro-Mech. Devices	8	100
ET 222	Comm. Sys. II	4	50
Elective	.....	3	30
	or		
IO 299	or Independent Study.....	1-12	
IO 297	Co-op Wk. Exp.	3-12	100-400
		<u>15-24</u>	<u>180-550</u>

EMPLOYMENT OPPORTUNITIES: Opportunities include work as research and development technician, operations technicians, assembly technicians. The program will provide the general knowledge required for the technician to advance into positions of increasing responsibility.

TOTAL CREDIT HOURS: 111-120
TOTAL CONTACT HOURS: 1340-1690

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

ELECTRONICS TECHNOLOGY (N)

COMMUNICATIONS OPTION

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
ET 240	Intro. to Instruments & Measurements I	8	100
ET 250	Intro. to Digital I.....	4	50
		<u>12</u>	<u>150</u>

Fifth Quarter

ET 223	Radio Lic. Prep. I	4	50
ET 225	Mobile Radio-telephone Systems I	12	150
		<u>16</u>	<u>200</u>

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
ET 224	Radio License Prep II	4	50
ET 226	Mobile Radio-telephone Sys. II	12	150
Elective	.....	3	30
	or		
IO 297	Co-op Wk. Exp.	3-12	100-400
		<u>19-28</u>	<u>210-600</u>

EMPLOYMENT OPPORTUNITIES: The graduate of this program is equipped to enter employment as a telephone technician, radio transmitter maintenance man, mobile radio-telephone installer-repairman or in communications oriented sales and service.

TOTAL CREDIT HOURS: 113-122
TOTAL CONTACT HOURS: 1340-1730

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

ELECTRONICS TECHNOLOGY (N)

ELECTRO-MECHANICAL OPTION

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
ET 231	Intro. to Electro-Mech. Devices I	8	100
ET 240	Intro. to Instruments & Measurements	8	100
		<u>16</u>	<u>200</u>

Fifth Quarter

ET 232	Electro-Mech Devices III	8	100
ET 234	Servo & Syncro Systems.....	4	50
P 101	Fund. of Physics	3	50
		<u>15</u>	<u>200</u>

Sixth Quarter

ET 233	Electro-Mech Devices III	8	100
ET 235	Control Sys.	4	50
Elective	.....	3	30
	or		
IO 297	Co-op Wk. Exp.	3-12	100-400
		<u>15-24</u>	<u>180-550</u>

EMPLOYMENT OPPORTUNITIES: Opportunities include work in sales and service, operations and other areas in the Electromechanical field.

TOTAL CREDIT HOURS: 112-121
TOTAL CONTACT HOURS: 1360-1710

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

ELECTRONIC DIGITAL TECHNOLOGY (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elec. & AC Theory.....	16	200
M 117 Math for Electronics	3	30
EG 106 Occ. Comm.	3	30
	22	260

Second Quarter		
ET 102 Solid State Devices & Vacuum Tubes	16	200
M 118 Math for Electronics	3	30
EG 107 Occ. Comm.	3	30
	22	260

Third Quarter		
ET 105 Adv. Switch. & Logic.....	12	150
M 119 Math for Logic Sys.	3	30
EG 108 Occ. Comm.	3	30
Elective	4	50
	22	260

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
ET 249 Intro. to Computers.....	12	150
ET 299 Independent Study in Electronics	3	30
Elective	3	30
	18	210

Fifth Quarter		
ET 251 Adv. Computer Technology ...	12	150
ET 299 Ind. Study in Elec.	3	30
Elective	3	30
	18	210

Sixth Quarter		
ET 252 Computer Peripheral	12	150
ET 299 Independent Study in Elec. ...	3	30
Elective or IO 297 Coop. Work Exp. ...	3	30
	18	210

NOTE: Elective courses may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: The objective of the total curriculum in Electronic Digital Technology is to produce a competent electronic technician who is familiar with electronic digital concepts. A great need exists in small businesses that use small computers for service technicians. Industry is also in need of personnel who can use small computers to program and maintain automated assembly lines.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 120

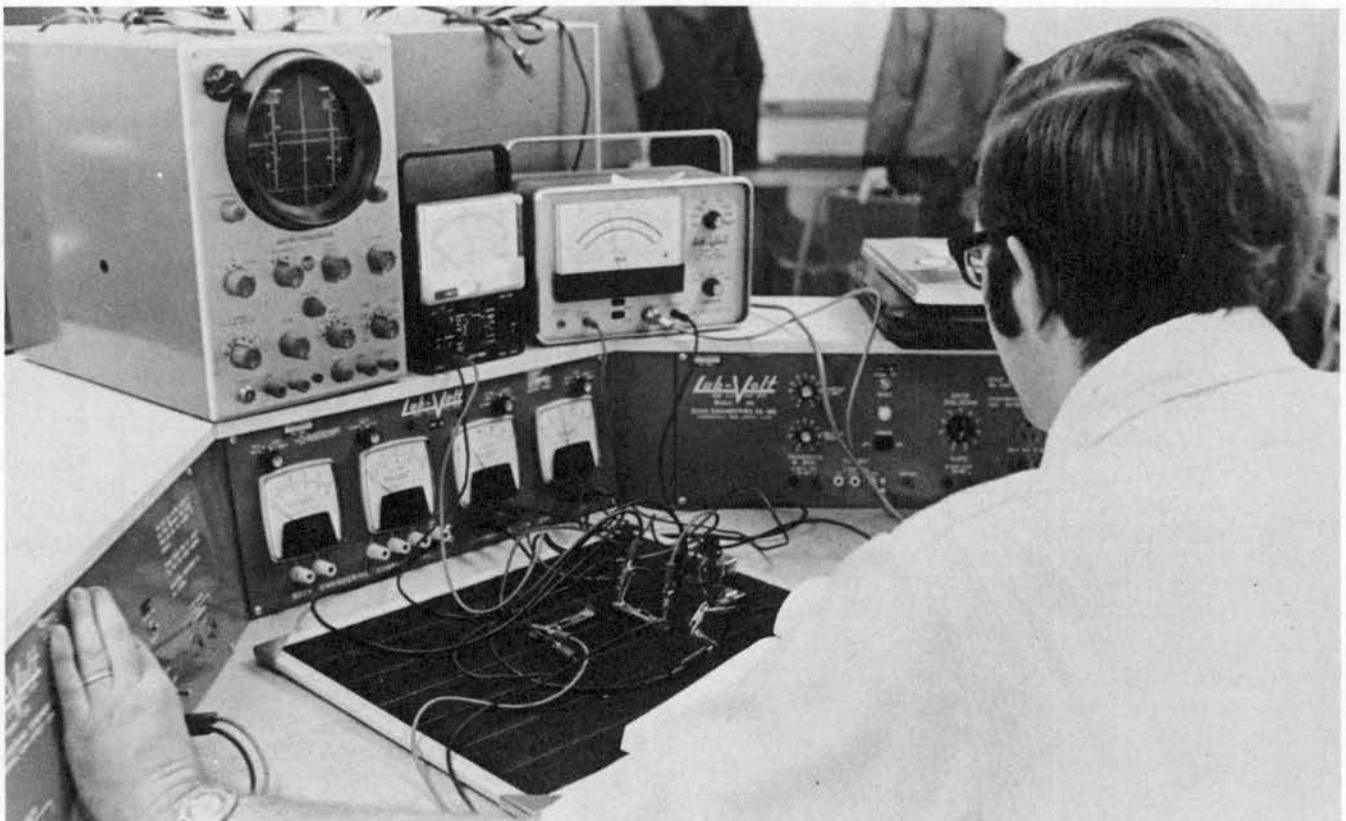
TOTAL CONTACT HOURS: 1410

INDUSTRIAL ELECTRONICS (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
ET 101 Basic Elec. & AC Theory.....	16	200
M 117 Math for Electronics	3	30
EG 106 Occ. Comm.	3	30
	22	260



Second Quarter		Cr. Hrs.	Ct. Hrs.
ET 102	Solid State Devices & Vacuum Tubes	16	200
M 118	Math for Electronics	3	30
EG 107	Occ. Comm.	3	30
		22	260

Third Quarter		Cr. Hrs.	Ct. Hrs.
ET 105	Adv. Switch. & Logic	12	150
M 119	Math for Logic Sys.	3	30
EG 108	Occ. Comm.	3	30
Elective		4	50
		22	260

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
ET 260	Ind. Logic Systems	12	150
ET 299	Independent Study in Electronics	3	30
Elective		3	30
		18	210

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
ET 261	Control Circuits for Industrial Applications	12	150
ET 299	Independent Study in Elec.	3	30
Elective		3	30
		18	210

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
ET 262	Assembly Line Techniques	12	150
ET 299	Independent Study in Electronics	3	30
Elective or IO 297	Co-op Work Exp.	3	30
		18	210

NOTE: Elective courses may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: The student upon completion will be qualified to service and maintain an automated assembly line. Modify such systems whenever a change is required. Repair AC and DC motors which would control industrial circuits.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in this area as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 120
TOTAL CONTACT HOURS: 1410

INSTRUMENTATION TECHNOLOGY (Option) (Auraria Only)

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
ET 240	Intro. to Instru. & Measure I Meas. Princ. (Elec.)	16	200
M 106	Inter. Algebra	4	40
P 102	Physics for Instru. I	3	50
		23	290

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
ET 241	Meas. Princ. II	12	150
ET 250	Intro. to Digital Elect.	4	50
ET 221	Comm. Systems I	4	50
PY 100	Hum. Rel. in Bus. & Ind.	3	30
		23	203

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
ET 231	Intro. to Electro-Mec. Devices	4	50
ET 242	Elec. Trouble-shooting	12	150
Elective		3	30
		19	203

To Be Taken Any of Above Quarters		Cr. Hrs.	Ct. Hrs.
IO 297	Co-op Work Exp.	3-12	100-400
IO 299	Independent Study	1-12	10-120

EMPLOYMENT OPPORTUNITIES: Opportunities include work as research and development technicians, sales and service technicians, operations technicians, assembly technicians. The program will provide the general knowledge required for the technician to advance into positions of increasing responsibility in the field of repair and calibration of test and measurement equipment.

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 69-89
TOTAL CONTACT HOURS: 806-1216

TELEVISION SERVICE TECHNOLOGY (N)

NOTE: For information on the Television Service Technology Program please contact the Division Director for Industrial Occupations located on the North Campus.

Employment Opportunities are greater than ever to the technician who is capable in radio, stereo and television (B/W & Color) servicing.

GRAPHIC ARTS

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
GA 100	Intro. to Graphic Arts Processes & Production	12	150
SC 110	Typing	4	50
PT 101	Basic Photo	4	50
		20	250

Second Quarter		Cr. Hrs.	Ct. Hrs.
GA 110	Offset Litho. Funds.	12	150
CM 101	Typo. & Layout	4	50
English	Elective	3	30
		19	230

Third Quarter		Cr. Hrs.	Ct. Hrs.
GA 120	Basic Offset Litho. Press Operations & Production	12	150
PT 200	Photo & Art	3	30
CM 103	Typo. & Layout	4	50
		19	220



SECOND YEAR

Fourth Quarter	Cr. Hrs.	Ct. Hrs.
GA 200 Intermediate Litho. Oprs. & Process Color	12	150
SC 111 Typing	4	50
IO 299 Independent Study	3	40
	<u>19</u>	<u>240</u>

Fifth Quarter	Cr. Hrs.	Ct. Hrs.
GA 210 Advanced Litho Oprs. & Computerized Typesetting ...	12	150
AR 245 Printmaking	3	30
Math Elective	3	30
	<u>18</u>	<u>210</u>

Sixth Quarter	Cr. Hrs.	Ct. Hrs.
IO 297 Co-op Work Experience	6	200
IO 299 Independent Study and/or elective	6	60
PT 222 Color Photo. I	8	100
PY 100 Human Relations	3	30
	<u>23</u>	<u>390</u>

GA 100, 110, 120, 200, 210 — 15 contact hours weekly
Special night classes:

	Cr. Hrs.	Ct. Hrs.
GA 150 Process Camera & Halftones ..	4	6
GA 160 Offset Press Operations	4	6
*GA 170 Color Separations	2	3

IO 299 Independent Study
*(prerequisite GA 110 or GA 150 and/or
instructors consent)

Required Courses	Cr. Hrs.	Ct. Hrs.
IO 297 Co-op Work Experience	3	12
IO 299 Independent Study	1	12

TOTAL CREDIT HOURS: 118
TOTAL CONTACT HOURS: 1540

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

HEAVY EQUIPMENT OPERATION AND SERVICE (R)

NINE-MONTH PROGRAM

First Quarter	Cr. Hrs.	Ct. Hrs.
EO 100 Heavy Equipment Operation ..	16	200
DM 100 Basic Diesel Mechanics	4	50
	<u>20</u>	<u>250</u>

Second Quarter	Cr. Hrs.	Ct. Hrs.
EO 100 Heavy Equipment Oper.	16	200
EG 106 Occ. Comm.	3	30
Elective	4	50
	<u>23</u>	<u>280</u>

Third Quarter	Cr. Hrs.	Ct. Hrs.
EO 100 Heavy Equipment Oper.	16	200
WE 100 Basic Welding & Theory	4	50
Elective	4	50
	<u>24</u>	<u>300</u>

NOTE: Elective courses may be selected from the following areas: Hydraulics, Welding, Cooperative Work Experience, Diesel Mechanics.

