

FULTON-MONTGOMERY COMMUNITY COLLEGE

Johnstown, New York 12095

(518) 762-4651/829-7321

A Unit of the State University of New York
Sponsored by the Counties of Fulton and Montgomery

1989-1991

Fulton-Montgomery Community College is an equal opportunity, affirmative action institution. Programs and services at Fulton-Montgomery Community College are open to all without regard to sex, race, color, national origin or handicap.

TABLE OF CONTENTS

Fulton-Montgomery Community College	1
Admission	3
Finance	5
Student Services	20
Continuing Education	23
Academic Programs	
LIBERAL ARTS	
General Studies	28
Humanities	31
Theatre Arts	
Social Science	31
American Studies	
Behavioral Science	
Computer Science-Business	36
Computer Science-Math & Science	36
Mathematics	37
Science	40
Health Education	
Physical Education	
Engineering Science	39
Independent Study	62
CERTIFICATE PROGRAMS	
Automotive Mechanics	57
Criminal Justice	58
General Education	57
Individual Studies	50
Collaborative Career Learning	50
Medical Information Processing	58
Office Technology: Clerical	58
Office Technology: Word Information	
Processing	59
Quantity Food Production	58
Secretarial Studies	59
CAREER EDUCATION	
Accounting	41
Automotive Technology	44
Business Administration	41
Retailing	
General Finance	
Management	
Computer Information Systems	42
Construction Technology	44
Criminal Justice	45
Electrical Technology	46
Food Service	46
Natural Resources Conservation	47
Nursing	48
Office Technology: Administrative	42
Office Technology: Word/Information	
Processing	43
Textile/Leather Technologies	49, 47
Visual Communications Technology	49
Individual Studies	50
Professional Pilot	
Collaborative Career Learning	50
ONE-YEAR PLUS ONE-YEAR	
F-M with Canton	52
F-M with Cobleskill	52
F-M with College of Environmental	
Science & Forestry	52
Human Services	57
Course Descriptions	62
Faculty and Professional Staff	90
Community Advisory Committees	94
1989-1990 Tentative Calendar	96
1990-1991 Tentative Calendar	97
New York State Education Law 224-a	98
State University of New York	98
Index	100

HONORS PROGRAM

Program Description:

The Honors program is designed to meet the needs of those students who, because of high academic ability, preparation and motivation, are ready to undertake rigorous and challenging academic work that exceeds those offered in regular courses. The program provides the kinds of academic challenges which will enable students to develop to their fullest potential. The program includes special Honors Sections of regular courses, Honors Options within regular courses and a unique interdisciplinary Honors Seminar. The program enriches rather than accelerates the learning process. Those successfully completing all the Honors Program requirements will have their transcripts stamped "Honors Concentration Degree."

Admission Criteria:

To be considered for admission to the Honors Program, a student must meet one of the following three minimum requirements:

- A. 1. Regents high school diploma with a Regents average of 88 or high school diploma with a SAT score of 1100.
2. Three academic letters of reference supporting the student's candidacy for the Honors Program.

OR

- B. 1. Completion of 12 semester hours of college course in Liberal Arts and Sciences with a grade point average of 3.5.
2. Two academic letters of reference supporting the student's candidacy for the Honors Program.

OR

- C. 1. Be an Early Admission student with a Regents average of 88 over the three high school years and working toward a Regents high school diploma.
2. Three academic letters of reference supporting the student's candidacy for the Honors Program.

Because admission to the Honors Program will be limited, and therefore competitive, it is recommended that applications and supporting documents be submitted early. Further information is available from the Director of Admissions.

Program Requirements:

- A. General Requirements for all Honors Concentration Degrees in Liberal Arts and Sciences:
1. Admittance into the Honors Program.
2. Two English courses with Honors Sections or Options.
3. Two Social Science courses with Honors Sections or Options.
4. Honors Seminar.
- B. Additional Requirements for A.A. (Humanities and Social Science) Honors Concentration Degree:
1. A sequence of two Foreign Language courses at the Intermediate level.
2. Two Mathematics/Science courses with Honors Sections or Options.
3. One Mathematics course at the MA 154 or MA 160 level or higher.
4. Satisfy all the requirements for the A.A. (Humanities and Social Science) degree.
- C. Additional Requirements for the A.S. (Mathematics and Science) Honors Concentration Degree:

1. Two Mathematics/Science courses with Honors Section or Options.
2. MA 157 - 158 Calculus I and II.
3. Two Science courses with BI, CH, ES, or PH designation.
4. Satisfy all the requirements for the A.S. (Mathematics and Science) degree.

- D. Additional Requirements for the A.A. (General Studies) Honors Concentration Degree:

1. Two Mathematics/Science courses with Honors Sections or Options.
2. One Mathematics course at the MA 154 or MA 160 level or higher.
3. Satisfy all the requirements for the A.A. (General Studies) degree.

LIBERAL ARTS

General Studies (A.A.)

A.P.C. - 250

This program is a university parallel program designed for students who intend to transfer to a four year institution. This program can be used either by students who are unsure of their plans and need maximum flexibility to explore their options or by students who wish to develop their curriculums within the requirements of the four year institution to which they intend to transfer.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective	3
Mathematics Elective	3-4
Electives*	6
Physical Education	1
	16-17

<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective	3
Science Elective	3-4
Electives*	6
Physical Education	1
	16-17

SECOND YEAR

<i>First Semester</i>	
Humanities Elective	3
Math/Science Elective	3-4
Electives*	9
	15-16

<i>Second Semester</i>	
Humanities Elective	3
Social Science Elective	3
Electives*	9
	15

*At least sixteen hours of free electives must be selected from courses designated as Liberal Arts. These Liberal Arts courses should be selected so as to produce a balance among the areas of Humanities, Social Sciences, and Math/Science.

**General Studies (A.A.)
A.P.C. - 250
Communications Concentration**

This concentration within the General Studies program is recommended for students who plan to transfer to a four-year college to pursue their studies in areas such as print journalism, broadcast journalism, or public relations leading to a Bachelor's degree.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Science Elective*	3
Mathematics Elective	3-4
Liberal Arts Elective	3
Elective	3
Physical Education	1
	16-17

Second Semester

EN 126 Freshman English II	3
Social Science Elective*	3
Science Elective	3-4
CO 171 Intro. to Mass Communications	3
Liberal Arts Elective	3
Physical Education	1
	16-17

SECOND YEAR

First Semester

EN 231 or EN 233	3
Communications Elective**	3
Math/Science Elective	3-4
Liberal Arts Elective	3
Elective	3
	15-16

Second Semester

EN 232 or EN 234	3
Communications Elective**	3
Social Science Elective*	3
Electives	6
	15

*Recommended Social Science Electives: SS 183, 184, 283, 284, 291, 282, 383, 278, 281.

**Communications Electives: CO 220, CO 231, CO 254, EN 132.

- Notes: 1. Electives should be selected to conform to the program requirements of the college to which the student plans to transfer. Suggested electives include BU 170, ER 101, AR 150.
2. A student who wishes to seek employment with the two-year Associate degree should consider gaining field experience through at least a semester of Internship (IN 299) for elective credit.
3. A student could develop a communications concentration within the requirements of the Humanities and Social Sciences (A.A.) degree program.

**General Studies (A.A.)
A.P.C. - 250
Early Childhood Education
Concentration**

This concentration within the General Studies program is recommended for students who plan to seek immediate employment as paraprofessionals at institutions and agencies serving young children or transfer to a four-year college to pursue the baccalaureate degree toward teacher certification.

In addition to providing for the student's own intellectual and personal development, the course work under this concentration provides a broad understanding of the psychological, emotional, intellectual and developmental needs of children and the skills necessary for meeting those needs. Graduates may find employment opportunities with various types of institutions and agencies serving young children—Day Care Centers, Nursery Schools, Pre-Kindergarten Programs, Head Start, Day Camps, and Recreational Centers.

Graduates will find that their developed competence in interacting with children will be very rewarding not only in their employment as child-serving professionals but also in their lifelong associations with children in their family and social environment.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
SS 291 General Psychology	3
Mathematics Elective	3-4
Electives*	6
Physical Education	1
	16-17

Second Semester

EN 126 Freshman English II	3
SS 297 Develop. Psychology	3
Science Elective	3-4
ED 171 Intro. to Early Childhood Education	3
Elective*	3
Physical Education	1
	16-17

SECOND YEAR

First Semester

Humanities Elective	3
SS 281 Intro. to Sociology	3
Math/Science Elective	3-4
Education Elective**	3
Elective*	3
	15-16

Second Semester

Humanities Elective	3
Education Elective**	3
Electives*	9
	15

*At least twelve hours of free electives must be selected from courses designed as Liberal Arts. HE 135 Personal Health, SS 294 The Family, and HD 221 Human Relations and Group Dynamics are recommended.

**Education Electives: ED 225, ED 250, ED 275. Those who wish to seek employment with the two-year Associate degree should consider taking additional early childhood education courses and also

gaining field experience through at least a semester of Internship (IN 299) for elective credit. Students who are planning to transfer are advised to select the electives so as to meet the requirements of the particular four-year institution to which they intend to transfer.

**General Studies (A.A.)
A.P.C. - 250
Elementary/Secondary Education
Concentration**

This concentration within the General Studies program is recommended for students who plan to transfer to a four-year college to pursue the baccalaureate toward teacher certification.

FIRST YEAR

First Semester

EN 125 Fresh. Eng. I.....	3
SS 291 Gen. Psych	3
Mathematics Elective	3-4
Electives*	6
Physical Education	1
	16-17

Second Semester

EN 126 Fresh. Eng. II	3
SS 297 Devel. Psych	3
Science Elective	3-4
Electives*	6
Physical Education	1
	16-17

SECOND YEAR

First Semester

Literature Elective	3
Math/Sci. Elec.....	3-4
Amer. Hist. Elective	3
Electives*	6
	15-16

Second Semester

Philosophy Elec.....	3
SS 281 Intro. to Soc.	3
Electives*	9
	15

*At least sixteen hours of free electives must be selected from courses designated as Liberal Arts. These Liberal Arts courses should be selected so as to produce a balance among the areas of Humanities, Social Sciences, and Math/Science.

Colleges of Education generally expect an extensive and intensive liberal arts preparation. Those planning to teach at the secondary level should use the electives to build a concentration in their particular subject area of interest. Students are advised to select electives in accordance with the requirements of the college to which they plan to transfer. Suggested electives: AR 100, CS 110, EN 132, SS 284, SS 183, SS 184, SS 294, Economics, Foreign Language, Literature, Mathematics, Political Science, Science.

**General Studies (A.A.)
A.P.C. - 250
Special Education Concentration**

This concentration within the General Studies program is recommended for students who plan to seek immediate employment as paraprofessionals at institutions and agencies serving handicapped children or transfer to a four-year college to pursue the baccalaureate degree toward teacher certification.

In addition to providing for the student's own intellectual and personal developments, the course work under this concentration provides a broad understanding of the psychological, emotional, intellectual and developmental needs of children with disabilities and the skills necessary for meeting those needs.