EMPLOYMENT OPPORTUNITIES: Men who successfully complete the Heavy Equipment Program will be qualified to enter the construction field as heavy equipment operators, maintenance men and servicemen.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 67
TOTAL CONTACT HOURS: 830

HYDRAULIC MECHANICS (R) NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
FP 100 Hydraulic Mechanics	16	200
M 102 Applied Math I	3	30
Elective	4	50
	23	280

Second Quarter		
FP 100 Hydraulic Mechanics	16	200
EG 106 Occ. Comm.	3	30
Elective	4	50
	23	280

Third Quarter		
FP 100 Hydraulic Mechanics	16	200
FP 102 Industrial Hydraulic Controls & Circuits	4	50
Elective	4	50
	24	300

NOTE: Elective courses may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: Hydraulic Mechanic in any shop or overhaul and repair facility for hydraulic pumps, cylinders and control valves.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 70
TOTAL CONTACT HOURS: 860

FLUID POWER TWO-YEAR PROGRAM FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
FP 100 Hydraulic Mechanics	16	200
M 102 Applied Math I	3	30
Elective	4	50
	23	280

Second Quarter		
FP 100 Hydraulic Mechanics	16	200
EG 106 Occ. Comm.	3	30
Elective	4	50
	23	280

	Cr. Hrs.	Ct. Hrs.
Third Quarter		
FP 100 Hydraulic Mechanics	16	200
FP 102 Industrial Hydraulic Controls & Circuits	4	50
Elective	4	50
	24	300

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
FP 200 Pneumatics	16	200
M 103 Applied Math II	3	30
Elective	4	50
	23	280

Fifth Quarter		
FP 200 Pneumatics	16	200
P 101 Fundamental Physics	3	30
Elective	4	50
	23	280

Sixth Quarter		
FP 200 Pneumatics	16	200
Elective	4	50
	20	250

NOTE: Electives may be selected with the advice of the student's advisor or instructor.

EMPLOYMENT OPPORTUNITIES: Graduates are prepared to enter the mobile machinery, manufacturing and automotive-type vehicle fields. Work performed may be on farm tractors and implements, industrial trucks, earthmoving equipment, self-propelled vehicles of all kinds, instrumentations, hydraulic equipment design and other commercial-industrial applications.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 136
TOTAL CONTACT HOURS: 1670

INDUSTRIAL-COMMERCIAL DRAFTING TECHNOLOGY (A, N, R)

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
D 100 Mechanical Drafting Theory & Techniques	16	200
EG 106 Occ. Comm.	3	30
M 102 App. Math	3	30
M 140 Slide Rule & Calculator.....	1	10
	23	270

Second Quarter		
D 100 Mechanical Drafting Theory & Techniques	16	200
M 103 App. Math	3	30
EC 108 Labor Rel.	3	30
	22	260

	Cr. Hrs.	Ct. Hrs.
Third Quarter		
D 100 Mechanical Drafting Theory & Techniques	16	200
M 104 App. Math	3	30
EG 108 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
D 200 Ind. Draft. Principles.....	16	200
P 101 Fund. of Physics	3	50
	<u>19</u>	<u>250</u>

	Cr. Hrs.	Ct. Hrs.
Fifth Quarter		
D 200 Ind. Draft. Principles	16	200
Elective	3	30
	<u>19</u>	<u>230</u>

	Cr. Hrs.	Ct. Hrs.
Sixth Quarter		
D 200 Ind. Draft. Principles	16	200
Elective	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	<u>19-28</u>	<u>230-600</u>

EMPLOYMENT OPPORTUNITIES: At the end of the two-year drafting program, students are prepared to enter industry in a beginning position in industrial plants, engineering firms, manufacturing and business concerns. As a member of a drafting and design team, he may become a detailer, draftsman, designer, or junior engineer working with various projects and their related drawings, materials and processes.

TOTAL CREDIT HOURS: 124-130
TOTAL CONTACT HOURS: 1500-1870

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

MACHINE DRAFTING TECHNOLOGY (N)

TWO-YEAR PROGRAM Option

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
D 100 Mech. Draft. & Techniques	16	200
M 102 App. Math I	3	30
EG 106 Occ. Comm.	3	30
M 140 Slide Rule & Calculator.....	1	10
	<u>23</u>	<u>270</u>

	Cr. Hrs.	Ct. Hrs.
Second Quarter		
D 100 Mech. Draft. & Techniques.....	16	200
M 103 App. Math II	3	30
EC 108 Labor Rel.	3	30
	<u>22</u>	<u>260</u>

	Cr. Hrs.	Ct. Hrs.
Third Quarter		
MS 100 Basic Machine Tool Opr. & Theory	16	200
EC 107 Cons. Econ.	3	30
EC 108 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
MS 100 Basic Machine Tool Opr. & Theory	16	200
P 101 Fund of Physics	3	50
D 261 Proj. in Machine Drafting.....	4	40
	<u>23</u>	<u>290</u>

	Cr. Hrs.	Ct. Hrs.
Fifth Quarter		
D 100 Mech. Draft. & Techniques	16	200
Elective	3	30
	<u>19</u>	<u>230</u>

	Cr. Hrs.	Ct. Hrs.
Sixth Quarter		
D 200 Ind. Draft. Prin.	16	200
Elective	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	<u>19-28</u>	<u>230-600</u>

TOTAL CREDIT HOURS: 128-137
TOTAL CONTACT HOURS: 1540-1910

EMPLOYMENT OPPORUNITIES: This two-year option provides the student with training for beginning drafting positions in industries where a knowledge of machine shop practices would be essential. As a member of a drafting or design team he may become a detailer, draftsman or designer in industries associated with production and manufacturing requirements, metal forming processes and applications, tooling, mechanical and operating components.

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

MECHANICAL DRAFTING (A, N, R)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
D 100 Mechanical Drafting Theory & Techniques	16	200
EG 106 Occ. Comm.	3	30
M 102 App. Math	3	30
M 140 Slide Rule & Calculator.....	1	10
	<u>23</u>	<u>270</u>

	Cr. Hrs.	Ct. Hrs.
Second Quarter		
D 100 Mechanical Drafting Theory & Techniques	16	200
M 103 App. Math	3	30
EC 108 Labor Rel.	3	30
	<u>22</u>	<u>260</u>

	Cr. Hrs.	Ct. Hrs.
Third Quarter		
D 100 Mechanical Drafting Theory & Techniques.....	16	200
M 104 App. Math	3	30
EG 108 Occ. Comm.	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	<u>22-28</u>	<u>260-600</u>

EMPLOYMENT OPPORTUNITIES: Graduates of the nine-month Industrial-Mechanical Drafting Program

will be prepared to enter employment as a beginning or junior draftsman.

TOTAL CREDIT HOURS: 67-72
TOTAL CONTACT HOURS: 790-1120

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

INDUSTRIAL PIPE DRAFTING (N)

First Quarter	Cr. Hrs.	Ct. Hrs.
D 251 Ind. Pipe Draft.	8	100
Second Quarter		
D 252 Ind. Pipe Draft.	8	100
Third Quarter		
D 253 Ind. Pipe Draft.	8	100

TOTAL CREDIT HOURS: 24
TOTAL CONTACT HOURS: 300

EMPLOYMENT OPPORTUNITIES: Upon completion of three quarters, the draftsman should be qualified as a junior piping detailer, isometric spooler, material take-off and beginning flow sheet detailer.

INVENTORY CONTROL (A)

First Quarter	Cr. Hrs.	Ct. Hrs.
SC 110 Typing I	4	50
English Elective	3	30
IC 100 Inventory Control	12	150
	<u>19</u>	<u>230</u>

Second Quarter		
SC 111 Typing II	4	70
M 110 Bus. Math	3	30
IC 100 Inventory Control	12	150
	<u>19</u>	<u>250</u>

Third Quarter		
Math Elective	3	30
AC 109 Accounting & Bookkeeping ..	5	50
IC 100 Inventory Control	12	150
	<u>20</u>	<u>230</u>

OPTIONAL COURSES:

IO 297 Co-op. Work Exp.	3-12	
IO 299 Independent Study	1-12	

TOTAL CREDIT HOURS: 58
TOTAL CONTACT HOURS: 710

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Services. Other courses may be substituted in these areas as recommended by the advisor or instructor.

MACHINE SHOP (N) NINE-MONTH PROGRAM

First Quarter	Cr. Hrs.	Ct. Hrs.
MS 100 Basic Machine Tool Oper. & Theory	16	200
M 102 App. Math I	3	30
EG 106 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

Second Quarter	Cr. Hrs.	Ct. Hrs.
MS 100 Basic Mach. Tool Oper. & Theory	16	200
M 103 App. Math (Machinist)	3	30
EG 107 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

Third Quarter

MS 100 Basic Machine Tool Oper. & Theory	16	200
EC 107 Cons. Ec.	3	30
EC 108 Labor Rel.	3	30
or		
IO 297 Co-op Wk. Exp.	3-12	100-400
	<u>22-28</u>	<u>260-600</u>

EMPLOYMENT OPPORTUNITIES: The first year is designed to give beginning students the opportunity to acquire basic skills and the related information necessary to gain employment and build a profitable career in the machine shop industry. The trainee is qualified to enter an occupation as a machinist's helper, tool room attendant, machine tool inspector, as well as other areas including apprenticeable occupations.

TOTAL CREDIT HOURS: 66-72
TOTAL CONTACT HOURS: 780-1120

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

MACHINE SHOP (N)

FIRST YEAR

First Quarter	Cr. Hrs.	Ct. Hrs.
MS 100 Basic Machine Tool Oper. & Theory	16	200
M 102 App. Math I	3	30
EG 106 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

Second Quarter

MS 100 Basic Machine Tool Oper. & Theory	16	200
M 103 App. Math (Machinist)	3	30
EG 107 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>

Third Quarter

MS 100 Basic Machine Tool Oper. & Theory	16	200
EC 107 Cons. Ec.	3	30
EC 108 Labor Rel.	3	30
	<u>22</u>	<u>260</u>

SECOND YEAR

Fourth Quarter	Cr. Hrs.	Ct. Hrs.
MS 200 Special Mach. Tools, Setups & Processes	16	200
Elective	3	30
	<u>19</u>	<u>230</u>

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
MS 200	Special Mach. Tools, Setups & Processes	16	200
Elective	.....	3	30
		19	230

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
MS 200	Special Mach. Tools, Setups & Processes	16	200
Elective	.....	3	30
or			
IO 297	Co-op Wk. Exp.	3-12	100-400
		19-28	230-600

EMPLOYMENT OPPORTUNITIES: The graduate will have the necessary skills to work directly with machine shop equipment. He will be capable of working from blueprints or written specifications, applying the knowledge of mechanics, shop mathematics, metal properties, and layout machining procedures.

TOTAL CREDIT HOURS: 123-132

TOTAL CONTACT HOURS: 1470-1840

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

MINERAL INDUSTRY TECHNOLOGY (R)

TWO-YEAR PROGRAM

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
MI 101	Mining	3	30
G 111	Intro. to Geology	4	60
M 102	App. Math I	3	30
EG 106	Occ. Comm.	3	30
Elective	.....	4	50
		17	200

Second Quarter		Cr. Hrs.	Ct. Hrs.
M 101	Mining	3	30
MI 103	Mining Drafting	8	100
G 112	Physical Geology	4	60
M 103	App. Math II	3	30
		18	220

Third Quarter		Cr. Hrs.	Ct. Hrs.
MI 104	Ore Dep.	4	50
MI 105	Mineral Explorations	4	50
SU 103	Basic Surveying	8	100
M 104	App. Math III	3	30
		19	230

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
MI 201	Mining	3	30
MI 202	Rock & Mineral Sampling	4	50
SU 104	Adv. Survey.	4	50
C 101	Fund. of Chemistry	4	60
Elective	.....	4	50
		19	240

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
MI 203	Mine Design	4	50
MI 204	Mining Equ.	4	50
MI 205	Plant Product Sampling	4	50
SU 105	Mine Survey.	4	50
Elective	.....	4	50
		20	250

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
MI 206	Metal & Alloy Sampling	4	50
MI 207	Mill Equip. Operating Techniques	4	50
MI 208	Mining & Mineral Law	3	30
MI 209	Mine Safety & Vent.	3	30
MI 297	Co-op. Work Experience	6	200
		20	360

EMPLOYMENT OPPORTUNITIES: The objective of this total curriculum is to prepare students to become competent Mineral Industry Technicians. The mineral industry is a multi-billion dollar operation where many technicians are needed.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 113

TOTAL CONTACT HOURS: 1500

PHOTOGRAPHY

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
PT 101	Basic Photo.	8	100
Eng. Elective	.....	3	30
PT 107	History of Photo. I	4	40
CM 100	Lettering & Typo.	4	50
		22	250

Second Quarter		Cr. Hrs.	Ct. Hrs.
PT 102	Intermed. Photo.	8	100
AR 101	Basic Draw.	3	30
Eng. Elective	.....	3	30
PT 108	History of Photo.	4	40
AR 245	Printmaking (silkscreen)	3	30
		21	230

Third Quarter		Cr. Hrs.	Ct. Hrs.
PT 103	Advance Photo.	8	100
AR 105	Basic Design	3	30
AR 102	Basic Draw.	3	30
GA 100	Intro. to Graphic Arts	12	150
		26	310

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
PT 201	Photo. & Art	8	100
GA 150	Process Camera & Halftones	4	60
Eng. Elective	.....	3	30
		15	190



Fifth Quarter		Cr. Hrs.	Ct. Hrs.
PT 220	Photo Jour. I	8	100
PT 222	Color Photo. I	8	100
ET 101	Basic Elec. & AC Theory.....	4	50
		18	250
Sixth Quarter			
PT 224	Intro. to Motion Photo.	4	50
PT 225	Motion Photo. & Mass Media..	4	50
PT 226	Editing Motion Photo.	4	50
PT 245	Film Making	4	50
ET 101	Basic Elec.	4	50
		20	250

OPTIONAL COURSES:

IO 297	Co-op. Work Exp.	3-12
IO 299	Independent Study	1-12
PT 109	May be taken as elective	
PT 200	May be taken as elective	
PT 221	May be taken as elective	
PT 223	May be taken as elective	

TOTAL CREDIT HOURS: 135
TOTAL CONTACT HOURS: 1480

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

PLUMBING (R)
NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
PL 100 Plumbing	16	200
M 100 Dev. Math	3	30
Elective	4	50
	23	280
Second Quarter		
PL 100 Plumbing	16	200
EG 106 Occ. Comm.	3	30
Elective	4	50
	23	280
Third Quarter		
PL 100 Plumbing	16	200
Elective	4	50
	20	250

OPTIONAL COURSES: Welding, Cooperative Work Experience, Carpentry, Bricklaying, Electrical Installation.

EMPLOYMENT OPPORTUNITIES: This course is designed for job entry for the student who wants to work in the plumbing trades.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 66
TOTAL CONTACT HOURS: 810

QUALITY ASSURANCE (A)
TWO-YEAR ASSOCIATE DEGREE PROGRAM
FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
English Elective	3	30
Math Elective	5	50
D 111 Drafting I	4	60
QA 100 Intro. to QA.....	4	30
ET 101A Basic Elect. & DC Theory....	4	50
	20	220
Second Quarter		
English Elective	3	30
Math Elective	4	50
QA 101 Princ. of QA	4	30
D 112 Mech. Draf. II	4	60
	15	170
Third Quarter		
P 101 Fund. Phys.	3	30
QA 102 Princ. of QA II.....	7	70
ET 101B Basic Elect. & AC Theory....	4	50
	14	150

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
P 111 College Physics	5	70
QA 201 Theory & Application of QA I..	7	40
	12	110

	Cr. Hrs.	Ct. Hrs.
Fifth Quarter		
QA 206 Metrology	2	40
QA 205 Nondestructive Testing	2	40
Humanities Elec.	3	30
Tech. Relat. Elect.	8	100
QA 202 Theory & Application of QA II	4	40
	<u>19</u>	<u>250</u>

Sixth Quarter		
QA 207 Elec. QA	2	40
QA 208 Procurement QA & Prin. of N.C.	3	40
English Elective	3	30
QA 203 Advanced QA	4	40
	<u>12</u>	<u>150</u>

TOTAL CREDIT HOURS: 92
TOTAL CONTACT HOURS: 1050

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

SPORTS CRAFTS AND SPECIALTY AREA MECHANICS (N)

NINE-MONTH PROGRAM

	Cr. Hrs.	Ct. Hrs.
First Quarter		
SE 100 Specialty Area Mechanics ...	16	200
M 102 App. Math	3	30
EG 106 Occ. Comm.	3	30
	<u>22</u>	<u>260</u>



	Cr. Hrs.	Ct. Hrs.
Second Quarter		
SE 100 Specialty Area Mechanics ...	16	200
EG 107 Occ. Comm.	3	30
EC 107 Cons. Econ.	3	30
	<u>22</u>	<u>260</u>

Third Quarter		
SE 100 Specialty Area Mechanics ...	16	200
EC 108 Labor Rel.	3	30
or		
IO 297 Co-op Wk.	3-12	100-400
	<u>22-28</u>	<u>230-600</u>

EMPLOYMENT OPPORTUNITIES: Entry into small engine mechanic service field as a small mechanic dealership, automotive warehouse, or parts store, sales or as a manufacturer's service representative. A foundation for the potential service manager or garage foreman.

TOTAL CREDIT HOURS: 66-72
TOTAL CONTACT HOURS: 750-1120

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

SURVEYING (R)

TWO-YEAR PROGRAM

FIRST YEAR

	Cr. Hrs.	Ct. Hrs.
First Quarter		
SU 112 Drafting & Physical Measurement	8	100
M 102 App. Math I	3	30
EG 106 Occ. Comm.	3	30
G 111 Intro. to Geology	4	60
	<u>18</u>	<u>220</u>

Second Quarter		
SU 113 Surveying Drafting	8	100
GE 230 Urban Geog.	3	30
M 103 App. Math II	3	30
EG 107 Occ. Comm.	3	30
	<u>17</u>	<u>190</u>

Third Quarter		
SU 102 Basic Survey. I	12	150
M 104 Applied Math III	3	30
EG 108 Occ. Comm.	3	30
	<u>18</u>	<u>210</u>

SECOND YEAR

	Cr. Hrs.	Ct. Hrs.
Fourth Quarter		
SU 203 Intermediate Surveying	12	150
SU 214 Surveying Calculations	5	50
	<u>17</u>	<u>200</u>

Fifth Quarter		
SU 206 Photogrammetry	8	100
SU 223 Error Analysis	4	40
SU 215 Special Surveying Problems..	4	40
	<u>16</u>	<u>180</u>



Sixth Quarter		Cr. Hrs.	Ct. Hrs.
SU 204	Advanced Surveying	8	100
CT 123	Contracts & Specifications...	5	50
SU 216	Legal Aspects of Surveying..	4	40
SU 217	Technical Project	4	40
		21	230

NOTE: This surveying curriculum is a practical course, supported by theory. Since practice can only be obtained in the field, the student and his surveying team members should be prepared to spend several days per week during the Fall and Spring Quarters in the field irrespective of weather conditions.

In addition, since Surveying is a team effort, the student must enroll at the beginning of the quarter to receive the full benefit of the field work and the instructions.

EMPLOYMENT OPPORTUNITIES: Entry as a working member of a surveying party and proficiency in office work and calculations. A two-year credit towards registration as a professional surveyor is given upon completion of the program.

NOTE: The courses in the block form are recommended as minimum electives in the areas of Math and Science, Communications and Arts and Social Science. Other courses may be substituted in these areas as recommended by the advisor or instructor.

TOTAL CREDIT HOURS: 107
TOTAL CONTACT HOURS: 1230

TECHNICAL ILLUSTRATION (A)

TWO-YEAR PROGRAM

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
EG 106	Occ. Comm.	3	30
D 100	Drafting	16	200
AR 101	Basic Drawing	3	60
		22	290

Second Quarter		Cr. Hrs.	Ct. Hrs.
M 102	App. Math.	3	30
D 100	Drafting	16	200
AR 102	Basic Drawing	3	60
		22	290

Third Quarter		Cr. Hrs.	Ct. Hrs.
M 105	App. Math.	3	30
D 100	Drafting	16	200
PY 100	Hum. Rel. in Bus. & Ind.	3	30
		22	260

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
AR 105	Basic Design	3	60
CM 201	Adv. Design & Rendering....	4	50
TI 214	Air Brush Techniques I	4	60
PY 107	Psy. of Pers. Development...	3	30
PT 101	Basic Photo.	8	100
		22	400

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
CM 202	Adv. Design & Rendering....	4	80
MG 209	Bus. Organ. & Manag.	3	30
MG 226	Salesmanship	3	30
TI 216	Air Brush Techniques II	4	90
M 104	App. Math.	3	30
		17	260

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
GA 100	Intro. to Graphic Arts.....	8	100
TI 218	Special Problems	6	75
TI 215	TI Seminar	3	30
OPTIONAL COURSE:			
IO 297	Co-op. Work Exp.	3-12	10-20
		20-29	215-225

TOTAL CREDIT HOURS: 125-134
TOTAL CONTACT HOURS: 1715-1725

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Services. Other courses may be substituted in these areas as recommended by the advisor or instructor.

VENDING MACHINE REPAIR (A)

TWO-YEAR PROGRAM

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
ET 101	Basic Elec. & AC Theory.....	16	200
M 102	Applied Math I	3	3
		19	203

Second Quarter		Cr. Hrs.	Ct. Hrs.
ET 102	Solid State Devices & Vacuum Tubes	16	200
M 103	Applied Math II	3	3
		<u>19</u>	<u>203</u>

Third Quarter		Cr. Hrs.	Ct. Hrs.
VM 100	Vending Machine I	16	200
M 104	Applied Math II	3	3
		<u>19</u>	<u>203</u>

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
VM 200	Vending Machine II	16	200
		<u>16</u>	<u>200</u>

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
VM 200	Vending Machine III	16	200
		<u>16</u>	<u>200</u>

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
VM 200	Vending Machine IV	16	200
		<u>16</u>	<u>200</u>

OPTIONAL COURSES:

VM 297	Co-op. Work Exp.	3-12	
VM 299	Independent Study	1-12	

TOTAL CREDIT HOURS: 109-129

TOTAL CONTACT HOURS: 1209

The courses in the block form are recommended as minimum electives in the areas of Math & Science, Communications & Arts, and Social Sciences. Other courses may be substituted in these areas as recommended by the advisor or instructor.

WELDING AND FABRICATION (A, N, R) NINE-MONTH PROGRAM

First Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
M 102	App. Math	3	30
EG 106	Occ. Comm.	3	30
		<u>22</u>	<u>260</u>

Second Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
EG 107	Occ. Comm.	3	30
EC 108	Labor Rel.	3	30
		<u>22</u>	<u>260</u>

Third Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
EC 107	Cons. Ec.	3	30
PY 107	Psy. of Per. Develop.	3	30
	or		
IO 297	Co-op Wk. Exp.	3-12	100-400
		<u>22-28</u>	<u>260-600</u>

EMPLOYMENT OPPORTUNITIES: Student is ready to enter the welding trade at job entry level.

TOTAL CREDIT HOURS: 66-72

TOTAL CONTACT HOURS: 780-1120

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.