Graduates will find their developed competence in interacting with children will be very rewarding not only in their employment but also in their lifelong associations with children in their family and social environments.

FIRST YEAR

First Semester

EN 125 Freshman English I.....	3
SS 291 General Psychology	3
Mathematics Elective	3-4
Elective*	3
SS 281 Intro. to Sociology	3
Physical Education	1
	16-17

Second Semester

EN 126 Freshman English II	3
SS 297 Developmental Psych	3
Science Elective	3-4
ED 171 Intro. to Early Childhood Education	3
Elective*	3
Physical Education	1
	16-17

SECOND YEAR

First Semester

Humanities Elective	3
Math/Science Elective	3-4
Education Elective**	3
HS 251 Intro. to Developmental Disabilities	3
Elective*	3
	15-16

Second Semester

Humanities Elective	3
SS 292 Abnormal Psych.	3
Education Elective**	3
Electives*	6
	15

*At least six hours of free electives must be selected from courses designated as Liberal Arts. HE 135 Personal Health, SS 294 The Family, and HD 221 Human Relations and Group Dynamics are recommended. Students who are planning to transfer are advised to select the electives so as to meet the requirements of the particular four-year college they plan to transfer.

**Education Electives: ED 225, ED 250, ED 275. Those who wish to seek employment with the Associate degree should consider taking additional early childhood education courses and also gaining field experience through at least a semester of Internship (IN 299) for elective credit.

**General Studies (A.A.)
A.P.C. - 250
Theater Concentration**

This concentration within the General Studies program is recommended for students who plan to transfer to a four-year college to pursue their studies in Theater leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Theater Elective*	3-4
Social Science Elective	3
Mathematics Elective	3-4
Elective	3
Physical Education	1
	16-18

<i>Second Semester</i>	
EN 126 Freshman English II	3
Theater Elective*	3-4
Social Science Elective	3
Science Elective	3-4
Elective	3
Physical Education	1
	16-18

SECOND YEAR

<i>First Semester</i>	
Theater Elective*	3-4
Music Elective**	3
Humanities Elective***	3
Math/Science Elective	3-4
Elective	3
	15-17

<i>Second Semester</i>	
Theater Elective*	3-4
Music Elective**	3
Humanities Elective***	3
Social Science Elective	3
Elective	3
	15-16

*Theater Electives: TH 101, 102, 105, 136, 201, 202.

** Music Electives: MU 101, 102, 201.

***Suggested Humanities Electives: EN 132, 235, 239, 243, 245, AR 150.

Note: A student could develop a theater concentration within the requirements of the Humanities and Social Sciences (A.A.) degree program.

**Humanities and Social Sciences
(A.A.)
A.P.C. - 201**

This program is designed primarily for those students who plan to transfer to other colleges in programs leading to their bachelor's degree. This program should be followed by students interested in advanced study in humanities and social sciences or in teacher education programs leading to certification by New York State.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective*	3
Foreign Language	3
Mathematics or Science	3-4
Elective*	3-4
Physical Education	1
	16-18

<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective*	3
Foreign Language	3
Mathematics or Science	3-4
Elective*	3-4
Physical Education	1
	16-18

SECOND YEAR

<i>First Semester</i>	
Literature Elective**	3
Social Science Elective*	3
Foreign Language or Elective	3-4
Mathematics or Science	3-4
Elective	3-4
	15-18

<i>Second Semester</i>	
Literature Elective**	3
Social Science Elective*	3
Foreign Language or Elective	3-4
Mathematics or Science	3-4
Elective*	3-4
	15-18

All students must complete 12 semester hours of English (EN 125, 126, plus 6 semester hours of literature), 12 semester hours of social science, a minimum of 6 semester hours in each of the following foreign language, mathematics, science; 2 semester hours of physical education, and additional electives to total 62 semester hours. At least 48 hours must be selected from the areas of liberal arts and sciences.

**Humanities and Social Sciences
(A.A.)
A.P.C. - 201
English Concentration**

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in English leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective*	3
Foreign Language	3
Mathematics or Science**	3-4
Elective	3-4
Physical Education	1
	16-18

<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective*	3
Foreign Language	3
Mathematics or Science**	3-4
Elective	3-4
Physical Education	1
	<hr/>
	16-18

SECOND YEAR

<i>First Semester</i>	
EN Electives***	6
Social Science Elective	3
Foreign Language or Elective	3-4
Mathematics or Science**	3-4
	<hr/>
	15-17

<i>Second Semester</i>	
EN Electives***	6
Social Science Elective	3
Foreign Language or Elective	3-4
Mathematics or Science**	3-4
	<hr/>
	15-17

*SS 183 and SS 184 are suggested.
 **Minimum of 6 semester hours in mathematics and 6 semester hours in science required.
 ***Suggested EN Electives: EN 231, 232, 233, 234, 235, 239, 245, 257, 200, 132.

Note: A student could develop an English concentration within the requirements of the General Studies (A.A.) degree program.

**Humanities and Social Sciences (A.A.)
 A.P.C. - 201
 Foreign Language Concentration**

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in a foreign language leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective*	3
Foreign Language**	3
Mathematics or Science***	3-4
Elective	3-4
Physical Education	1
	<hr/>
	16-18

<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective*	3
Foreign Language**	3
Mathematics or Science***	3-4
Elective	3-4
Physical Education	1
	<hr/>
	16-18

SECOND YEAR

<i>First Semester</i>	
EN 131 World Literature I	3
Social Science Elective*	3
Foreign Language**	3
Mathematics or Science***	3-4
Elective	3-4
	<hr/>
	15-17

<i>Second Semester</i>	
EN 232 World Literature II	3
Social Science Elective*	3
Foreign Language**	3
Mathematics or Science***	3-4
Elective	3-4
	<hr/>
	15-17

*SS 183, 184, 294, and 278 are suggested.
 **Based on interest and placement, select courses from the following: FL 141, 142, 241, 242, 143, 144, 243, 244, 343, 344, 147, 148, 145, 146.
 ***Maximum of 6 semester hours in mathematics and 6 semester hours in science required.

Note: A student could develop a Foreign Language concentration within the requirements of the General Studies (A.A.) degree program.

**Humanities and Social Sciences (A.A.)
 A.P.C. - 201
 History Concentration**

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in History leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
SS 183 Western Civilization I	3
Foreign Language	3
Mathematics or Science*	3-4
Social Science Elective	3
Physical Education	1
	<hr/>
	16-17

<i>Second Semester</i>	
EN 126 Freshman English II	3
SS 184 Western Civilization II	3
Foreign Language	3
Mathematics or Science*	3-4
Social Science Elective	3
Physical Education	1
	<hr/>
	16-17

SECOND YEAR

<i>First Semester</i>	
EN 231 or EN 233	3
SS 283 American History I	3
Foreign Language or Elective**	3-4
Mathematics or Science*	3-4
Social Science Elective	3
	<hr/>
	15-17

<i>Second Semester</i>	
EN 232 or EN 234	3
SS 284 American History II	3
Foreign Language or Elective**	3-4
Mathematics or Science*	3-4
Elective	3-4
<hr/>	
15-18	

*Minimum of 6 semester hours in mathematics and 6 semester hours in science required.

**Suggested Electives: EC 281, EC 282.

Note: A student could develop a history concentration within the requirements of the General Studies (A.A.) degree program.

Humanities and Social Sciences (A.A.) A.P.C. - 201 Political Science/Public Affairs Concentration

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in Political Science and Public Affairs leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
SS 283 American History I	3
Foreign Language	3
Mathematics Elective	3-4
Social Science Elective*	3
Physical Education	1
<hr/>	
16-17	

<i>Second Semester</i>	
EN 126 Freshman English II	3
SS 284 American History II	3
Foreign Language	3
MA 160 Statistics	3
Social Science Elective*	3
Physical Education	1
<hr/>	
16	

SECOND YEAR

<i>First Semester</i>	
EN 231 or EN 233	3
SS 282 American Political System	3
Foreign Language or Elective**	3-4
Science Elective	3-4
Social Science Elective*	3
<hr/>	
15-17	

<i>Second Semester</i>	
EN 232 or EN 234	3
SS 278 or SS 383	3
Foreign Language or Elective**	3-4
Science Elective	3-4
Elective	3-4
<hr/>	
15-18	

*Social Science Electives: SS 183, 184, 281, 287.

**Suggested Electives: EC 281, EC 282.

Note: A student could develop a Political Science/Public Affairs concentration within the requirements of the General Studies (A.A.) degree program.

Humanities and Social Sciences (A.A.) A.P.C. - 201 Psychology Concentration

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in Psychology leading to a Bachelor's degree.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
SS 291 General Psychology	3
Foreign Language*	3
SC 141 or BI 171	3-4
Social Science Elective	3
Physical Education	1
<hr/>	
16-17	

<i>Second Semester</i>	
EN 126 Freshman English II	3
SS 297 Developmental Psychology	3
Foreign Language*	3
SC 142 or BI 173	3-4
Social Science Elective	3
Physical Education	1
<hr/>	
16-17	

SECOND YEAR

<i>First Semester</i>	
Literature Elective	3
SS 292 Abnormal Psychology	3
SS 281 intro. to Sociology	3
Foreign Language* or Elective	3-4
Mathematics	3-4
<hr/>	
15-17	

<i>Second Semester</i>	
Literature Elective	3
SS 384 or SS 387	3
Foreign Language* or Elective	3-4
MA 160 Statistics	3
Elective	3-4
<hr/>	
15-17	

*FL 143, 144, 243, 244 are strongly recommended.

Note: A student could develop a psychology concentration within the requirements of the General Studies (A.A.) degree program.

**Humanities and Social Sciences
(A.A.)
A.P.C. - 201
Sociology Concentration**

This concentration within the Humanities and Social Sciences program is recommended for students who plan to transfer to a four-year college to pursue their studies in Sociology leading to a Bachelor's degree.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
SS 281 Intro. to Sociology	3
Foreign Language	3
Mathematics	3-4
Elective	3-4
Physical Education	1
<hr/>	
	16-18

Second Semester

EN 126 Freshman English II	3
Sociology Elective*	3
Foreign Language	3
MA 160 Statistics	3
SS 291 General Psychology	3
Physical Education	1
<hr/>	
	16

SECOND YEAR

First Semester

EN 231 or EN 233	3
Sociology Elective*	3
Foreign Language or Elective	3-4
Science	3-4
Social Science Elective**	3
<hr/>	
	15-17

Second Semester

EN 232 or EN 234	3
Sociology Elective*	3
Foreign Language or Elective	3-4
Science	3-4
Social Science Elective**	3
<hr/>	
	15-17

*Sociology Electives: SS 264, 294, 386, 387, 382.

**Social Science Electives: SS 183, 184, 283, 284, 293, 191, 282.

Note: A student could develop a sociology concentration within the requirements of the General Studies (A.A.) degree program.

**Human Services (A.A.S.)
A.P.C. - 604**

The Human Services program is designed for those students who intend to work, or are already working, in one of the many human services agencies in contemporary society. Such agencies include, but are not limited to, youth services agencies; agencies dealing with the handicapped; agencies dealing with the aged; and health related agencies. The program combines formal college course work with human service field experiences through internships, preparing graduates to move directly into employment. The program is flexible

so that students may choose the field experiences that are most appropriate to his/her interests and to his/her particular career goals.

This program is also designed for students planning on transferring to four-year colleges to earn a baccalaureate degree in human services related programs.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
SS 291 General Psychology	3
SS 281 Introduction to Sociology	3
SC 141 Intro. to Biology or	
BI 181 Anatomy and Physiology	3-4
HS 110 Intro. to Human Services	3
Physical Education	1
<hr/>	
	16-17

Second Semester

EN 126 Freshman English II or	
EN 127 Technical English	3
Elective*	3
MA 160 Statistics or Math Elective	3-4
Human Services Elective**	3
Physical Education	1
SS 297 Developmental Psychology	3
<hr/>	
	16-17

SECOND YEAR

First Semester

HS 298 Human Services Internship	3
HS 291 Human Service Skills I	1
HD 221 Human Relations and Group Dynamics	3
Elective*	3
Human Service Elective**	3
Elective***	3
<hr/>	
	16

Second Semester

HS 299 Human Services Internship	3
HS 292 Human Service Skills II	1
Elective*	3
Elective*	3
Elective***	3
Elective	3
<hr/>	
	16

Students planning to transfer to a four-year college should select electives to meet the requirements of the transfer institution.

*At least four electives must be taken from the following: CJ 108, SS 292, SS 387, SS 264, SS 386, SS 282, SS 383, SS 294, HE 235.

**Human Service Electives: HS 211, HS 231, HS 251.

***Suggested Electives: Foreign Languages.

**Fine Arts/Visual (A.A.)
A.P.C. - 664**

This program is designed for students who wish to transfer and continue their studies for the Bachelor of Arts, Bachelor of Science, or Bachelor of Fine Arts degree, or for students seeking immediate employment. The opportunity is provided to develop basic concepts and skills in a wide variety of media while concentrating on the field of Art.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Science Elective	3
Science Elective	3-4
AR 210 Drawing I	3
AR 150 2D Design	3
Physical Education	1
<hr/>	
	16-17

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
Mathematics Elective	3-4
AR 211 Drawing II	3
AR 160 3D Design	3
Physical Education	1
<hr/>	
	16-17

SECOND YEAR

First Semester

Humanities Elective	3
Math/Science Elective	3-4
AR 220 Painting	3
Art Elective	3
Elective*	3
<hr/>	
	15-16

Second Semester

Social Science Elective	3
AR 300 Art Seminar	3
Art Elective	3
Electives*	6
<hr/>	
	15

*Electives should be selected to conform to the program requirements of the college or university to which the student plans to transfer.

**Crafts Management (A.A.S.)
A.P.C. - 671**

Crafts Management is designed for students who wish to learn how to design, produce, and sell quality craft products. This program also provides the flexibility to allow students to transfer to baccalaureate degree programs in related fields. This program will meet the needs of the student that desires to achieve the background necessary to begin their own business in any artistic venture, i.e., craft shop, pottery shop, print-making shop, etc.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Sciences Elective	3
Science Elective	3-4
AR 210 Drawing I	3
AR 150 2D Design	3
Physical Education	1
<hr/>	
	16-17

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
BU 103 Math of Bus. Finance	3

AR 211 Drawing II	3
AR 160 3D Design	3
Physical Education	1
<hr/>	
	16

SECOND YEAR

First Semester

Elective*	3
Elective*	3
BU 121 Accounting	3
Mathematics Elective	3-4
Elective*	3
<hr/>	
	15-16

Second Semester

Elective*	3
Elective*	3
BU 165 Small Business Manag.	3
BU 171 Business Law	3
Elective	3
<hr/>	
	15

*Four Electives must be selected from the following: AR 100, AR 200, AR 220, AR 221, AR 275, AR 300, ER 101, ER 102, ER 103, ER 150, ER 151.

**Suggested Elective: BU 140, BU 141, or BU 137.

**Business Administration (A.S.)
A.P.C. - 671**

This program is designed to prepare students to transfer to a four-year institution to complete a baccalaureate degree in business. The flexibility of this program permits students to meet the requirements of their intended transfer institutions.

Students transferring to four-year institutions may specialize there in a particular field such as finance, marketing, business management, or business education.

The following is suggested sequence of courses:

FIRST YEAR

First Semester

EN 125 Freshman English I	3
BU 121 Principles of Accounting I	4
Mathematics Elective**	3-4
Social Science Elective	3
Business Elective	3
<hr/>	
	16-17

Second Semester

EN 126 Freshman English II	3
BU 122 Principles of Accounting II	4
Science Elective	3-4
Liberal Arts Elective	3
Business Elective	3
<hr/>	
	16-17

SECOND YEAR

First Semester

BU 171 Business Law I	3
Economics Elective*	3
Business Elective(s)	4
Liberal Arts Elective	3
Physical Education	1
<hr/>	
	14

<i>Second Semester</i>	
BU 172 Business Law II	3
Computer Information Systems Elective	3
Liberal Arts Elective(s)	6
Elective***	3
Physical Education	1
	<hr/>
	16

Sixty-two hours are required to complete this program.

Note: Business and other electives should be chosen on the basis of the requirements of the four-year institution to which transfer is anticipated.

*EC 281 or EC 282 recommended.

**MA 154 Pre-calculus math level or higher.

***May need to be Liberal Arts for 30 credit total.

Computer Science (A.S.) A.P.C. - 532 Business Concentration

The two-year Computer Science (Business Concentration) Program is designed for students who plan to transfer and continue their studies in programs leading to the Bachelor's degree or who plan to seek immediate employment. The program emphasizes a theoretical understanding of computers in combination with business oriented languages and applications.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
CS 110 Intro. to Computers or Computer Elective*	3
CS 121 Programming COBOL	3
MA 157 Ana. Geometry/Calculus I	4
Science Elective	3-4
	<hr/>
	16-17

<i>Second Semester</i>	
EN 126 Freshman English II	3
CS Elective	3
CS 133 Advanced Programming Tech.	3
MA 158 Ana. Geometry/Calculus II	4
Science Elective	3-4
	<hr/>
	16-17

SECOND YEAR

<i>First Semester</i>	
CS 135 Systems Analysis & Design	3
MA 157 Ana. Geometry/Calculus III or Mathematics Elective**	3-4
Social Science Elective	3
Physical Education	1
Electives**	6
	<hr/>
	16-17

<i>Second Semester</i>	
CS 113 Programming Assembler	3
Electives**	9-10
Social Science Elective	3
Physical Education	1
	<hr/>
	16-17

*CS elective may be taken upon documented CS 110 or equivalent experience per computer faculty guidelines.

**Refer to transfer institution requirements. A minimum of 30 s.h. of liberal arts are required.

Recommended electives include: BU 101, 121, 122, 141, 152, 160, 179, EC 281, 282, EL 232, 236, CS 100, 101, 102, 103, 120, 122, 123, 124, 130, MA 160.

Computer Science (A.S.) A.P.C. - 532 Mathematics/Science Concentration

The two-year Computer Science (Mathematics/Science Concentration) program is designed for students who wish to transfer and continue their studies in programs leading to the Bachelor's degree, or who wish to seek immediate employment. The program provides a theoretical understanding of computers, while emphasizing mathematical and scientific applications. Languages appropriate to those areas are also studied.

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective	3
CS 110 Intro. to Computers or Computer Elective*	3
MA 157 Ana. Geometry/Calculus I	4
Science Elective**	3-4
	<hr/>
	16-17

<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective	3
CS 113 Programming Assembler	3
MA 158 Ana. Geometry/Calculus II	4
Science Elective**	3-4
	<hr/>
	16-17

SECOND YEAR

<i>First Semester</i>	
CS 120 Programming FORTRAN or CS 124 Programming Pascal**	3
CS Elective**	3
MA 257 Ana. Geometry/Calculus III	4
Physical Education	1
Electives**	6-8
	<hr/>
	17-19

<i>Second Semester</i>	
CS Electives**	6-7
Mathematics Elective**	3-4
Physical Education	1
Electives**	6-8
	<hr/>
	16-20

*CS elective may be taken upon documented CS 110 or equivalent experience per computer faculty guidelines.

**Refer to transfer institution requirements.

Recommended electives include: CS 100, 101, 102, 103, 121, 122, 123, 130, 133, 135, PH 171, 172, EC 281, 282, EL 232, 236, MA 258, 259.

Mathematics and Science (A.S.) A.P.C. - 221

This program is designed for students who plan to transfer and continue their studies in programs leading to Bachelor's degree with particular emphasis on advanced study in the sciences and mathematics. Preparation for the professional fields of mathematics, the sciences, medicine and dentistry as well as teaching science and mathematics on the elementary and secondary levels can be initiated with this program.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
*Social Science Elective.....	3
Foreign Language	3
Mathematics	3-4
Science	3-4
Physical Education	1
	16-18

Second Semester

EN 126 Freshman English II.....	3
*Social Science Elective.....	3
Foreign Language	3
Mathematics	3-4
Science	3-4
Physical Education	1
	16-18

SECOND YEAR

First Semester

Mathematics	3-4
Science	3-4
Foreign Language or Elective	3
Electives	6
	15-17

Second Semester

Mathematics	3-4
Science	3-4
Foreign Language or Elective	3
Electives	6
	15-17

All students must complete 12 semester hours of humanities (EN 125, EN 126, and 6 semester hours of foreign language), 6 semester hours of social science, 4 mathematics courses, 4 science courses, and 2 semester hours of physical education, and additional electives to total 62 semester hours. At least 48 semester hours must be selected from the liberal arts and sciences.

*Social Science elective may be postponed until the second year.

**Prerequisite courses available.

Mathematics and Science (A.S.) A.P.C. - 221 Mathematics Concentration for Prospective Teachers

This concentration within the Mathematics and Science Program will give the student, planning to major in elementary education with a mathematics concentration or in early secondary mathematics education, the liberal arts and sciences background to transfer to a four-year college which offers a degree in education. Those preparing for secondary mathematics teaching should consider the mathematics concentration.

FIRST YEAR

First Semester

EN 125 Freshman English I.....	3
Foreign Language	3
Mathematics*	3-4
Science Elective	3-4
3 CS Modules	3
	15-17

Second Semester

EN 126 Freshman English II	3
Foreign Language	3
Mathematics*	3-4
Science Elective	3-4
CS 120 or CS 124.....	3
	15-17

SECOND YEAR

First Semester

Mathematics*	3-4
Science Elective	3-4
SS 291 Gen. Psychology.....	3
SS 281 Sociology	3
Foreign Language or Elective	3
Physical Education	1
	16-18

Second Semester

Mathematics*	3-4
Science Elective	3-4
SS 297 Develop. Psychology.....	3
Elective	3
Foreign Language or Elective	3
Physical Education	1
	16-18

*Mathematics courses must be chosen from: MA 154, MA 160, MA 157, MA 158, MA 257, MA 258, MA 259.