WELDING AND FABRICATION (A, N, R)

FIRST YEAR

First Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
M 102	App. Math	3	30
EG 106	Occ. Comm.	3	30
		<u>22</u>	<u>260</u>

Second Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
EG 107	Occ. Comm.	3	30
EC 108	Labor Rel.	3	30
		<u>22</u>	<u>260</u>

Third Quarter		Cr. Hrs.	Ct. Hrs.
WE 100	Basic Weld. & Theory.....	16	200
EC 107	Cons. Ec.	3	30
PY 107	Psy. of Per. Development....	3	30
		<u>22</u>	<u>260</u>

SECOND YEAR

Fourth Quarter		Cr. Hrs.	Ct. Hrs.
WE 200	Weld, Fab. & Theory.....	16	200
Elective	.....	3	30
		<u>19</u>	<u>230</u>

Fifth Quarter		Cr. Hrs.	Ct. Hrs.
WE 200	Weld., Fab. & Theory.....	16	200
Elective	.....	3	30
		<u>19</u>	<u>230</u>

Sixth Quarter		Cr. Hrs.	Ct. Hrs.
WE 200 Weld., Fab. & Theory.....	16	200	
Elective	3	30	
or			
IO 297 Co-op Wk. Exp.	3-12	100-400	
	19-28	230-600	

TOTAL CREDIT HOURS: 123-132

TOTAL CONTACT HOURS: 1470-1840

NOTE: The courses in Math & Science, Communications & Arts, and Social Sciences are recommended as minimum electives. Other courses may be substituted as recommended by the advisor or instructor.

EMPLOYMENT OPPORTUNITIES: Welding mechanic in any facility requiring diversified welding skills and techniques of fabrication.

GENERAL INFORMATION FOR INDUSTRIAL OCCUPATIONS DIVISIONS

SCHOLARSHIPS

Scholarships covering Tuition, Books and Fees are available to students majoring in Auto Mechanics. The awards are based on outstanding scholarship, extraordinary talents and leadership abilities.

Contributed by: The Rocky Mountain Automotive Wholesalers Association

20 HOUR INSTRUCTIONAL BLOCK

Any student may enroll in an Industrial Occupations' course, if it can be determined that such courses will meet the occupational goal of the student. A student may enroll in the full 20 contact hour — 16 credit block or a portion of it in accordance with the following ratio:

- 4 credit hours — 5 contact hours
- 8 credit hours — 10 contact hours
- 12 credit hours — 15 contact hours

COOPERATIVE WORK EXPERIENCE

IO 297 Cooperative Work Experience 3-12 credit hours*

In some program areas, cooperative work experience is a part of the course of study. The student is placed at a work station, somewhere in the Metropolitan Denver area, which is related to his educational pro-

gram and occupational objective. He works under the immediate supervision of experienced personnel at the business, industry or agency involved, with a College Coordinator providing general coordination. Prerequisites for enrollment to Cooperative Work Experience are permission of the instructor and approval of the Cooperative Work Experience Coordinator.

*Credit will be granted proportional to hours on the job.

- 40 hours a week on a related job..... 12 credits
- 30 hours a week on a related job..... 9 credits
- 20 hours a week on a related job..... 6 credits
- 10 hours a week on a related job..... 3 credits

INDEPENDENT STUDY

IO 299 Independent Study 1-12 credit hours

Provides an opportunity for the serious-minded student to engage in intensive study and research on a special topic under the direction of a qualified faculty member. Conditions for electing this course will be evaluated by the Director of the Division of Industrial Occupations, who will assist in selecting an advisor and determine the amount of credit to be granted.

Ten hours work for each hour of credit is considered as minimum. Maximum of 12 credits will be allowed in any program.

COURSE DESCRIPTIONS FOR INDUSTRIAL OCCUPATIONS DIVISIONS

INDUSTRIAL OCCUPATIONS

The Industrial Occupations programs are structured to give each student the maximum time available in his chosen occupational area. The courses will be identified as 100 for the first year and 200 for the second year with the appropriate prefix to identify the Particular discipline, i.e., WE 100-WE 200, MS 100-MS 200, etc. Each course is designed to continue through three quarters of approx. 10 weeks in length totaling 600+ hours of instruction per year.

Each course will consist of a series of different specific measurable performance objectives that the student is expected to master before moving on to the next skill. Under this system, it is entirely possible for the student to earn more or less credit hours than he contracted for at the time of registration. Those students capable of moving at an accelerated pace will be encouraged to do so and students having difficulty with a particular unit or skill, will be given the individual attention necessary to master those difficult units.

The normal ratio of credits earned for time invested will be as follows:

- 4 credit hours = 5 contact hours
- 8 credit hours = 10 contact hours
- 12 credit hours = 15 contact hours
- 16 credit hours = 20 contact hours

A student who signs up for 16 credit hours would invest 20 hours of time each week of the 10 week quarter, and would gain 200 hours of instructional time for each of the three quarters.

NOTE: Class periods will be 50 minutes in length.

APPLIANCE & REFRIGERATION MECHANICS (A)

AE 100 — 1st Qtr. — Appliance & Refrigeration Mechanics 16 credit hours

Per Quarter

Lecture and study assignments to acquaint the student with the basic fundamentals of electricity, electrical and mechanical components, their functions and trouble diagnosis, how to dismantle, repair and re-assemble appliances. Laboratory experiences in studying electrical circuits, drawing circuit diagrams, locating electrical and mechanical components from schematics and pictorials; working with the appliance, testing, replacing, repairing, adjusting and final testing in regard to safety and performance dependability. Learning to properly use and care for tools and test equipment. Theory and performance evaluation. (20 hours per week)

This program is designed to be taught twenty hours per week per quarter (16 credit hours). To facilitate night classes, the above classes are taught three nights a week for a total of ten contact hours (8 credit hours). When the courses are split in this fashion the course

number will take on the connotation of A & B, indicating that the student will have to take two quarters to complete any one of the courses.

AE 100 — 2nd Qtr. — Appliance and Refrigeration Mechanics 16 credit hours

Per Quarter

Lecture and study assignments on electrical and electronic components, their functions and relative locations in the major appliances. Vacuum tubes and semi-conductors, control devices, drives, science of heats and gases. Laboratory experiences in the safe diagnosis, dismantling, repairing, reassembly, adjusting and testing of performance and dependability of major appliances. Theory and performance evaluation. (20 hours per week)

This program is designed to be taught twenty hours per week per quarter (16 credit hours). To facilitate night classes, the above classes are taught three nights a week for a total of ten contact hours (8 credit hours). When the courses are split in this fashion the course number will take on the connotation of A & B, indicating that the student will have to take two quarters to complete any one of the courses.

AE 100 — 3rd Qtr. — Appliance and Refrigeration Mechanics 16 credit hours

Per Quarter

Lecture and study assignments on diagnosis of trouble and recommended procedures for repair of refrigeration, and air-conditioning equipment used in domestic and light industrial applications. Laboratory experience in diagnosis and repair of heat-transfer equipment. This includes air conditioning used in domestic and light industry. (20 hours per week)

ARCHITECTURAL TECHNOLOGY

AT 100 Architectural Drafting (N) 16 credit hours

Working with wood, masonry, steel and concrete structures. Professional architectural drafting proficiency and detailed knowledge will be gained in the following areas:

- Line Quality
 - Lettering
 - Dimensioning
 - Plan development
 - Sections, details and elevations
 - Sketching and perspective drawing
 - Construction methods, sequences and materials
 - Building codes
 - Specifications
 - Drawings as contract documents
- (20 hours per week)

AT 200 Architectural Design (N)16 credit hours

Per Quarter

Prerequisite: AT 100 or Consent of Advisor

An extension of the skills and knowledge gained in the first year, further development will be required in:
Form and functional relationships
Site planning and development
Specification writing
Mechanical and electrical systems
Vertical and horizontal transportation systems
Shop drawings
Professional practice and legal responsibilities
(20 hours per week)

AT 224 Architectural History I (N, R) . . .5 credit hours

Prerequisite: All First Year Courses

An analysis of historical forms, styles, and structures as developed by various societies in response to evolving cultural and technological developments. Drafting, and architectural model building will be used to illustrate concepts of form, mass, and structural relationships. The primitive beginnings of building to the architecture of the Renaissance. (5 hours per week)

AT 225 Architectural History II (A, N) . . .5 credit hours

Prerequisite: All First Year Courses

A continuation of Architectural History I. A detailed examination of post-Renaissance forms in the 17th, 18th, and 19th centuries. The development of contemporary architecture, its leading proponents, and the development of an architectural philosophy. (5 hours per week)

AUTOMOTIVE MECHANICS

AM 100 Basic Automotive Mechanics (A, N, R)16 credit hours

Per Quarter

Principles of design, construction, and operation of modern automotive engines. Introduction to the fundamentals of electricity, ignition systems, fuel systems, and tune-up. The theory and operation of brake systems, chassis, and power trains. Includes:

- Shop Safety
- Hand Tools and Equipment
- Basic Electricity
- Charging Systems
- Tune-up
- Carburetion
- Brake Systems
- Chassis
- Wheel Alignment and Balancing
- Clutches
- Standard Transmission
- Drive Lines
- Rear Axle Assemblies
- Automatic Transmission
- (20 hours per week)

AM 200 Advanced Automotive Repair (A, N, R)16 credit hours

Per Quarter

Prerequisite: AM 100 or consent of Advisor

Service and repair procedures on engine rebuilding and overhaul. Diagnosis and troubleshooting on all

phases of automobile repair and dynamometer operation with the latest test equipment. Also principles of operation and service of air conditioning. Course includes:

- Micrometers
- Special Measuring Tools
- Special Tools
- Valve Service
- Piston and Rings
- Crankshafts and Bearings
- Engine Overhaul
- Engine Analyzer Operation
- Scope Interpretation
- Dynamometer Operation
- Principles of Air Conditioning
- Air Conditioning Service
- New and Used Car Service
- (20 hours per week)

AUTO BODY SERVICE

AB 100 Auto Body Repair & Refinishing (N)16 credit hours

Per Quarter

The development of knowledge and skills in performing basic operations of auto body repair, painting, acetylene welding, body filling materials, e.g., lead and plastic. Use and knowledge of all tools. Remove, repair, and replacing parts, e.g.

- Doors
- Fenders
- Hood
- Bumpers
- Headliners
- Glass
- Front Sheet Metal
- Surface preparation and spot painting with lacquer and acrylic lacquer.
- (20 hours per week)

AB 200 Major Auto Body Repair & Refinishing (N)16 credit hours

Per Quarter

Prerequisite: AB 100 Auto Body Repair & Refinishing

The development of knowledge and skills in the areas of identifying, diagnosing, set-ups, straightening and replacement of the following:

- Make and Model
- Type and Construction
- Total Damage
- Portable Frame Machine
- Welding Torch
- Quarter Panel
- Door Panel
- Built On Parts
- Glass
- Painting (Spot and Completes)
- (20 hours per week)

BIOMEDICAL EQUIPMENT TECHNOLOGY

BE 100 Biomedical Physiology (A)4 credit hours

An introduction to basic human physiology and application to biomedical equipment. (4 hours per week)

BE 102 Biomedical Equipment (A) 4 credit hours

An introduction to the major types of biomedical equipment and the use and operation of this equipment. (3 hours lecture, 4 hours lab each week)

BE 200 Biomedical Instrumentation (A) .4 credit hours

A study in depth of the operation and maintenance of biomedical apparatus. Emphasis is placed on therapeutic and clinical equipment. (2 hours lecture, 4 hours lab each week)

BE 204 Advanced Instrumentation (A) .4 credit hours

A comprehensive course in the operation and maintenance of a variety of biomedical instruments. (3 hours lecture, four hours lab each week)

BE 206 Applied Biomedical Technology (A)6 credit hours

Intensive clinical experience in agencies utilizing various biomedical equipment systems. Individuals from the medical electronics industry, hospitals and research facilities participate in lecturing and demonstrating specialized equipment. (3 hours lecture, 8 hours lab per week)

BE 210 Biophysics (A)4 credit hours

A study of biological systems from a physics standpoint. The generation of biopotentials, effects of ultrasonic and radioactive irradiations on living tissue are included. (8 hours per week)

BE 212 Medical Information Processing (A)2 credit hours

A comprehensive course including hospital information systems, medical screening, information storage and retrieval, physiological monitoring systems and computer-aided diagnosis. (3 hours per week)

BRICKLAYING (R)

BL 100 Bricklaying (R)16 credit hours
Per Quarter

This nine-month program will take the student into the phase of bricklaying that is basically used in home construction: (20 contact hours per week)

- Spreading mortar
- Laying bricks to a line
- Building brick corners
- Laying sills
- Brick veneering
- Blocklaying
- Tile setting
- Stone laying
- Commercial construction brickwork
- Blueprint reading
- Safety procedures
- Fireplace construction
- Glass block setting
- Use of tools and equipment

BUSINESS MACHINE TECHNOLOGY

OM 100 — 1st Quarter — Introduction to Typewriters16 credit hours
Per Quarter

Complete disassembly and reassembly of Royal Typewriters, using factory adjustments; following proper sequence. Accustoms the student to proper disassembly and reassembly procedures. Familiarizes students with individual parts and their operation and function with other parts. Theory of typewriter principles.