Mathematics and Science (A.S.) A.P.C. - 221 Biology Concentration

This concentration within the Mathematics and Science program is recommended for students who plan to transfer and continue their studies in biology leading to a Bachelor's degree. Preparation for the professional fields of biological sciences, for a career in industry, research, government, or teaching can be initiated with this program.

FIRST YEAR

First Semester

EN 125 Freshman English I.....	3
Social Science Elective	3
Foreign Language	3
MA 154 Pre-calculus	4
BI 171 Modern Biology.....	4
	17

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
Foreign Language	3
MA 160 Statistics	3
BI 172 Plant Biology.....	4
Physical Education	1
	17

SECOND YEAR

First Semester

MA 157 A. Geo. & Calc. I	4
CH 173 Chemistry I	4
Foreign Language or Elective	3
Elective	3
Physical Education	1
	15

Second Semester

MA 158 A. Geo. & Calc. II	4
CH 174 Chemistry II	4
Foreign Language or BI 176 Ecology	3
BI 173 Animal Biology	4
	15

**Mathematics and Science (A.S.)
A.P.C. - 211
Environmental Biology and Forestry
Management Concentration**

This concentration within the Mathematics and Science program is recommended for students who plan to transfer and continue their studies in areas related to environmental biology and/or forestry or seek immediate employment.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
PE 235 Outdoor Education*	3
Foreign Language	3
MA 151 Inter. Algebra	4
SC 141 Intro. BIO I or BI 171 Modern Biology	3-4
	16-17

Second Semester

EN 126 Freshman English II	3
BI 172 Plant Biology	4
Foreign Language	3
MA 160 Statistics	3
BI 176 Ecology	3
	16

SECOND YEAR

First Semester

MA 154 Pre-calculus	4
SC 170 Intro. Chemistry or CH 173 Chemistry I	3-4
SU 101 Surveying	3
NR 223 Forest Management I*	3
Social Science Elective	3
Physical Education	1
	17-18

Second Semester

MA 157 A. Geo. & Calc. I	4
Social Science Elec.	3
BI 173 Animal Biology	4
NR 224 Forest Management II*	3
Physical Education	1
	15

*Course meets at sites other than main campus. Students make own transportation arrangements.

Note: Those who wish to seek employment with the two-year Associate degree should consider gaining field experience through at least a semester of Internship (IN 299) for additional credit.

**Mathematics and Science (A.S.)
A.P.C. - 221
Pre-Med Concentration**

This concentration within the Mathematics and Science program is recommended for students who plan to transfer and continue their studies in medicine and dentistry.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Science Elective	3
Foreign Language	3
MA 154 Pre-calculus	4
BI 171 Modern Biology	4
Physical Education	1
	18

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
Foreign Language	3
MA 160 Statistics	3
BI 173 Animal Biology	4
Physical Education	1
	17

SECOND YEAR

First Semester

MA 157 A. Geo. & Calc. I	4
PH 171 Physics I	4
Foreign Language or Elective*	3-4
CH 173 Chemistry I	4
	15-16

Second Semester

MA 158 A. Geo. & Calc. II	4
PH 172 Physics II	4
Foreign Language or Elective*	3-4
CH 174 Chemistry II	4
	15-16

*Suggested Electives: BI 181, BI 182, BI 282.

**Mathematics and Science (A.S.)
A.P.C. - 221
Physics Concentration**

This concentration within the Mathematics and Science program is recommended for students who plan to transfer and continue their studies in Physics leading to a Bachelor's degree. Preparation for the professional field of physics for a career in industry, government, research, or teaching can be initiated with this program.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Science Elective	3
Foreign Language	3

MA 157 A. Geo. & Calc. I	4
PH 171 Physics I	4
	<u>17</u>

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
Foreign Language	3
MA 158 A. Geo. & Calc. II	4
PH 172 Physics II	4
	<u>17</u>

SECOND YEAR

First Semester

MA 257 A. Geo. & Calc. III	4
PH 271 Physics III	4
Foreign Language or Elective*	3
CH 173 Chemistry I	4
Physical Education	1
	<u>16</u>

Second Semester

MA 258 Differential Equations	4
ES 236 Mechanics: Dynamics or	
ES 281 Electric & Electric Circuits	3-4
Foreign Language or Elective**	3
CH 174 Chemistry II	4
Physical Education	1
	<u>15-16</u>

*Suggested Elective: CS 120, CS 123, or CS 124.

**Suggested Elective: MA 259.

**Mathematics and Science (A.S.)
A.P.C. - 221
Mathematics Concentration**

This concentration within the Mathematics and Science program is recommended for students who plan to transfer and continue their studies in Mathematics leading to a bachelor's degree. Preparation for the professional field of mathematics leading to a variety of careers in industry, government, research and teaching can be initiated with this program.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Social Science Elective	3
Foreign Language	3
MA 157 A. Geo. & Calc. I*	4
Science	3-4
	<u>16-17</u>

Second Semester

EN 126 Freshman English II	3
Social Science Elective	3
Foreign Language	3
MA 158 A. Geo. & Calc. II	4
Science	3-4
	<u>16-17</u>

SECOND YEAR

First Semester

MA 257 A. Geo. & Calc. III	4
PH 171 Physics I	4

Foreign Language or Elective	3
CS 120, CS 123 or CS 124	3
Physical Education	1
	<u>15</u>

Second Semester

MA 258 Differential Equations	4
PH 172 Physics II	4
Foreign Language or Elective	3
MA 259 Linear Algebra	3
Physical Education	1
	<u>15</u>

*Prerequisite courses available.

**Engineering Science (A.S.)
A.P.C. - 530**

The Engineering Science Program closely parallels the first two years of the four-year college and university program in engineering. This fact enables graduates of the program to transfer, at the junior level, to such institutions and to specialize in any field of engineering. The strong emphasis placed on mathematics and physics also makes the Engineering Science Program the most appropriate course of study for those who wish to transfer and continue their studies in physics and applied mathematics.

Interest and motivation of the student are of paramount importance for succeeding in the program. A strong background in high school mathematics and physics is recommended for entrance to the program.

FIRST YEAR

First Semester

PH 171 Physics I	4
MA 157 A. Geo. & Calc. I	4
CH 173 Chemistry I	4
EN 125 Freshman English I	3
Physical Education	1
	<u>16</u>

Second Semester

PH 172 Physics II	4
MA 158 A. Geo. & Calc. II	4
CH 174 Chemistry II or Elective*	3-4
EN 126 Freshman English II	3
CS 120 Computer Programming (FORTRAN)**	3
	<u>17-18</u>

SECOND YEAR

First Semester

ES 236 Mechanics: Statics	3
PH 271 Physics III	4
MA 257 A. Geo. & Calc. III	4
Social Science Elective***	3
Physical Education	1
	<u>15</u>

Second Semester

ES 236 Mechanics: Dynamics	3
ES 281 Electric & Electronic Circuits	4
MA 258 Differential Equations	4
MA 259 Linear Algebra or Elective*	3-4
Social Science Elective***	3
Physical Education	1
	<u>18-19</u>

Students are advised to select electives which are appropriate to the field of engineering in which they plan to major, and which meet the requirements of the college to which they plan to transfer.

Sixty-five semester hours are required to complete the program which must include 3 engineering science courses, 3 physics courses, 4 calculus courses, 1 computer programming course, 1 chemistry course, 2 English courses, 2 social science courses, 2 physical education courses, and at least two electives.

*If two electives are chosen, at least one must be from the following:

- MD 171 Engineering Graphics
- MD 174 Computer Aided Drafting
- BI 171 Modern Biology
- BI 172 Animal Biology
- BI 181-182 Anatomy and Physiology

**May be postponed till the second year.

***May be taken during the first year.

Physical Education Concentration (A.S.) A.P.C. - 220

This program is designed for students who plan to transfer and continue their studies leading to the Bachelor's degree in Physical Education. Preparation for advanced studies in Physical Education can be initiated from this program. This concentration should include the following:

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective	3
Science or Math Elective	3-4
HE 135 Personal Health	3
PE 201 Introduction to H.P.E.R.	3
PE Elective 140 or 160 Series	1
	16-17
<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective	3
Science or Math Elective	3-4
HE 136 Safety & First Aid	3
PE 250 Lifetime Sports Series	2
PE Elective 140 or 160 Series	1
	15-16

SECOND YEAR

<i>First Semester</i>	
SS 291 General Psychology	3
BI 181 Anatomy & Physiology I	4
Humanities Elective	3
Elective	3
PE 241 General Aquatics for P.E. Majors	1
PE 250 Lifetime Sports Series	2
	16
<i>Second Semester</i>	
Social Science Elective	3
BI 182 Anatomy & Physiology II	4
Humanities Elective	3
H.P.E.R. Electives	6-8
	16-18

Sixty-three semester hours are required for graduation, including two semester hours of physical education (PE 140 or 160 Series).

Liberal arts requirements are EN 125, EN 126, plus six additional semester hours in humanities; SS 291, plus nine additional semester hours in social science; and BI 181, BI 182, plus six additional semester hours in science and/or mathematics.

All Physical Education majors should earn four (4) participation credits, as established with Physical Education faculty counseling.

Pre-Nursing Concentration (A.S.) A.P.C. - 220

A PRE-NURSING TRANSFER PROGRAM is under development. For further information contact the Admissions Office.

Health Education Concentration (A.S.) A.P.C. - 220

This program is designed for students who plan to transfer and continue their studies leading to the Bachelor's degree in Health Education. Preparation or advanced studies in Health Education can be initiated from this program. This concentration should include the following:

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
Social Science Elective	3
Science or Math Elective	3-4
HE 135 Personal Health	3
PE 201 Introduction to H.P.E.R.	3
PE Activity	1
	16-17
<i>Second Semester</i>	
EN 126 Freshman English II	3
Social Science Elective	3
Science or Math Elective	3-4
HE 136 Safety & First Aid	3
Elective	3
PE Activity	1
	16-17

SECOND YEAR

<i>First Semester</i>	
SS 291 General Psychology	3
BI 181 Anatomy & Physiology	4
Humanities Elective	3
HE 235 Community Health	3
Elective	3
	16
<i>Second Semester</i>	
Social Science Elective	3
BI 182 Anatomy & Physiology	4
Humanities Elective	3
Health Elective	3
Elective	3
	16

Sixty-four semester hours are required for an Associate in Science degree, including two semester hours of physical education.

The liberal arts requirements are: EN 125, EN 126, plus six additional semester hours in humanities; SS 291, plus nine additional semester hours in social science; and BI 181, BI 182, plus six additional hours in science and/or mathematics.

BUSINESS

Accounting (A.A.S.) A.P.C. - 630

The accounting program provides the basic principles and procedures which are readily applicable to the problems students will meet in the business world of accountants and cost analyst trainees in numerous areas such as industry, finance, insurance, banking and government on the junior-management level.