Business Machine Terminology gives the student an understanding of the language used in industry to special tools, adjustments, and parts. (20 hours per week)

OM 100 — 2nd Quarter — Introduction to Typewriters16 credit hours
Per Quarter

Complete disassembly and reassembly of Smith-Corona 250 typewriters, using factory adjustments; following proper sequence. Accustoms the students with proper disassembly and reassembly procedures. Familiarizes student with individual parts and their operation and function with other mechanism. Theory of typewriter principles.

This course is designed to express the importance of being able to sell one's self to potential customers; his service abilities, workmanship, appearance and the proper approach to meeting the general public. (20 hours per week)

OM 100 — 3rd Quarter — Introduction to Typewriters16 credit hours
Per Quarter

Complete disassembly and reassembly of Adler electric typewriters, using factory adjustments; following proper sequence. Accustoms the student with proper disassembly and reassembly procedures. Familiarizes students with individual parts and their operation and function with other mechanisms. Theory of typewriter principles.

Typewriter Troubleshooting gives the student the language used by manufacturers and service technicians. (20 hours per week)

OM 200 — 1st Quarter — Introduction to Office Machines16 credit hours
Per Quarter

Complete disassembly and reassembly of adding machines, using factory adjustments; following proper sequence. Accustoms the student to proper disassembly and reassembly procedures. Familiarizes students with individual parts and their operation and function with other mechanisms. This course is designed to give the student a better overall understanding of the business machine industry. Field trips are included. 20 hours per week)

OM 200 — 2nd Quarter — Introduction to Office Machines16 credit hours
Per Quarter

Complete disassembly and reassembly of calculating sections, using factory adjustments; following proper sequence. Accustoms the students to proper disassembly and reassembly procedures. Familiarizes students with individual parts and their operation and function with other mechanisms. Theory of calculator princi-

ples. Complete disassembly and reassembly of spirit duplicators, using factory adjustments; following proper sequence. Familiarizes students with individual parts and their operation and function with other mechanisms. Theory of duplicators principles. (20 hours per week)

OM 200 — 3rd Quarter — Introduction to Office Machines 16 credit hours
Per Quarter

Techniques used in maintaining business equipment in top mechanical condition. Also designed to help the student with maintaining a high quality of work performed and check of his work. Gives students a knowledge of how to locate problems faster and to correct them efficiently. Shows students how to distinguish between different problems. (20 hours per week)

CARPENTRY (R)

CA 100 Carpentry (R) 16 credit hours
Per Quarter

Practical training is given the student applying proper construction techniques as used in the construction industry. (20 hours per week)

- Carpentry tools and equipment
- Building codes and ordinances
- Blueprint reading
- Visits to construction sites
- Safety practices
- Lumber measuring and selection
- Framing square
- Building layout
- Framing
- Doors and windows
- Rafters and roof construction
- Rough carpentry work

CA 102 Blueprint Reading for the Building Trades (R) 4 credit hours

This course will give the student a working knowledge of blueprint reading and sketching as applied to the construction industry. Building terms and abbreviations are taught along with symbols and conventions for other major trades. Construction features, beginning with details of component parts and advancing to a complete set of working drawings. (5 hours per week)

CA 200 Advanced Carpentry (R) 12 credit hours
Per Quarter

The student will have the opportunity to advance to more difficult construction jobs. (15 hours per week)

- Job safety
- Blueprint reading
- Prefabrication of buildings
- Building erections
- Builders transit
- Estimating
- Commercial construction techniques
- Building codes

CA 202 Construction Contracts and Specifications (R) 4 credit hours

Construction contracts are studied. Bidding procedures are given. Instruction is provided in the preparation of contracts and building specifications. Practical application will give a more comprehensive picture of the construction industry. (5 hours per week)

CA 203 Estimating Construction Costs (R) 4 credit hours

The functions and operations of a construction office, including planning, scheduling, estimating, purchasing, cost accounting and control is given. (5 hours per week)

CIVIL ENGINEERING TECHNOLOGY

CT 111 Building Construction 5 credit hours

Materials and types of construction used for the various parts of buildings. Building code requirements, steel, timber and masonry construction. Structures of the common form, lift-slab and tilt-up construction and developments in the building construction field. (5 hours per week)

CT 112 Physical and Structural Properties of Soils and Rocks . 5 credit hours

Introduction to geology. The earth's crust: its rocks, soils, topography, and problems. Laboratory studies of rocks, mineral identification, geologic maps and engineering analysis. Elementary soil and rock mechanics. (5 hours per week)

CT 113 Surveying I 12 credit hours
Prerequisite: M 103 (2nd Quarter Math and concurrent enrollment in M 104) (3rd Quarter Math)

Theory, practice and computations of surveying. Theory, use and adjustments of surveying instruments. Observation, analysis and presentation of basic linear, angular, area and volume field measurements common to civil engineering technology endeavor. (15 hours per week)

CT 122 Contracts and Specifications . . . 5 credit hours

The Law of Contracts and its application to engineering projects. Specification writing, adequacy and application. Additional problems in the general field of engineering law: responsibility to clients, the engineer as an expert witness, professional ethics. (5 hours per week)

CT 123 Estimating Construction Costs 5 credit hours

Interpretation of construction drawings and specifications. Material take-off estimating quantities, costs of materials and labor in residential and commercial building projects. Quantity survey, development of unit prices and preparation of bid proposals. (5 hours per week)

CT 132 Civil Technology Laboratory . . . 8 credit hours
Prerequisite: CT 112 Physical & Structural Properties of Soils and Rocks

Investigation of Portland cement, its properties and uses in concrete, additives, aggregate and testing of concrete; the physical properties and uses of bituminous materials; soil as an engineering material: testing, analysis and classification. (10 hours per week)

CT 214 Surveying II 12 credit hours
Prerequisite: CT 113 Surveying I

Horizontal and vertical curves. Electronic surveying methods, astronomical observations, field problems in

location surveys. Electronic data processing of survey information. Problems in land surveying, topographic mapping and construction surveys. (15 hours per week)

CT 215 Photogrammetry 8 credit hours
Prerequisite: CT 113 Survey I, and CT 214 Surveying II

Characteristics of aerial photographs; measuring and interpreting from aerial photos for planimetric, topographic, hydrological, soil and land use surveys; analysis and presentation of field measurements over extensive reaches. (10 hours per week)

CT 216 Route Location Surveys and Design 8 credit hours
Prerequisite: CT 214

Preparation of topographic maps: negative scribing, inking and planimetric maps. Surveys for route location, preparation of plans, profiles and cross sections, use of aerial photographs. Advanced technical surveys and mapping. (10 hours per week)

CT 224 Structures I 4 credit hours

Mechanical properties of materials; stresses and strains in members subjected to tension, compression and shear. Graphical and trigometrical analysis of space frames, including trusses. Force systems: coplanar, parallel, concurrent, nonconcurrent and noncoplanar. (4 hours per week)

CT 225 Structures II 5 credit hours
Prerequisite: CT 224 Structures I

Elementary structural analysis, including timber and steel structures, columns, riveted, and bolted connections. Shear and moment diagrams, deflections, beam analysis and elementary design problems. (5 hours per week)

CT 226 Professional Practice 3 credit hours
Prerequisite: At least 50 hours credit in the Civil Engineering Technology Curricula

Lectures by individuals prominent in the civil engineering profession. Independent study and research of a subject of the student's own choice in a field associated with Civil Engineering Technology. (3 hours per week)

CT 234 Fluid Dynamics 5 credit hours

Fluid properties, hydrostatics and fluid flow properties. Flow in pipes and open channels, flow measurements, basic theoretical and applied fluid mechanics. (5 hours per week)

COMMERCIAL ART

CM 100 Lettering & Typography (A) . . 4 credit hours
Designed to develop lettering skills, techniques of drawing letter forms and letter spacing. In addition to developing lettering skills, the course familiarizes students with the historical development of type faces and their terminology. (5 hours per week)

CM 101 Typography & Layout (A) 4 credit hours
Appreciation of relationship of lettering and typography to layout design, applied problems in layout, letter forms, symbols, illustrations and systems of measurement. (5 hours per week)

CM 103 Typography & Layout (A) 4 credit hours
Prerequisite: CM 101 or permission of instructor
Continuation of CM 101 with addition of mechanicals and larger range of media. (5 hours per week)

CM 150 Descriptive Drawing (A) 3 credit hours
Fundamentals of mechanical drawing, orthographic and isometric projection, one-and-two point perspective, as applied to specific design and drawing problems. (4 hours per week)

CM 201 Advertising Design and Rendering (A) 4 credit hours
Prerequisite: AR 105, 106, 107 basic design or permission of instructor

Problems in advertising illustration and graphic design. Various media explored with stress in individuality, critical judgment and creativity. Emphasis on preparing problems for reproduction. (5 hours per week)

CM 202 Advertising Design and Rendering (A) 4 credit hours

Problems in designing packages, brochures and three dimensional advertising projects. Continuation of CM 201, with a wider range of media. (5 hours per week)

CM 203 Advertising Design and Rendering (A) 4 credit hours

Continuation of CM 202 with a wider range of media including the use of the airbrush. (5 hours per week)

CM 207 Advertising Theory and Production (A) 3 credit hours

Study of the advertising field, business procedures, methods of reproduction, quantity and quality control in the graphic arts. Study of typesetting estimating and copy fitting techniques and marking production proofs. Emphasis in doing paste-ups. (4 hours per week)

CM 204 Visual Merchandising (A) 4 credit hours

Application of the principles of three-dimensional design and construction as they apply to phases of merchandising display. Emphasis on building an image and consumer appeal. (5 hours per week)

CM 209 Advertising Illustration (A) 4 credit hours

Problems and techniques relating to technical and pictorial illustration, magazines, and newspapers with emphasis on the human figure in advertising. Variety of media involved. (5 hours per week)

COMMERCIAL INDUSTRIAL ELECTRICITY (R)

IE 201 Electrical Instruments and Measurements (R) 12 credit hours

The work in this course is confined to the study of advance electricity measuring techniques, Wheatstone bridge, VOM, Oscilloscopes, Galvanometers and other complex instruments will be discussed. (15 hours per week)

IE 202 Alternating Current Machines (R) 8 credit hours

The work in this course is confined to a study of mechanical-electrical power devices. Alternators, single-

phase motors and three-phase motors, transformers, voltage regulators, generators, as well as the auxiliary control equipment necessary for these devices are studied. Installation and maintenance requirements for alternating current power equipment are given. (10 hours per week)

IE 203 Industrial Controls (R) 8 credit hours

The principles and applications of electrical controllers are covered in this course. Hardware and circuitry for AC and DC industrial control devices including contactors, starters, speed controllers, time delays, limit switches, and pilot devices. Application in the control of industrial equipment, motors, servounits, and motor-driven actuators. Field trips are provided. (10 hours per week)

IE 204 National Electric Code (R) 4 credit hours

A course especially designed for students desiring an elective or upgrading on codes and regulations. (5 hours per week)

IE 205 Electrical Installation Planning (R) 12 credit hours

Methods and materials used in electrical installations and problems encountered in electrical construction work. Laboratory work consists of industrial and residential wiring practices, paying particular attention to the National Electric Code and local codes. Where possible, selected examples of industrial installations and residential construction are inspected. Electrical measurement is given along with repair and calibration of measuring instruments. Blueprint reading is included. (15 hours per week)

IE 206 Electrical Trades Blueprint Reading (R) 4 credit hours

The course will cover the blueprint reading of electrical workers common to an industrial situation, and at the same time, provide a working knowledge of the methods used to install a complete wiring system for an industrial building. (5 hours per week)

IE 207 Electrical Tools, Equipment and Circuits (R) 4 credit hours

Designed to familiarize the beginning electrical student with kinds, sizes, use and care of hand and power tools, fastening devices and equipment employed by the electrician. Topics covered include: wire sizes and connections, wire insulation, conduit and fittings, wiring methods, switches, motors and starters, lighting equipment, safe working practices, atomic structure of matter and electron theory, sources of voltage, Ohm's Law, electrical units, series and parallel circuits, magnetism, and an introduction to machine tool circuits. (5 hours per week)

DIESEL MECHANICS (R)

DM 100 Basic Diesel Mechanics 16 credit hours
Per Quarter

The student becomes familiar with the various diesel engine models. (20 hours per week)

Disassembly
Reassembly and operation

Inspection of parts
Repairs and tests
Overhaul lab experience
Tools and shop equipment
Safety practices
Shop manuals
Shop operation and planning

DM 200 Advanced Diesel Mechanics . . 16 credit hours
Per Quarter

Shop practice is offered in the maintenance and repair and operating characteristics of diesel engines. (20 hours per week)

Mechanical and thermal efficiencies
Dynamometer operation
Instrument and control panels
Troubleshooting procedures
Fuel injectors
Brake, horsepower, torque and fuel consumption
Shop planning
Testing equipment
Shop safety

ELECTRONICS TECHNOLOGY

ET 101 Basic Electricity and AC Theory (A, N, R) 16 credit hours

Current, voltage, resistance and power in AC and DC Circuits. Series, parallel and series-parallel circuit computations and measurements, troubleshooting procedures, properties and conductors and insulators. Use of the slide rule and scientific notation. Complex devices and circuits, basic test equipment, circuitry analysis and troubleshooting with practical applications. (20 hours per week)

ET 102 Solid State Devices and Vacuum Tubes (A, N, R) 16 credit hours

Prerequisite: ET 101 Basic Electricity and AC Theory or Consent of Advisor

Solid state devices, the theory of electron flow and application in various circuits. Analysis and interpretation of various solid state devices in different configurations. Circuits discussed are constructed for examination and proof. The vacuum tube diode, triode and selected multigrid tubes, the semi-conductor diode in power supply and biasing arrangements including functional circuits using these components. (20 hours per week)

ET 103 Applied Electronics, Layouts & Fabrication (A, N) 16 credit hours

Prerequisite: ET 102 Solid State Devices and Vacuum Tubes or Consent of Advisor

Operational characteristics and performance of electronic circuits. Diode and transistor logic, pulse generation, multivibrators, silicon controlled rectifiers, photoconductive, field effect transistors and control circuits. Basic soldering techniques. Makeup of wiring routing and cabling plans. Connectors, cables and coaxial conductors. Layout and planning of vector board and printed circuits. Integrated circuit packaging and circuit tracing. (20 hours per week)

ET 221 Communications Systems I (A, N) 4 credit hours

Prerequisite: ET 103 Applied Electronics, Layout and Fabrication

Basic electronic circuits and applications. Analysis of circuitry and equipment associated with amplifiers, oscillators, power supplies, radio transmitters, receivers, antennas and transmission lines. (5 hours per week)

ET 222 Communications Systems II (A, N) 4 credit hours

Prerequisite: ET 221 Communications Systems I

A continuation of ET 221. Receiver principles, types of circuitry and applications. Military electronics, radar, directional equipment, special navigation aids and antenna systems. (5 hours per week)

ET 223 Radio License Preparation I (N) 4 credit hours

Prerequisite: ET 103 Applied Electronics, Layout and Fabrication

Preparation of students to successfully pass the FCC license examination for Third and Second Class Radio-Telephone Operators License. The material covered in Elements 1, 2, and 3 of the FCC license examination will be covered. (5 hours per week)

ET 224 Radio License Preparation II (N) 4 credit hours

Prerequisite: ET 223 Radio License Preparation I

A continuation of ET 223, FCC Rules and Regulations, basic radio laws and radio operating practices are covered for Elements 1 and 2 of the FCC examination. A number of final examinations are taken so that the student may gain familiarity with FCC type examinations. (5 hours per week)

ET 225 Mobile Radiotelephone Systems I (N) 12 credit hours

Basic principles and processes used in mobile radio communications systems. The installation, maintenance and operation of vehicular mobile communications equipment of the types used by police, fire and business services. (15 hours per week)

ET 226 Mobile Radiotelephone Systems II (N) 12 credit hours

Prerequisite: ET 225 Mobile Radiotelephone Systems I

A continuation of ET 225. Base station equipment and operational techniques, equipment selection, site selection parameters, antenna systems and system operation. (15 hours per week)

ET 231 Introduction to Electromechanical Devices (A, N) 8 credit hours

Prerequisite: ET 103 Applied Electronics, Layout and Fabrication

Alternating and direct current machines, single phase and three phase machines, motors, generators, and associated control and measurement methods. (10 hours per week)

ET 232 Electromechanical Devices II (N) 8 credit hours

Prerequisite: ET 231 Introduction to Electro-Mechanical Devices

A continuation of ET 231. Electromechanical Devices I, direct current generators, induction, capacitor and universal motors, single-phase power transformer, three-phase power transformers and distribution transformers and three-phase wound rotor motors. (10 hours per week)

ET 233 Electromechanical Devices III (N) 8 credit hours

Prerequisite: ET 232 Electromechanical Devices II

A continuation of ET 232. Three phase motors, alternators, synchronization, frequency and phase conversion, self synchronous control and electronic speed control. (10 hours per week)

ET 234 Servo and Syncro System (N) . . 4 credit hours

Principles of servo and synchomechanisms in controlling the direction and amount of rotation of an electric motor. The transmission of data from one location to another. (5 hours per week)

ET 235 Control Systems (N) 4 credit hours

Electronic control systems used in industry, automatic and manual systems employing such devices as switches, relays, contractors, transformers, breakers, protective units and others. (5 hours per week)

ET 240 Introduction to Instruments & Measurements (A, N) 16 credit hours

Prerequisite: ET 103 Applied Electronics, Layout and Fabrication

Calibration and use of general test instruments. Accuracy of measurements, theory of operation, proper use and calibration techniques, electronic and digital metering equipment, frequency counters, wave analyzers, frequency generators, waveform generators, general purpose and special purpose oscilloscopes. Actual test instruments are used for lab experience. (20 hours per week)

ET 241 Measuring Principles II Mech. (A) 12 credit hours

Basic types of transducers, employing electrical or electronic energy. Photo electric, potentiometric and position responsive devices. Data logging and recording devices. (15 hours per week)

ET 242 Electronic Troubleshooting (A, N) 12 credit hours

Trouble analysis and proper troubleshooting procedures. Electronic equipment diagnosis for alignment and defective components using systematic procedures. (Lecture hours and laboratory 15 hours)

ET 250 Introduction to Digital Electronics (A, N) 16 credit hours

Prerequisite: ET 103 Applied Electronics, Layout and Fabrication

An introduction to digital solid state circuits applicable to computer, digital, and instrument technology. Codes, memory systems, counters, computer circuits, and Boolean Algebra. (20 hours per week)

DIGITAL AND INDUSTRIAL ELECTRONICS

Red Rocks Campus

ET 105 Advance Switching and Logic Circuits (R) 12 credit hours

Prerequisite: ET 102 Solid State Devices and Vacuum Tubes or Consent of Instructor

Operational characteristics and performance of electronic circuits. Diode and transistor logic, pulse, generation, multivibrators, silicon controlled rectifiers, photoconductive field effect transistors and control circuits. Basic soldering techniques. Makeup of wiring, routing and cabling plans.

An introduction to digital solid state circuits applicable to computer, digital, and instrument technology. Codes, memory systems, counters, computer circuits and Boolean Algebra. (15 hours per week)

ET 249 Introduction to Computer (R) .. 12 credit hours

Prerequisite: ET 101, ET 102, ET 105

The internal circuitry of the computer is explored. A small computer (PDP-8) is used to accomplish this investigation. The actual schematic, test specifications, and operating procedures are used. The student is exposed to the machine language for maintenance and analysis. The student will write his/her own test procedure. (15 hours per week)

ET 251 Advance Computer Technology (R) 12 credit hours

Prerequisite: ET 249

Practical experience in troubleshooting a small commercial computer. Malfunctions are inserted where a student may be exposed to as many as 100 different problems. Associated test equipment is utilized in isolating malfunctions to a card level. The P.C. Card is removed and the malfunction is isolated to a small component. (15 hours per week)

ET 252 Computer Peripheral (R) 12 credit hours

Prerequisite: Consent of Instructor

Circuitry and equipment associated with the input/output devices. Schematic drawings and the use of the top drawings down to the individual component drawings. Card printers and punch, magnetic tape, paper tape, teletype, in-line printer, disc storage and real time clocks. (15 hours per week)

ET 260 Industrial Logic Systems (R) .. 12 credit hours

Pulse and logic control associated with industrial applications, timing circuits, F/F, And Gates, Nand Gates, Inverters, And/Or Cathode Followers. The basic application of motor controls by use of shift registers and counter circuits. Wire wrapping and other methods of connecting logic elements on an assembly line. (15 hours per week)

ET 261 Control Circuits for Industrial Application (R) 12 credit hours

Prerequisite: Consent of the Instructor

Principles and applications of electrical controllers as an introduction to automation. Devices for differentiation, integration and proportioning. Hardware and circuitry for AC and DC industrial control devices, including contractors, starters, speed controllers, time delays, limit switches and pilot devices. Application in the

control of industrial equipment motors, servounits and motor driven actuators. Application and use of magnetic control elements, magnetic amplifiers, industrial electronic systems, advance servo-mechanisms, logic circuit application as associated in industrial use. (15 hours per week)

ET 262 N (A,B) Assembly Line Techniques (R) 12 credit hours

Prerequisite: Consent of the Instructor

The applications of electronics on an assembly-line operation. Multiplier, D-A and A-D conversions, thyatron controls, motor translators, delay lines, real time clocks, variable clocks, solenoid drivers and controls. Photoelectric controls and special counters associated with industrial applications. The use of AC and DC motor controls on the assembly application. (15 hours per week)

TELEVISION SERVICE TECHNOLOGY

TV 100 Television Servicing (N) 16 credit hours

Per Quarter

Practical application of troubleshooting techniques including methodical analysis of problems in radio, stereo, B/W and color televisions. Bugged systems will help serve as test vehicles to develop speed and experience in troubleshooting—utilizing test equipment found in servicing departments. (20 hours per week)

For further information contact the Division Director of Industrial Occupations, North Campus.