The following is a suggested sequence of courses:

FIRST YEAR

<i>First Semester</i>	
EN 125 Freshman English I	3
BU 101 Principles of Business	3
BU 103 Mathematics of Business Finance.....	3
BU 121 Principles of Accounting I	4
CS 100, 102, 103	3
	16

<i>Second Semester</i>	
EN 126 Freshman English II.....	3
SS Social Science Elective	3
Mathematics Elective*	3-4
BU 122 Principles of Accounting II	4
EC 180 Intro. to Economics	3
	16-17

SECOND YEAR

<i>First Semester</i>	
BU 221 Intermediate Accounting I	4
BU 171-172 or 254 Law	3
Elective*	3
BU 224 Cost Accounting	3
Physical Education	1
Elective	3
	17

<i>Second Semester</i>	
BU 222 Intermediate Accounting II.....	4
SC Science Elective	3-4
Liberal Arts Elective	3
Electives*	4
Physical Education	1
	15-16

A total of 64 semester hours are required to complete the program, which must include a minimum of 15 semester hours of accounting courses. There is a minimum of 20 semester hours from liberal arts and sciences which must include EN 125, EN 126; three semester hours in the social sciences; three semester hours of mathematics other than business mathematics; three semester hours of science; three semester hours in economics, and an additional course in the liberal arts and sciences. Two semester hours of physical education are also required.

*It is strongly recommended that more than one mathematics course be taken in this program.

Business Administration (A.A.S.) A.P.C. - 632

The Business Administration Program is designed to provide an exposure to various areas of business-related operations. It also allows for concentration as desired in Retailing, Mid-management, General Finance, or Basic Business. The course concentrations provide a foundation for middle management positions in the field of insurance, retailing, banking, civil service, finance, sales, and administrative management in various types of organizations.

The following is a suggested sequence of courses:

FIRST YEAR

<i>First Semester</i>	
BU 101 Principles of Business.....	3
BU 103 Math. of Bus. Finance	3
BU 121 Principles of Accounting I	4
EN 125 Freshman English I.....	3
Microcomputers	2
	15

<i>Second Semester</i>	
EN 126 Freshman English II	3
BU 122 Principles of Accounting II	4
Social Science Elective	3
Mathematics Elective	3
Elective**	3
	16

SECOND YEAR

<i>First Semester</i>	
Science Elective	3
BU* Course Option	6
Elective**	3
EC 180 Intro. to Economics	3
Physical Education	1
	16

<i>Second Semester</i>	
Liberal Arts Elective	3
BU* Course Option	6
Electives**	7
Physical Education	1
	17

Students planning to transfer should select their liberal arts and sciences to meet the requirements of the four-year institutions which they plan to attend. Also see A.S. program.

*Business Administration majors should take four courses in one of the following areas of concentrations:

<i>Retailing</i>	<i>Management</i>
BU 141 Marketing	BU 151 Human Resource Man.
BU 170 Advertising	BU 152 Production Man.
BU 171, 172, or 254 Law	BU 171, 172, or 254 Law
BU 243 Retail Management	BU 261 Managerial Acct.
	BU 179 Principals of Man.

<i>General Finance</i>	<i>Recommended Electives</i>
BU 160 Introduction to Finance	BU 133 BU 250
BU 164 Credit Administration	BU 134 CS 110
BU 171, 172, or 254 Law	
BU 262 Introduction to Invest.	BU 165
CS 110 Introduction to Computers	

**Sixty-four hours are required to complete this program, which must include a minimum of 20 semester hours in liberal arts and science (this includes those specified above), plus physical education.

Business Administration (A.A.S.) A.P.C. - 632 American Institute of Banking Concentration

This concentration is an articulated program through which American Institute of Banking studies may be combined with college courses and lead to an Associate's degree in business. The following is the recommended sequence of courses.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
BU 101 Principles of Business	3
BU 121 Principles of Accounting I	4(A)
BU 103 Math of Business Finance	3
Microcomputers	2
	15

Second Semester

EN 126 Freshman English II	3
BU 122 Principles of Accounting II	4(A)
EC 180 Principles of Economics	3
Business Elective	3
EN 132 Speech	3
	16

SECOND YEAR

First Semester

Social Science Elective	3
Mathematics	3
Concentration Electives	6*
Elective	3
Physical Education	1
	16

Second Semester

Science Elective	3
Concentration Electives	6*
Electives	7
Physical Education	1
	17

(A) Version 2 will be accepted for 4 credits, version 1 for 3 credits, therefore, version 1 may require a 1 credit directed study or placement test. (see regents guidelines)

*34 AIB credits maximum

30 FMCC credits minimum (13 credits in Business, remaining credits in LA and PE, 2 credits)

Contact the College for AIB and FMCC Business and Concentration course recommendations.

Computer Information Systems (A.A.S.) A.P.C. - 581

This curriculum is structured along the lines of career interests and job skills required by students who plan to enter the field of computer information systems.

The courses emphasize intensive practical problem solving skills, use of computers and business-oriented programming languages to solve business, government, and administrative problems, develop-

ment of written and oral communication skills, and a core of business courses to achieve a well-rounded business and financial background.

The contents of this curriculum follow the guidelines for the CIS Programming Track suggested by the DPMA Education Foundation, October 1985.

Graduates will have sufficient knowledge to function as applications programmers, programmer/analysts, junior systems analysts and CIS management trainees.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
CS 110 Intro. to Computers or Computer Elective	3
CS 121 Programming COBOL	3
BU 101 Principles of Business	3
Mathematics Elective	3-4
Microcomputers	1
	16-17

Second Semester

EN 126 Freshman English II	3
CS 133 Advanced Programming Techniques	3
CS 122 Programming RPG	3
BU 121 Accounting I	3
Liberal Arts Elective	3-4
Microcomputers	1
	16-17

SECOND YEAR

First Semester

BU 122 Accounting II	3
CS 135 Systems Anal. & Design	3
Science Elective	3-4
Liberal Arts Elective	3
Business Elective**	3
Physical Education	1
	16-17

Second Semester

CS Elective	3-4
CS 113 Programming Assembler	3
Social Science Elective	3
Electives**	6-7
Physical Education	1
	16-17

CS elective may be taken upon documented CS 110 or equivalent experience per computer faculty guidelines.

**Recommended electives: CS 100, 101, 102, 103, 120, 123, 124, 130, BU 141, 152, 160, 173, 179, 221, 224, EC 180, and MA 157.

Office Technology: Administrative (A.A.S.) A.P.C. - 625

The Office Technology: Administrative Program provides the necessary foundation for positions as administrative assistants, secretaries, stenographers, and receptionists in support positions in computerized offices in business, government, and industry. Concentrations may be elected in Medical, Legal, or Desktop Publishing.

FIRST YEAR

First Semester

BU 133 Beginning Keyboarding or	
BU 134 Intermediate Keyboarding*	3
BU 131 Beginning Shorthand or Electives	5
EN 125 Freshman English I	3
Mathematics or Science	3-4
Microcomputers	2
	<hr/>
	16-17

Second Semester

BU 283 Intermediate Shorthand	4
BU 137 Business Communications	3
Social Science Elective	3
BU 239 Intro. to Word Processing	3
BU 134 Intermediate Keyboarding	0-3
Business Elective	3
	<hr/>
	16-19

SECOND YEAR

First Semester

BU 233 Advanced Shorthand or Concentration	4
BU 235 Administrative Support Procedures I	3
Concentration***	2-3
Liberal Arts Elective	3
BU 240 Word Processing Applications I	3
Physical Education	1
	<hr/>
	16-17

Second Semester

BU 236 Administrative Support Procedures II or	
Concentration***	3
BU 230 Machine Transcription	3
Concentration***	3
Liberal Arts Electives	7-8
Physical Education	1
	<hr/>
	17-18

A minimum of 65 semester hours are required for graduation, including 20 semester hours of liberal arts and science courses in addition to 2 semester hours of physical education is required for graduation.

*Depending on preparation-completion of BU 134 required for graduation.

**A biological science course is recommended for those students planning to take the medical concentration and who have not completed high school biology course.

***Office Technology majors who wish to concentrate in one of the following areas, should take 12 credits from the courses identified below:

<i>Medical:</i> BU 283,	<i>Legal:</i> BU 273,	<i>Desktop</i> GA 101,
BU 285,	BU 274,	<i>Publishing:</i> GA 104,
BU 287,	BU 275,	BU 241,
BU 288,	BU 276	BU 249,
or BI 181	BU 125	or IN 299
	BU 171	
	or BU 172	

**Office Technology: Word/Information Processing (A.A.S.)
A.P.C. - 625**

The Office Technology: Word/Information Processing (A.A.S.) Program provides the necessary foundation for positions in offices

with modern computer-oriented word/information processing systems in business, government, and industry.

Program prerequisite: BU 133 Beginning Keyboarding or equivalent.

FIRST YEAR

First Semester

BU 134 Intermediate Keyboarding	3
BU 239 Introduction to Word Processing	3
EN 125 Freshman English I	3
CS 100, 102, 103	1,1,1
Business Elective	3
Physical Education	1
	<hr/>
	16

Second Semester

BU 137 Business Communications	3
English Elective	3
BU 240 Word Processing Applications I	3
Liberal Arts Electives	6
Physical Education	1
	<hr/>
	16

SECOND YEAR

First Semester

BU 235 Adm. Support Procedures I	3
Mathematics or Science	3-4
BU 241 Word Processing Applications II	3
HD 221 Human Relations & Group Dynamics	3
BU 230 Machine Transcription	3
	<hr/>
	15-16

Second Semester

BU 236 Adm. Support Procedures II	3
Electives	5
BU 259 Word Processing Management	3
BU 249 Word Processing Practicum or IN 299 Internship	3
Social Science Elective	3
	<hr/>
	17

A student must have completed BU 133 or equivalent.

Suggested Electives: CS 110, GA 104.

TECHNOLOGIES

Automotive Technology (A.A.S.) A.P.C. - 525

Automotive Technology Program is designed to produce persons who, in addition to being knowledgeable in their chosen field, will have a basic background in the Arts and Sciences. Students in this program are expected to provide their own safety footwear, limited hand tools, and other personal items appropriate for automotive laboratory classes.

FIRST YEAR

First Semester

AT 121 Introduction to Automotive Function**	3
AT 122 Theory of Internal Combustion Engines**	3
Mathematics*	3-4
SC 161 Introduction to Physics I	3
AT 124 Automotive Electrical Systems	3
Microcomputers	1
	<hr/>
	16-17

Second Semester

AT 123 Internal Combustion Engine Support Systems**	3
Mathematics or Elective*	3-4
SC 162 Introduction to Physics II	3
EN 125 Freshman English I	3
Social Science Elective	3
Microcomputers	1
	<hr/>
	16-17

SECOND YEAR

First Semester

AT 225 Automotive Chassis Systems**	3
EN 126 Freshman English II or	
EN 127 Technical English	3
Electives	6
Social Science Elective	3
Physical Education	1
	<hr/>
	16

Second Semester

AT 227 Electronic Engine & Chassis Analysis**	3
AT 288 Consumer Relations & Services	3
AT 266 Power Trains—Design Features & Analysis	3
Electives	6
Physical Education	1
	<hr/>
	16

*Math placement depending upon preparation, competence at level of MA 142 or higher required.

Suggested Electives: BU 101, BU 103, EL 125, HD 150, MA 144, MD 171.

Minimum of 64 semester hours required for graduation, including two hours of physical education.

**Course meets at the Voc-Tech Center. Students make own transportation arrangements.

Computer Technology (A.A.S.) A.P.C. - 559

The Computer Technology Program offers students training in electronics, computer hardware, and software programming areas.

The program is designed to allow a graduating student to transfer to a four year institution for further training in Computer Technology. This program is the combination of hardware and software study required by industry for computer designer and computer engineering personnel.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
EL 125 Electricity I	4
MA 161 Mathematics for Electrical Technology or	
MA 157 Calculus I	4
SC 161 Introduction to Physics or	
PH 171 Physics I	3-4
EL 127 Instrumentation	2
Microcomputers	1
	<hr/>
	17-18

Second Semester

EN 126 Freshman English II or	
EN 127 Technical English	3
EL 126 Electricity II	4
EL 232 Digital Electronics	3
MA 162 Mathematics for Electrical Technology or	
MA 158 Calculus II	4
SC 162 Introduction to Physics or	
PH 172 Physics II	3-4
Microcomputers	1
	<hr/>
	18-19

SECOND YEAR

First Semester

EL 236 Intro. to Microprocessors	4
TC 229 Electronics for Computer Technology	4
MD 176 Electrical Graphics	3
CS 124 Pascal	3
Social Science Elective	3
Physical Education	1
	<hr/>
	18

Second Semester

TC 237 Advanced Microprocessors	4
Computer Science Elective*	3
TC 238 Computer Peripherals and Data Communications	3
Elective*	3
Social Science Elective	3
Physical Education	1
	<hr/>
	17

Computer Science Electives may include: CS 113 Programming Assembler, CS 120 Programming Fortran.

*Computer Technology students should check with the four year college to determine which computer science courses are appropriate for transfer.

Construction Technology (A.A.S.) A.P.C. - 540

The Construction Technology curriculum is designed to prepare technicians to secure gainful employment with contractors, engineers, architects, public works departments, and material manufacturers. The technical education offered in this curriculum contains a well-designed balance of theories and laboratory studies, providing

a graduate with a broad knowledge of the construction field. Students in this program are expected to provide their own safety footwear, limited hand tools and personal items appropriate for construction technology laboratory classes.

FIRST YEAR

First Semester

CT 121 Intro. Bldg. Trades & Const. Materials	3
CT 124 Blueprint Reading	3
MD 171 Engineer Graphics	3
EN 125 Frosh. English I.....	3
Mathematics*	3-4
Microcomputers	1
	16-17

Second Semester

CT 122 Lt. Frame I.....	3
CT 225 Masonry, Con. & Steel	3
CT 230 Pr. Soils	1
EN 126 Frosh. English II or EN 127 Tech. Eng.	3
Math or Elective*	3-4
Social Science Elective*	3
Microcomputers	1
	17-18

SECOND YEAR

First Semester

CT 123 Lt. Frame II	3
CT 226 Plumb. & Clim. Control	3
CT 229 Electrical Wiring	3
SC 161 Intro. to Physics I*	3
Elective*	3
Physical Education	1
	16

Second Semester

CT 228 Estimating	3
SU 101 Surveying	3
MD 180 Arch. Drafting	3
Soc. Sci. Elective	3
Elective*	3
Physical Education	1
	16

Minimum of 65 semester hours required for graduation, including two hours of physical education.

Suggested Electives: BU 101, BU 103, BU 121, BU 171, HD 150, MA 144, MA 151, EL 125, CT 131, CT 132.

*Math placement depending upon preparation, competence at level of MA 142 or higher required.

**Course meets at sites other than main campus. Students make own transportation arrangements.

Criminal Justice (A.A.S.) A.P.C. - 640

This program is designed to prepare students for careers with federal, state, county and local enforcement organizations. The courses are concerned with fulfilling the educational needs of students, both male and female, aiding them in becoming efficient and knowledgeable criminal justice personnel. The program is open, as well, to those who are currently employed in law enforcement.

STUDENTS PLEASE NOTE: Many criminal justice agencies require applicants to meet qualifying entrance requirements. Students pur-

suing careers in these agencies should be aware of conditions that may disqualify applicants for employment, based on health, physical conditions, or character.

FIRST YEAR

First Semester

EN 125 Freshman English I.....	3
CJ 106 Introduction to Criminal Justice	3
Elective or Science (SC 130 suggested)	3-4
SS 281 Introduction to Sociology	3
CJ 103 Criminal Law I.....	3
Microcomputers	1
	16-17

Second Semester

EN 126 Freshman English II	3
CJ 104 Criminal Law II	3
CJ 105 Fundamentals Of Criminal Investigation	3
Mathematics (MA 160 suggested)	3-4
SS 291 General Psychology	3
Microcomputers	1
	16-17

SECOND YEAR

First Semester

CJ 112 Introduction to Police Organization & Management	3
CJ Elective	3
EN 132 Speech	3
CJ 109 Criminology	3
Elective or Science (SC 130 suggested)	3-4
Physical Education	1
	16-17

Second Semester

HU 258 Ethics or Liberal Arts Elective	3
CJ 107 Police Community Relations	3
CJ 111 Introduction to Public Administration	3
Social Science Elective	3
Elective	3
Physical Education	1
	16

Recommended Electives: CJ 108, CJ 113, CJ 118, CJ 121.

Minimum of 64 semester hours required for graduation, including two hours of physical education and a minimum of 3 hours of science.



Electrical Technology (A.A.S.) A.P.C. - 555

This program is designed for those students who plan to seek employment after two years at Fulton-Montgomery Community College as engineering technicians, electrical draftsmen, lab assistants and service technicians. The program also prepares students for transfer into Bachelor of Technology programs. An interest in electricity and electronics and a degree of manual dexterity are assets. Students in this program may be required to provide their own electronic calculators and small hand tools.

Prerequisite: High school algebra. Trigonometry and physics are desirable. If a student's math-science level of competence does not equal or exceed the prerequisite, that student should consider a pre-technology course of study.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
EL 125 Electricity I	4
MA 161 Mathematics for Electrical Technology or	
MA 157 Calculus I	4
SC 161 Intro. to Physics or	
PH 171 Physics I	3-4
EL 127 Instrumentation	2
Physical Education	1
Microcomputers	1
	18-19

Second Semester

EN 126 Freshman English II or	3
EN 127 Technical English	
EL 126 Electricity II	4
EL 232 Digital Electronics	3
MA 162 Mathematics for Electrical Technology or	
MA 158 Calculus II	4
SC 162 Intro. to Physics or	
PH 172 Physics II	3-4
Microcomputers	1
	18-19

SECOND YEAR

First Semester

EL 236 Intro. to Microcomputers	4
EL 229 Electronics I	5
EL 231 Electrical Machines	3
MD 176 Electrical Graphics	3
Physical Education	1
	16

Second Semester

**EL 230 Electronics II	5
**EL 234 Telecommunications	3
*EL 235 Industrial Electronics and Robotics	3
Social Science Electives	6
	17

Students planning to transfer should see an advisor for appropriate course selection. The following courses are recommended by most four-year institutions for students in Electrical Technology: MA 157, MA 158, PH 171, PH 172, and Computer Programming as available.

Minimum of 69 hours required for graduation including 2 hours of physical education.

Food Service Administration (A.A.S.) A.P.C. - 570

The Food Service Administration curriculum is designed to develop technical competence and prepare students for supervisory trainee positions in the food processing, restaurant and related industries. It also allows for concentration in Institutional Foods, Restaurant Management, or Diet and Nutrition. Students in the program are expected to provide their own white uniforms and other appropriate items for use in food service laboratory classes. Uniform specifications will be provided by the instructor.

FIRST YEAR

First Semester

FS 121 Intro. to Food Service & Sanitation	3
FS 122 Food Preparation I**	3
HE 121 Nutrition	3
EN 125 Freshman English I	3
SC 141 Intro. to Biology I, BI 171, or BI 181	3-4
Microcomputers	1
	16-17

Second Semester

FS 123 Food Purchasing**	3
FS 124 Food Preparation II**	3
HE 125 Advanced Nutrition	3
EN 126 Freshman English II or	
ENG 127 Technical English	3
BU 103 Math of Business Finance	3
Microcomputers	1
	16

SECOND YEAR

First Semester

FS 224 Hospitality Management**	3
FS 225 Food & Beverage Cost Control**	3
Social Science Elective	3
Concentration Electives*	6
Physical Education	1
	16

Second Semester

FS 227 Food Service Organization & Management**	3
FS 228 Food Service Seminar*	3
Concentration Elective*	3
Social Science Elective	3
FS 130 Quality Food Internship	3
Physical Education	1
	16

Minimum of 64 semester hours required for graduation, including two hours of physical education, plus 20 semester hours of Liberal Arts.

*Food Service Majors should take courses in one of the following areas of concentration:

Institutional Foods

FS 226 Baking & Pastry
FS Elective
HD 221 Human Relations & Group Dynamics or HD 100

Restaurant Management

BU 121 Accounting I or BU Elective
BU/FS/CS Elective
HD 221 Human Relations & Group Dynamics or HD 100

Diet & Nutrition
 SC/BI/CH Elective
 FS 126 Diet Therapy
 FS Elective

Recommended Electives
 BU 101, BU 122, BU 171,
 BU 153, BU 140, BU 137
 FS 126, FS 130, FS 226
 MA 150, MA 160
 SC 131, SC 172, BI 181, BI 182

**Course may meet at site other than main campus. Students make own transportation arrangements. Students are required to purchase and maintain supportive utensils and clothing.

Leather Technology (A.A.S.) A.P.C. - 454

This program is designed to prepare students for careers in the leather industry. The courses are concerned with fulfilling the educational needs of students, aiding them in becoming efficient, knowledgeable, and skilled leather personnel.

The program is offered evenings to serve those who are currently employed in the local leather industry. Available evenings, part-time only.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Mathematics Elective	3-4
Chemistry	3-4
BU 101 Principles of Business	3
LT 101 Intro. to Leather Technology I	3
Microcomputers	1
	16-18

Second Semester

English Elective (EN 126, 127, or 132)	3
Math/Science Elective	3-4
Liberal Arts Elective	3-4
Business Elective	3
LT 102 Intro. to Leather Technology II	3
Microcomputers	1
	16-17

SECOND YEAR

First Semester

LT 221 Principles of Leather Technology (Pre-tanning)	3
LT 222 Leather Tanning and Coloring	3
Leather Technology Elective	3
Business Elective	3
Elective	3
Physical Education	1
	16

Second Semester

Social Science Elective	3
LT 223 Leather Finishing	3
Leather Technology Elective	3
Business Elective	3
Elective	3
Physical Education	1
	16

Suggested Electives: Biology, BI 282, Chemistry, BU 121, BU 122, BU 151, BU 153, BU 224, EC 180, CS 110, CS 123, NR 126, LT 130, LT 224, or LT 230.