GRAPHIC ARTS

GA 100 Introduction to Graphic Arts (A) 12 credit hours

The objective of this course is to have the student acquire a knowledge as to the rise of graphic communications. History and technological development of the industry is given, terms and measurements, copy preparation, layout procedures, type faces and styles, methods of composition, theory of good paste-up, basic camera and line photography, legal restrictions on copying, estimating, management, and production. Some of the specific areas covered are: preparation of design and copy, preparation of composition for printing, copyfitting, preparing estimating sheets and production forms, line photography and reproduction. (15 hours per week)

GA 110 Offset Lithography Fundamentals (A) 12 credit hours

Study of offset lithography with emphasis on the development of skill in camera work, stripping and plate making. Objective of this course is to provide the necessary knowledge and skills in the production of half-tones, preparation of the printing plate and basic press practices, laying out and stripping the flat, plate making; basic press operations and bindery operations. (15 hours per week)

GA 120 Basic Offset Lithographic Press and Operations and Production (A) 12 credit hours

Objective of this course is to develop an understanding of the operation adjustments and maintenance proce-

dures of offset press work. Some specific areas studied in this course are: press operations, preparation of the presses (feeder, inking systems, dampening systems, printing units, etc.) preparing plates and impressions, press maintenance. (15 hours per week)

GA 150 Process Camera and Halftones (A) 4 credit hours

Objective of this course is to develop an understanding of the operation of the process camera and stripping up the flat for offset press operations. Specific areas covered: Theory and general nomenclature of the process camera, line and half-tone photography. The specific areas covered: operation of the process camera making both line and half-tone negatives. (6 hours per week)

GA 160 Offset Press Operations (A) . . . 4 credit hours

Object of this course is to develop an understanding of the operation, adjustments, and maintenance procedures of off-set presses. The specific areas studied in this course are: offset press operation and preparation, press maintenance, and process color. (6 hours per week)

GA 170 Color Separations (A) 2 credit hours

Objective of course is to make process color separations for satisfactory offset press process color printing. The specific areas covered will be the use of color filters, masks, pan film, continuous tone film and the actual making of four-color separations for process printing. (3 hours per week)

GA 200 Intermediate Lithographic Operations & Process Color (A) 12 credit hours

Continued upgrading of basic skills, introducing process color, stripping for color, multiple of exposures, mixing P.M.S. Inks and printing and registering process color. (15 hours per week)

GA 210 Advanced Lithographic Operations & Computerized Typesetting (A) 12 credit hours

Advanced training of skills, including color separation and computerized typesetting. (15 hours per week)

HEAVY EQUIPMENT

EO 100 Heavy Equipment Operation (R) 16 credit hours
Per Quarter

This nine-month program will include the following: (20 hours per week)

- Operation of heavy equipment
- Safe operating practices
- Grade stake observations
- Cuts and fills
- Profiles and stationing
- Preventive maintenance
- Shop planning
- Visits to construction sites
- Guest lecturers

HYDRAULIC MECHANICS (R)

FP 100 Hydraulic Mechanics (R) 16 credit hours
Per Quarter

Combination lecture-laboratory course designed to prepare hydraulic mechanics capable of performing duties in the industrial field of hydraulics. (20 hours per week)

- Basic components of hydraulic systems
- USASI symbols
- Schematics and formulas of hydraulic systems
- Hydraulic pumps and motors
- Horsepower requirements
- Pump sizes
- Overload
- Testing and alignment of pumps and hydraulic motors
- Torque and horsepower relationships
- Flow control and pressures
- Design of hydraulic systems
- Troubleshooting hydraulic systems
- Hydraulic controls and circuits

FP 102 Industrial Hydraulic Controls and Circuits (R) 4 credit hours

Pressure, volume and directional valves both manual and electrically operated controls are studied. Attention is also given to circuit design. (5 hours per week)

FP 103 Pumps and Motors (R) 4 credit hours

Topics covered include pumping fundamentals related to industrial applications. Gear pumps, single and double pumps, vane pumps, radial piston and axial piston pumps and pumping units and variable delivery pumps. (5 hours per week)

FP 200 Pneumatics (R) 16 credit hours
Per Quarter

Basic pneumatic systems related to industrial shop applications are studied. (20 hours per week) Areas studied are:

- Compressors, regulators and receivers
- Air tools
- Pneumatic circuits
- Valves and piping
- Overhaul, repair and testing
- Test stand and related test equipment
- Pneumatic instrumentation
- Fluidic systems and troubleshooting
- Wall attachments
- Repair of fluidic devices

INDUSTRIAL-COMMERCIAL DRAFTING TECHNOLOGY

D 100 Mechanical Drafting Theory and Techniques (A, N, R) 16 credit hours
Per Quarter

The development of basic drafting techniques and principles necessary to understand and perform the various applications of mechanical drafting concepts.

- Industrial Tours
- Lettering and Linework
- Geometric Constructions
- Sketching
- Orthographic Principles
- Isometric & Pictorial Drafting
- Sections & Conventions
- Dimensioning

Fastening Devices
 Mechanical Concepts
 Welding Concepts
 Materials & Processes
 Charts & Diagrams
 Inking Procedures
 Assembly & Detail Drawings
 Tolerance Development
 Intersections & Developments
 Descriptive Geometry
 (20 contact hours per week)

D 200 Industrial Drafting Principles (A, N, R) 16 credit hours
Per Quarter

Prerequisite: D 100 Mechanical Drafting Theory & Techniques

An advanced course introducing the student to the broader aspects of the drafting field, or its applications and systems.

Drive Systems & Components
 Drafting Mathematics Applications-Smokey's Tables
 Small Mechanical Components
 Large Mechanical Assemblies, Tanks, and Equipment
 Material Handling Principles & Applications, Flow Sheets, Design Modifications to and Installation of Plant Equipment
 The Integration of
 Architecture
 Civil
 Electrical
 Structural
 Pipe
 Hydraulic & Pneumatic Systems to the Drafting Field
 (20 contact hours per week)

D 250, D 251, D 252 Industrial Pipe Drafting (N) 8 credit hours
Per Quarter

Prerequisite: Students must be competent in the basic skills of drafting, as determined by the instructor.

The primary function of process piping drafting is to acquaint the student with the terminology of piping as used in heavy industry such as refineries and chemical plants.

Emphasis is placed on preparation of piping systems using correct piping symbols, dimensions and notes. (10 contact hours per week)

TOTAL CREDIT HOURS: 24
 TOTAL CONTACT HOURS: 300

Upon the successful completion of 300 hours in Pipe Drafting, a certificate may be awarded.

D 261 Project in Machine Drafting (N) 4 credit hours

Prerequisite: Mechanical Technology Drafting Major or Consent of Advisor

Coordination of drafting and machine shop experiences by developing complete assembly and detail requirements for a project produced by the student in the machine shop. May be used as an elective by other drafting students.

INVENTORY CONTROL (A)

IC 100 Inventory Control (A) 12 credit hours

A beginning course for those who have had no previous instruction in inventory control and its related applications. An introduction to basic systems and operational tools and machines, designed to acquaint the student with the purpose of inventory and the basic fundamentals, structure, functions and organization of controls. (15 hours per week)

IC 100 Inventory Control (A) 12 credit hours
 Prerequisite: IC 110

An accelerated introductory course covering applied techniques in organization, inventories, production controls, horizons and levels of detail, incorporating the role of judgment and skill. (15 hours per week)

IC 100 Inventory Control (A) 12 credit hours
 Prerequisite: IC 120

A study of project planning, decisions on production, methods for forecasting and scheduling related to systems of controls. An in-depth study of case histories from small two-shift operations to large corporate complexities. (15 hours per week)

MACHINE SHOP

MS 100 Basic Machine Tool Operation and Theory (N) 16 credit hours
Per Quarter

The development of knowledge and skill in performing basic operations and set ups on the following machine tools and accessories:

Lathe
 Shaper
 Mills
 Rotary table vice
 Boring Heads
 Grinding Mchns.
 Hand Tools
 Indexing
 Taper attachments
 Drill Presses
 Machine Shop Theory as necessary
 Shop Drawing
 Machine Measuring Instruments
 (20 hours per week)

MS 200 Special Machine Tools, Setups and Processes (N) 16 credit hours
Per Quarter

The development of knowledge and skill in the areas of special machine tools, setup, and processes listed below:

Tracer Lathes
 Turret Lathes
 Peg Board Automatics
 Numerical Controlled Machines
 Machine Repair
 Tooling
 Estimating Costs
 Planning Production
 Inspection Methods
 Special Setups and Job Types
 Fixtures and Production Runs
 Theory in all areas as necessary
 Study of Metal Properties
 (20 hours per week)

MINERAL INDUSTRY TECHNOLOGY (R)

MI 101 Mining (History, Romance, Magnitude, Future) (R) 3 credit hours

This course is designed to familiarize the student with mineral generalities in a practical language that will explain its magnitude, economic importance, history and excellent employment opportunities. It will prepare the student with a basic industry terminology that will be useful later when more specialized courses are given and also in the field after graduation. (3 hours per week)

MI 102 Mining (R) 3 credit hours

Continuation of MI 101. (3 lecture hours per week)

MI 103 Mining Drafting (R) 8 credit hours

Prerequisite: 4 cr. hrs. of drafting fundamentals

Graphical methods for the representation of bearing, slope, strike and dip. Intersection of mine workings and veins. Fault and fold problems. Determination of strike and dip from rotated cores and drill holes. Stereonet solutions. (10 hours per week)

MI 104 Ore Deposits (R) 4 credit hours

Prerequisite: G 111 and G 112

This course will cover methods for determining the size, shape and value of a mineral deposit. Plans will be discussed for further exploration development, determination of a mining method and final determination of the ore. (5 hours per week)

MI 105 Mineral Explorations (R) 4 credit hours

Prerequisite: MI 101 and MI 102

This course will cover the practical operation of geophysical exploration equipment in class and in the field. Also, application of geochemical principles in the field will be studied from the standpoint of the technician's duties. (5 hours per week)

MI 201 Mining (History, Romance, Magnitude, Future) (R) 3 credit hours

This course is a continuation of MI 102. Flowsheets from various mineral industry plants will be discussed throughout in an effort to correlate the data given in greater detail in other classes.

The history of the development and improvement of various mining and metallurgical equipment, from single to jack to jumbo and from a hand jig to flotation and solvent extraction, will be discussed. Visits to selected mining industries will be a requirement of this course. (3 hours per week)

MI 202 Rock and Mineral Sampling (R) 4 credit hours

This course will explain the operations of exploration, development and extraction and give the reasons for taking samples at various points. Rock and mineral sampling by knowledgeable, intelligent and careful technicians followed by reliable, analytical determinations are the foundation of the mineral industry since it gives management true basis on which to plan. (5 hours per week)

MI 203 Mine Design (R) 4 credit hours

Surface mining operations, ore grade control and cost estimation. Underground mining methods and design for optimum operation. (5 hours per week)

MI 204 Mining Equipment (R) 4 credit hours

The operation of mining machines will be studied from single jack drilling to multiple mounted hard-rock drilling machines on jumbos; underground ore transportation machine development from hand-pushed cars on steel rail to rubber-tired shoveling machines which combine shoveling and transportation in the same unit. Coal mining equipment from the pick and shovel days to the latest in continuous miners will be described. Machinery manufacturers' sales representatives will attend classes and describe their equipment. The students will operate available equipment under real or simulated conditions. (5 hours per week)

MI 205 Plant Product Sampling (R) 4 credit hours

This course will explain the operations of concentration of minerals, the extraction and refining of metals and/or metal products by mechanical hydrometallurgical or pyrometallurgical processes. It will explain how samples at various points in the operation are crucial to its success and how, quite often, sampling and analysis must go on continually so as to adjust the process flow automatically. (5 hours per week)

MI 206 Metal and Alloy Sampling (R) . . 4 credit hours

Pure metal and alloy production sampling by many standard methods will be studied; and the importance of the correlation of molten samples of alloys with drill hole samples of cast billets which tend to segregate upon cooling. The preparation of metal and alloy samples for microscopic work will also be studied. The importance of taking accurate samples will be stressed. (5 hours per week)

MI 207 Mill Equipment Operating Techniques (R) 4 credit hours

This course will use the same methods of presentation as those used in MI 204 except it will cover equipment used in concentrating plants; leaching plants using acid, cyanide or other solvents; pyrometallurgical plants, refineries, industrial mineral plants and coal washeries. Field trips for on-site inspection. (5 hours per week)

MI 208 Mining and Mineral Law (R) . . . 3 credit hours

Mineral and mining laws of the United States and various State Laws. Conveyance of mineral interest, deeds and assignment. Guest speakers will supplement lectures. (3 hours lecture per week)

MI 209 Mine Safety and Ventilation (R) . 3 credit hours

Causes and prevention of accidents in metal and coal mines. Safety regulations. Mine rescue and first-aid training. Fundamentals of mine ventilation to control gas and dust. (3 hours per week)

PHOTOGRAPHY

PT 101 Basic Photography 8 credit hours

The camera, reflex, 35mm, view cameras. Basic darkroom procedures and techniques; composition and critiques. Emphasis will be put on darkroom procedures. (10 hours per week)

PT 102 Intermediate Photography 8 credit hours

A continuation of PT 101. The camera as a reporting tool; reflex, 35 mm view camera as a communicative

device. Darkroom techniques, printing, developing, films cropping, composition, critiques. (10 hours per week)

PT 103 Advance Photography 8 credit hours

A continuation of PT 101 and PT 102. The camera as a tool; the physics of height and the chemistry of the photographic emulsion will be discussed in detail. (10 hours per week)

PT 107 History of Photography I 4 credit hours

Will cover the early photographic process, and camera. (4 hours per week)

PT 108 History of Photography II 4 credit hours

Will cover the camera as it has been modified — past to present. (4 hours per week)

PT 109 The Camera 4 credit hours

Students should have a knowledge of the different types of cameras in use today. The course will aid him in understanding all types of cameras; from the Brownie to the more complex systems. (5 hours per week)