Minimum of 64 semester hours required, including two hours of Physical Education and a maximum of 20 semester hours in Liberal Arts and Science.

Natural Resources Conservation (A.A.S.) A.P.C. - 617

The Natural Resources Conservation curriculum is designed to provide students with the educational background required to actively seek employment from government and private agencies in the areas of lands, parks and wildlife management. The Program has developed a close working relationship with the NYS Department of Environmental conservation and additional work experience-related independent study credits are available during summers, winter inter-session and fall and spring semesters. The program can also provide the flexibility to allow students to transfer to baccalaureate degree programs in conservation.

The SUNY College of Environmental Science and Forestry, and the SUNY College at Plattsburg provide upper division transfer programs in Environmental and Resource Management. In addition, Haywood Technical College (Clyde, North Carolina) provides the following certificate programs: Sawyer, Saw Filer, and Lumber Specialists. Students planning to transfer to these institutions must consult with their Instructor or see a Counselor before they begin their study at Fulton-Montgomery Community College.

FIRST YEAR

First Semester

NR 121 Fisheries and Wildlife Management I**	3
Social Science Elective	3
EN 125 Freshman English I	3
Mathematics or Elective*	3-4
SC 141 Introductory Biology I or	
BI 171 Modern Biology	3-4
Microcomputers	1
	16-18

Second Semester

NR 122 Fisheries and Wildlife Management II**	3
BI 173 Animal Biology	4
EN 126 Freshman English II or	
EN 127 Technical English	3
Mathematics	4
BI 176 Biology	3
Microcomputers	1
	18

SECOND YEAR

First Semester

NR 223 Forest Management I**	3
SC 143 Earth Systems	3
SU 101 Surveying	3
SC 170 Intro. Chemistry	3
Mathematics	3
Physical Education	1
	16

Second Semester

NR 224 Forest Management II**	3
NR 231 Conservation and Outdoor Recreation Skills	4
BI 172 Plant Biology	4
NR 126 Principles of Soil and Water**	3
Social Science Elective	3
Physical Education	1
	18

Suggested electives: PE 231, HE 136, CS 110, CS 123, CJ 103, CJ 104, CJ 105, CJ 106.

Minimum of 66 semester hours are required for graduation, including two hours of physical education.

*Math placement depending upon preparation, must include MA 142 or higher (Statistics recommended).

**Course meets at sites other than main campus. Students make own transportation arrangements. Overnight and weekend trips may be required in NR courses.

NOTE: Requirements are being revised; consult advisement office.

Water/Waste Resource Management Concentration (A.A.S.) A.P.C. - 617

This concentration is under development. For further information contact the Admissions Office.

Nursing (A.A.S.) A.P.C. - 622

The Nursing Science Program offers a four-semester curriculum which provides a balance of Liberal Arts and nursing as illustrated below. The nursing courses provide theoretical knowledge combined with clinical experience in a variety of hospital settings and community agencies. Graduates of this program are prepared to take the New York State licensing examinations to become Registered Nurses (R.N.) and are qualified to assume beginning staff nurse positions in five major clinical areas: Medical, Surgical, Maternity, Pediatric, and Psychiatric Nursing.

Prerequisites: High School Biology or equivalent, medical examination. Algebra and chemistry are recommended. Students are required to carry their own liability insurance.

Because of the large number of applications to the Nursing Program, it is recommended that applications for admission be on file by December 1. The final date for receipt of applications is listed in the College calendar.

FIRST YEAR

First Semester

BI 181 Anatomy & Physiology I.....	4
SS 291 General Psychology	3
NU 105 Nursing Science I**	7
Physical Education	1
	<hr/>
	15

Second Semester

EN 125 Freshman English I	3
BI 182 Anatomy & Physiology II	4
SS 297 Developmental Psychology	3
NU 106 Nursing Science II**	7
Physical Education	1
	<hr/>
	18

SECOND YEAR

First Semester

BI 282 Microbiology	4
NU 105 Nursing Science III**	9
EN 126 Freshman English II	3
	<hr/>
	16

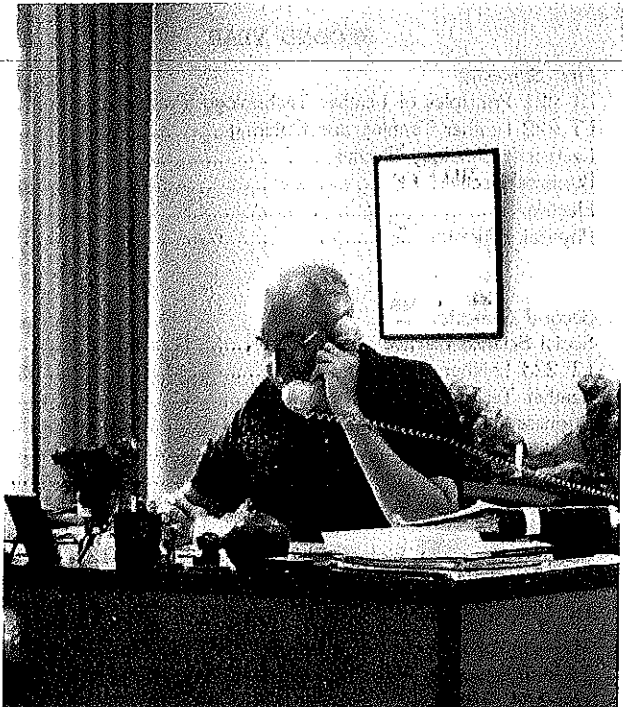
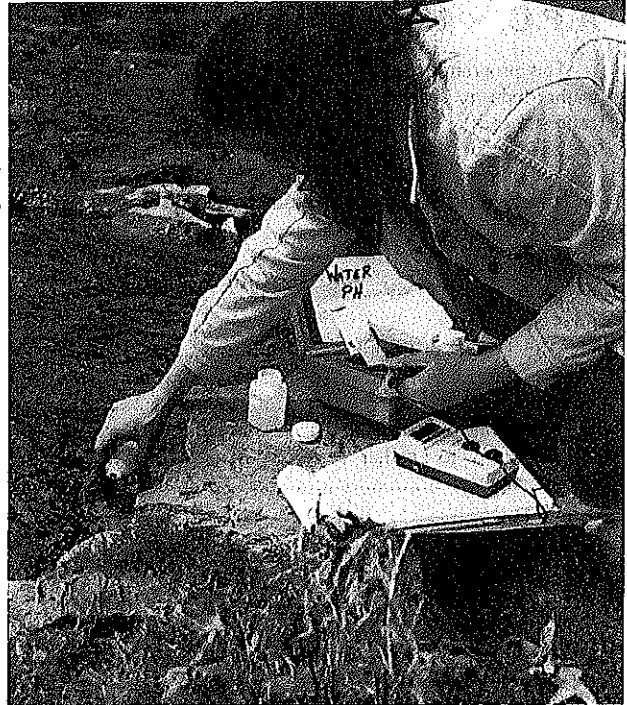
Second Semester

NU 206 Nursing Science IV**	9
SS 281 Sociology	3
Elective	3-4
	<hr/>
	15-16

Minimum of 64 semester hours required for graduation, including two hours of physical education.

**To qualify for the next sequential nursing course, the student must earn a grade of C or higher in nursing and pass the clinical laboratory. Students are expected to provide uniforms to wear in laboratory periods. Some courses meet at sites other than main campus. Students make their own transportation arrangements. Students will be responsible for all fees for nursing tests taken in their second year.

A four-week preceptorship is required for graduation and is included in NU 206.



Textile Technology (A.A.S.) A.P.C. - 663

This program is designed to prepare students for careers in the Textile industry. The courses are concerned with fulfilling the educational needs of students, aiding them in becoming efficient, knowledgeable, and skilled textile personnel.

The program is offered evenings to serve those who are currently employed in the local textile industry. Available evenings, part-time only.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
Mathematics Elective	3-4
Chemistry Elective	3-4
EC 180 Intro. to Economics	3
TT 101 Intro. to Textile Technology I	3
Microcomputers	1
	<hr/>
	16-18

Second Semester

English Elective (EN 126, 127, or 132)	3
Math/Science Elective	3-4
Social Science Elective	3
Business Elective	3
TT 102 Intro. to Textile Technology II	3
Microcomputers	1
	<hr/>
	16-17

SECOND YEAR

First Semester

TT 201 Textile Technology	3
TT 202 Textile Dyeing	3
TT 204 Textile Finishing	3
Business Elective	3
Elective	3
Physical Education	1
	<hr/>
	16

Second Semester

Liberal Arts Elective	3
TT 203 Advanced Textile Dyeing	3
TT 205 Advanced Textile Finishing	3
Business Elective	3
Elective	3
Physical Education	1
	<hr/>
	16

Minimum of 64 semester hours required for graduation, including two hours of Physical Education and a minimum of twenty semester hours in Liberal Arts and Science.

Visual Communications Technology A.P.C. - 677

The Visual Communications Technology curriculum is designed to prepare technicians to seek employment in the graphic areas of the visual communications industry. Emphasis will be directed in the areas of layout and design, photo composition, paste-up and copy preparation, reproduction camera work, stripping, offset platemaking, press work, finishing and related areas. Special emphasis is on the development of contemporary job skills in areas such as offset lithography and photography. Technical knowledge of science

oriented areas, such as chemistry, physics and mathematics are developed. A balance of practical application and theory will enable the individual to seek supervisory and technician positions in printing and publishing of newspapers, magazines, books and the advertising field; including specialty and general printing for commercial, job shop and in-plant printing units. The program is also designed to provide some flexibility for transfer to schools offering baccalaureate degrees in graphic communications.

FIRST YEAR

First Semester

GA 101 Intro. to Graphic Comm. Technology**	3
ER 101 Principles of Photography	3
EN 125 Freshman English I	3
Keyboarding/Computer Applications Option***	3
AR 150 Basic Design	3
Physical Education	1
	<hr/>
	16

Second Semester

GA 103 Adv. Graphic Comm. Technology	3
GA 104 Composition & Desktop Publish. Sys.	3
EN 126 Freshman English II or	
EN 127 Technical English	3
Mathematics*	3-4
Elective	3
Physical Education	1
	<hr/>
	16-17

SECOND YEAR

First Semester

GA 105 Graphic Arts Layout & Design	3
GA 106 Graphic Arts Production**	3
SC 170 Intro. Chemistry	3
Elective	3
Social Science Elective	3
	<hr/>
	15

Second Semester

GA 107 Production Management**	3
ER 102 Advanced Photography	3
Elective	5-6
SC 162 Physics	3
Social Science Elective	3
	<hr/>
	17-18

Suggested electives: BU 170, CS 110, CS 100-101, CS 121, GA 108, ER 150, ER 151, AR 200.

Minimum of 64 semester hours required for graduation, including 2 hours of physical education.