PT 200 Photography and Art 3 credit hours

Study of photography as an art and how it relates to the other arts. Darkroom procedures will be based on distortions, photographic images, photograms and photo-sculptures. (3 hours per week)

PT 201 Photography 8 credit hours

Study of photography as an art form. The technical and creative problems involved in producing photographic images will be discussed in detail. (10 hours per week)

PT 220 Photojournalism I 8 credit hours

An introduction to journalistic photography. Newspaper, magazine and motion photography will be discussed. (10 hours per week)

PT 221 Photojournalism II 3 credit hours

(Continuation of PT 220) The print Media. The broadcast media and advertising photography will be discussed in detail with emphasis on the photographic illusion. (3 hours per week)

PT 222 Color Photography I 8 credit hours

An introduction to color photography, will cover the reversal film, the color negative and darkroom procedures. (10 hours per week)

PT 223 Color Photography II 4 credit hours

A continuation of PT 222. The course will cover the color negative, the print, and darkroom color techniques. Plus different methods of copying material with color film. (5 hours per week)

PT 224 Introduction to Motion Photography 4 credit hours

Introduction to motion photography will cover the different types of motion cameras, and film involved in producing motion pictures. (5 hours per week)

PT 225 Motion Photography and the Media 4 credit hours

How motion photography and the mass media work together as a communicative device. (5 hours per week)

PT 226 Editing Motion Pictures 4 credit hours

The course will prepare the student in the area of telling stories on motion pictures. (5 hours per week)

PT 245 Film Making 4 credit hours

The course will enable the student to have a true knowledge of how educational movies are made for reproduction and presentation. (5 hours per week)

PLUMBING

PL 100 Plumbing (R) 16 credit hours

Per Quarter

This nine-month plumbing program will acquaint the student with shop procedures required of the plumbing trade. (20 hours per week)

- Safety requirements
- Use and care of hand tools
- Fittings, material identification, Use
- Pipe theory and calculations
- Pipe shop
- Piping layout and installation
- Hydraulics and pneumatics
- Blueprint reading
- Plumbing drawing and sketching
- Plumbing mathematics

QUALITY ASSURANCE

QA 100 Introduction to Quality Assurance (A) 4 credit hours

A survey course that traces the development of the concept of quality assurance. Emphasis will be on process control, product acceptance, the rejection and corrective cycle, and quality costs. (3 hours per week)

QA 101 Principles of Quality Assurance I (A) 4 credit hours

Prerequisite: QA 100, or equivalent

A basic course on scope and function of quality assurance, including regulations, records, vendor selection, procurement quality and inspection, and measurement techniques. (3 hours per week)

QA 102 Principles of Quality Assurance II (A) 7 credit hours

Prerequisite: QA 101

A continuation of QA 101, including the interpretation and use of quality assurance data. Material control, rejection analysis, measuring instruments, electronic requirements are covered. (7 hours per week)

QA 201 Theory and Application of Quality Assurance I (A) 7 credit hours

Presents the latest techniques of quality assurance at the component, the assembly, and the systems level. Quality assurance is analyzed from design concept through consumer use and disposal, including sampling, testing, data analysis, and interpretation. (4 hours per week)

QA 202 Theory and Application of Quality Assurance II (A) 4 credit hours

Prerequisite: QA 201 and Physics 112

A continuation of QA 201 with emphasis on statistical analysis, cost analysis, case problem solving applications, and configuration identification and control. (4 hours per week)

QA 203 Advanced Quality Assurance (A) 4 credit hours

Prerequisite: QA 201

An analysis of the total concept of quality assurance, including special quality experiments and quality cost optimization. Sampling by attributes and variables and troubleshooting quality problems, and the application of statistical techniques to the manufacturing process are included. (4 hours per week)

QA 205 Nondestructive Testing (A) 2 credit hours

Prerequisite: QA 100 and Physics 101

Provides a background in industrial nondestructive testing. Emphasis is given to the methods used to predict equipment performance and to the proper use of each nondestructive test. Advantages and limitations of nondestructive testing methods are reviewed. (4 hours per week)

QA 206 Metrology (A) 2 credit hours

A study of the common measuring instruments that are used in quality assurance. Included are electrical, pressure, vacuum, vibration, acceleration, human error and data evaluation. (4 hours per week)

QA 207 Electronic Quality Assurance (A) 2 credit hours

Prerequisite: ET 101

A study of advanced inspection methods and principles peculiar to the electronics industry. (4 hours per week)

QA 208 Procurement Quality Assurance (A) 3 credit hours

Prerequisite: QA 100, or equivalent

A study of procurement quality assurance techniques and policy, including regulations, records, vendor selection, and monitoring, inspection measurement instruments, test equipment and control charts applicable to receipt and shipment of goods. (4 hours per week)

SPORTS, CRAFT & SPECIALTY AREA MECHANICS

SE 100 Specialty Area Mechanics (N) . 16 credit hours
Per Quarter

Development of knowledge and skills needed to perform both diagnosis and repair operations on the following equipment:

- Two-stroke Engines and Components
 - Four-stroke Engines and Components
 - Wankel Rotary and Components
 - Outboards
 - Cycles
 - Snowmobiles
 - Lawn Equipment
 - Chainsaws
 - Miscellaneous Small Engine Powered Equipment
- (20 hours per week)

SURVEYING

NOTE: This surveying curriculum is a practical course, supported by theory. Since practice can only be obtained in the field, the student and his surveying team members should be prepared to spend at least one full day per week in the field irrespective of weather conditions.

SU 102 Basic Surveying (R) 12 credit hours

Prerequisite: Consent of Instructor

An introductory course in the use and care of the chain and level. Field practice in horizontal and slope chaining; elevation determinations with the hand and engineer level. Office practice stresses theory and the importance of note taking. (3 hours lecture, 12 hours field work per week)

SU 103 Basic Surveying (For Non-Surveying Majors Only) (R) . . . 8 credit hours

An introductory course in the use, care, and theory of the level and transit. Office practice in the theory and problems of surveying. Field practice in leveling, traversing, triangulation and note taking. (10 hours per week)

SU 104 Advance Surveying (R) 4 credit hours

Observation, analysis and presentation of basic linear, angular area, and volume field measurement to building and mining endeavors. Introduction to electronic surveying methods. Extensive field and office work. (5 hours per week)

SU 105 Mining Surveying (R) 4 credit hours

This course will instruct the student to make surveys on the surface and underground at coal or ore mines to control directions and extent of mining. Calculations of volume of material in dumps, spoil piles or veins and amount of overburden to be removed is given. Maps of mine workings are studied. (5 hours per week)

SU 112 Drafting and Physical Measurements (R) 8 credit hours

Basic drafting techniques and principles of three-dimensional projection concepts. The following areas are covered: Use and care of drafting instruments, lettering, sketching, geometric construction, orthographic projection and isometric drawings. The physical measurement concepts will be extended to length, angles and time measurements and their units as used in surveying. (4 hours lecture, 6 hours lab per week)

SU 113 Surveying Drafting (R) 8 credit hours

Prerequisite: SU 112

Drafting techniques and concepts for the surveying draftsman, such as land plats, route survey drawings and maps. (2 hours lecture, 8 hours lab per week)

SU 203 Intermediate Surveying (R) . . 12 credit hours

Prerequisite: SU 102

Use, care and theory of the transit. Field practice with horizontal and vertical angles applied to line and area problems. The magnetic compass and plane table are introduced. (3 hours lecture, 12 hours lab per week)

SU 204 Advanced Surveying (R) 8 credit hours

Prerequisite: SU 203

The use, care and theory of theodolites and electronic measurement devices. Field problems include triangulation, coordinate problems, route surveying and astronomical observations. (3 hours lecture, 7 hours lab per week)

SU 206 Photogrammetry (R) 8 credit hours

Prerequisite: SU 102

The interpretation and elevation of aerial photographs. Use and theory of photogrammetric instruments from pocket stereoscope through projection plotters. (10 hours lab per week)

SU 214 Surveying Calculations (R) 5 credit hours

Prerequisite: SU 102

Mathematical theory necessary for the understanding of the field problems and the use and theory of desk calculators and electronic computers. The student will be required to solve repetitious survey problems on a programmable electronic desk calculator and become familiar with FORTRAN for use with a computer. (5 hours lecture per week)

SU 215 Special Surveying Problems (R) 4 credit hours

Prerequisite: SU 203

Theory and office practice in route surveying, urban and rural boundary surveys, and bridge, tunnel and mining surveys. The field work is deferred until the Spring Quarter Advanced Surveying, SU 204. (4 hours lecture per week)

SU 216 Legal Aspects of Surveying (R) . 4 credit hours

The applied laws relating to surveying in general and the surveying of real property boundaries in specific are covered. Searching, writing and filing of deeds are covered. (4 hours lecture per week)

SU 223 Error Analysis (R) 4 credit hours

Practical and theoretical considerations of errors. Elementary statistics. (4 hours lecture per week)

SU 217 Technical Project (R) 4 credit hours

An independent study in surveying of the student's own choice with the help and direction of a faculty member. The selection of a practical topic with "outside" contacts is stressed. A written report is required. (1 hour consultation per week)

TECHNICAL ILLUSTRATION

TI 214 Airbrush Technique I (A) 4 credit hours
Per Quarter

This course provides training in preparing art for technical manuals and diversified art. Various technical manuals, trade magazines, and advertising publications are studied. Airbrush techniques are used in shading techniques and photo retouching. (6 hours per week)

TI 215 Technical Illustration Seminar (A) 3 credit hours
Per Quarter

This course is devoted to giving the student an opportunity to explore various combinations of art and technical illustrations. Field trips are planned. (3 hours per week)

TI 216 Airbrush Techniques II (A) 4 credit hours
Per Quarter

A continuation of Airbrush Techniques I. Advanced shading techniques and photo retouching. (9 hours per week)

TI 218 Special Problem (A) 6 credit hours
Per Quarter

The student prepares a presentation folio preparatory to employment. This includes work in black and white, as well as color showing assemblies, cutaways, exploded views, spot drawings, visual aids, lettering aids and art aids. (7.5 hours per week)

VENDING MACHINE TECHNOLOGY

VM 100 — 1st Qtr. — Vending Machine I (A) 16 credit hours
Per Quarter

Prerequisite: ET 102

This course is designed to teach trainees the plumbing, refrigeration, and coin and currency principles involved in the maintenance and repair of automatic vending machines. (20 hours per week)

VM 200 — 2nd Qtr. — Vending Machine II (A) 16 credit hours
Per Quarter

Prerequisite: Vending Machine I

The object of this course is to instruct the students as to the principles of carbon dioxide systems as they apply to automatic vending machines and their maintenance and repair. They are further trained as to the operation of cup dispensers and methods of heating food and beverages and the maintenance and repair of the equipment for each. The students are taught the business procedures and techniques involved in the repair and maintenance of automatic vending machines. (20 hours per week)

VM 200 — 3rd Qtr. — Vending Machine III (A) 16 credit hours
Per Quarter

Prerequisite: Vending Machine II

A continuation of Vending Machine II with emphasis on the various types of automatic vending machines and their respective operating principles, maintenance, and repair. (20 hours per week)

VM 200 — 4th Qtr. — Vending Machine IV (A) 16 credit hours
Per Quarter

Prerequisite: Vending Machine III

A further continuation of Vending Machine III with an in-depth study of the many types of automatic vending machines and the operating principles, maintenance, and repair of each. (20 hours per week)

WELDING AND FABRICATION

WE 100 Basic Welding and Theory (A, N, R) 16 credit hours Per Quarter

To develop sufficient skills in setting up and operation of welding equipment to permit entrance into the trade at the apprenticeship level.

1. Oxy-acetylene welding, brazing, soldering, and cutting
2. Arc welding — basic
3. Arc welding — advanced
4. Blue print reading
5. Theory and safety
(20 hours per week)

WE 200 Welding, Fabrication and Theory (A, N, R) 16 credit hours Per Quarter

To develop sufficient skills in setting up and operation of welding equipment to permit entrance into the trade at the advanced apprenticeship level.

1. MIG & TIG Welding
2. Welding and Fabrication — Project — Layout
3. Pipe Welding & Joint Layout
4. Blueprint Reading
5. Shop Theory
6. Safety
(20 hours per week)

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