*Mathematics placement dependent upon preparation, competence at level of MA 142 or higher required.

**Laboratories meet at Voc-Tech Center. Students make own transportation arrangements.

***Three credits of course work to be selected from: BU 113, BU 123, BU 133, BU 100, CS 100, and CS 101.

INDIVIDUAL STUDIES PROGRAMS (A.O.S.)

Science Elective****	3-4
EN 125 Freshman English***	3
Career Elective*	3
	12-14

Associate in Occupational Studies

The Individual Studies Program can be of three types:

- one-semester program (12-18 credits)
- one-year certificate program (24-36 credits) A.P.C. - 987
- two-year degree (A.O.S.) program (60-62 credits) A.P.C. - 688

These programs will be designed to provide specialized study for students with clearly identified career goals or special educational needs *which cannot be met by existing programs*. Specific programs will be developed individually by the student and three faculty members.

Programs of study will include regular courses, independent and directed study, field work, prior educational experience, and prior work experience. Distribution of credits in these areas will follow existing college policy. In addition, at least half of the credits must be directly related to the students *career* goal or special educational needs.

Procedures to be followed in the development of these programs are as follows: consultation with three faculty mentors to review the student's academic background and *career* and educational goals, development of a detailed proposal in which the program of study and its relationship to the student's career goals or special educational needs are described, approval by mentors, and approval by the Associate Dean for Career Education or Dean for Liberal Arts and Sciences.

The purpose of these programs is to provide greater curriculum flexibility, breadth, and depth in response to individual student *career* objectives or special educational needs *which cannot be met by existing programs*, to provide opportunity for students to explore fields at the College before making a more definite educational choice, to provide greater advanced placement opportunity, and to provide for an articulated series of programs which encourage individuals to return to college for updating or retraining (one-semester programs) as well as for additional specialization provided by the one-year certificate and two-year degree programs.

For further information contact the Admissions Office.

*Based on program instructor recommendation. May include: AR 150, AT 121, AV 101, BU 100, BU 101, BU 103, BU 116, BU 133, CJ 106, CS 100, CS 101, CS 102, CS 103, CT 121, EL 127, ER 101, FS 121, GA 101, and HE 136.

**Based on test results, an elective may be substituted.

***Based on test results, a higher-level course may be substituted.

****Biology, Chemistry, Physics, or Science must be selected.

Note: Upon completion of both modules a Career Studies/Individual Studies Certificate will be awarded.

Individual Studies Certificate A.P.C. - 987 Collaborative Career Learning Program

In this innovative program, students learn career skills in fields in which jobs are available locally. Although similar to cooperative education and internship programs, the COCAL program requires that students learn basic career skills at job sites without pay. Students learn from practicing professionals who follow competency guidelines prescribed by the College and based on Dictionary of Occupational Titles specifications, National competency catalogs, and employer input. Students combine collaborative career learning with 12-18 credits of related college course work to earn a one-year certificate in Individual Studies.

Students include displaced homemakers, young high school graduates interested in "hands-on" learning and immediate employment, as well as students interested in career exploration prior to committing themselves to four years of college. The primary goal of the program is employment upon graduation. Enrollment is competitive.

<i>First Semester</i>	
CL 191 Collaborative Career Learning	8
Related Electives*	6-9
	14-17

<i>Second Semester</i>	
CL 199 Professional Career Prep.	1
CL 192 Collaborative Career Learning	8
Related Electives*	6-9
	15-18

Career fields available each year based on local employment opportunities. Examples of these are:

- Automotive Marketing Assistant
- Attorney's Assistant (Specialized)
- Bank Teller/Supervisor
- Business Machine Repairer
- Color Photography Technician
- Dental Assistant
- Electronic Graphic Artist
- Hotel/Motel Management Assistant
- Industrial Maintenance Mechanic
- Insurance Office Assistant
- Intake/Mediation Coordinator
- Newswriting/Editing
- Optometric Office Assistant
- Quality Control Specialist

Individual Studies Certificate A.P.C. - 987 Career Preparation Concentration

This concentration is designed to develop academic background and provide an articulated program of study leading to a certificate and/or associate degree. An individualized plan of study can be developed based on the modules outlines below. The student, academic advisor, and career education faculty member will provide input into the plan of study.

Career Education Module (Pre-Testing & Placement Required)	
SC 121 Basic Skills for Science and Technology	3
CL 199 Professional Career Preparation	1
Career-Related Elective* or	
HD 100 Studies of the Person	3
HD 150 Reading and Study Skills**	3
EN 124 Basic English***	3
	13

Technical Module (Career Education Module or H.S. Diploma Required)	
MA 147 Algebra or	
MA 141 Technical Mathematics	3-4

Radio Announcing/Reporting
Retail Merchandising Assistant
Travel Agent Assistant
Water/Wastewater Treatment Plant Assistant

Specific career study programs change from semester to semester. Check with the Office of the Academic Deans/COCAL for current listings.

*Courses to be selected from college course offerings with the approval of COCAL program supervisor.

Individual Studies (A.O.S.) A.P.C. - 688 COCAL Concentration

This two-year concentration is a recommended individualized sequence of study designed to combine COCAL certificate study with additional study in career-related areas. AOS COCAL concentrations cannot duplicate existing Career Education programs. An Associate in Occupational Studies degree can be achieved upon completion of a minimum of 60 credits.

COCAL Modules:

COCAL I & Related Electives	12-15
COCAL II & Related Electives*	12-15

*Individual Studies certificate awarded upon completion. All credit can be applied toward an AOS degree.

AOS Modules:

Related Electives**	12-13
Related Electives**	12

**Related electives must include all applicable recommended electives in the COCAL certificate program and additional career education and liberal arts and science courses as approved by the faculty mentor committee and Dean of Career Education.

For additional information contact the Admissions Office.

Individual Studies (A.O.S.) A.P.C. - 688 Professional Pilot Concentration

This two-year concentration in Air Science is a special individualized program leading to an Associate in Occupational Studies Degree. It is designed to combine general education, air science ground school, elective, and off-campus flight experience at FAA 141 approved schools and building a unique degree to meet individual needs and goals.

Four levels of training are included: Private Pilot, Instrumental Rating, Commercial, and Flight Instructor.

Graduates may be employed as pilots or instructors. Industry, the military, private corporations, airlines, and government agencies have a need for highly skilled college trained pilots.

FIRST YEAR

<i>First Semester</i>	
AV 101 Air Science I	3
Mathematics	3-4
SC 161 Intro. to Physics or	
PH 171 General Physics	3-4

EN 125 Freshman English I	3
Physical Education	1
	<hr/> 13-15

Second Semester

AV 102 Air Science II	3
EN 126 Freshman English II or	
EN 127 Technical English	3
Social Science Elective	3
Elective	3
Physical Education	1
	<hr/> 13

(SUMMER FLYING EXPERIENCE WILL BE REQUIRED)

SECOND YEAR

First Semester

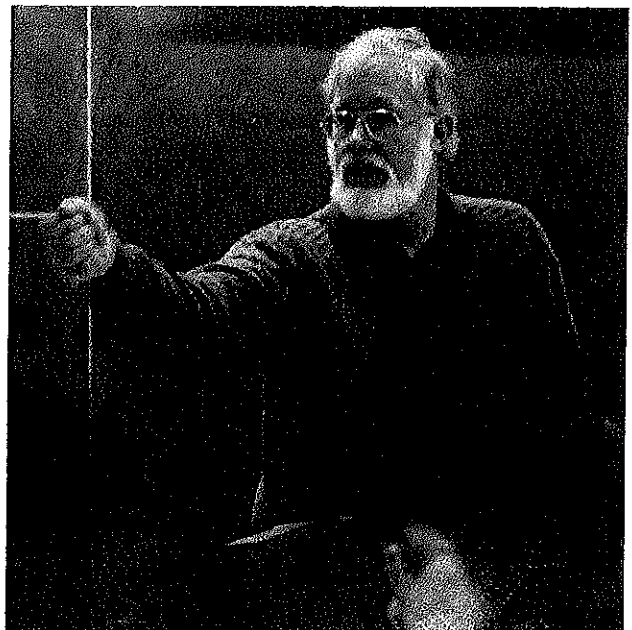
AV 201 Air Science III	3
Social Science Elective	3
Electives	11
	<hr/> 17

Second Semester

AV 202 Air Science IV	3
Humanities Elective	3
Electives	11
	<hr/> 17

Minimum of 60 semester hours required for graduation, including two hours of Physical Education (30 Semester hours must be earned at FMCC) AND successful flight experience (FAA certification through flight instructor rating). FAA required written examinations are available through the college.

NOTE: The cost of flight experience (off campus) is not included in the estimated costs listed in this catalog. Flight costs are established by the flight school involved and are paid directly to the flight school. The College does not provide flight experience. A list of FAA 141 approved flight schools is available upon request.



ONE-PLUS-ONE DEGREE PROGRAMS

In cooperation with the State University Agricultural and Technical Colleges at Canton and at Cobleskill, and with the College of Environmental Science and Forestry, Fulton-Montgomery Community College offers "one-plus-one" programs in the following areas:

with Canton:

- Industrial Technology
- Mortuary Science
- Science Laboratory Technology (Biology Concentration)
- (Chemistry Concentration)
- (Milk & Food Quality Control)

with Cobleskill:

- Biological Technology
- Chemical Technology
- Floriculture
- Public Health Technology (Environmental Health)
- Medical Laboratory Technology
- Histotechnology

with College of Environmental Science & Forestry:
Forest Technology

A student in a one-plus-one program spends the first year at Fulton-Montgomery taking courses prescribed for the program. Upon successful completion of this first year (minimum of 1.75 average), the student is guaranteed transfer into the program at Canton, Cobleskill or Forestry for the final year of the program and the award of the Associate degree. A second application is necessary during the first year (except Forestry Technology which requires admission by ES&F before starting at FMCC). The Office of Career Planning assists students with the transfer process.

Science Laboratory Technology (A.A.S.)

A.P.C. - 584

Milk & Food

Quality Control Concentration

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English I	3
BI 171 Modern Biology or	
SC 141 Introduction to Bio. I	3-4
CH 173 Fundamentals of Chem. I	4
Social Science Elective	3
Mathematics	3-4
	16-18

Second Semester

EN 126 Freshman English II or	3
EN 127 Technical English	3
BI 282 Microbiology	4
CH 174 Fundamentals of Chem II	3
Social Science Elective	3
Physical Education	1
	14

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

10301 Dairy & Food Sci. I	3
10220 Careers	1

10201 Prin. of Env. Health	3
10210 Dairy & Food Micro.	4
10304 State Lic. for Milk	3
10212 Field Bio. & Ecol. or	
10109 An. Science or	3-4
19213 Freshwater Bio.	
	17-18

Second Semester

10302 Dairy & Food Sci. II	3
10303 Food Prod. Eval.	2
10306 Elem. of Food Sanitation	4
10305 Water Supplies & Sewage Treatment	3
10211 Envir. Microbiology	3
10307 Dairy Lab Instrumentation	2
	17

GRADUATION REQUIREMENTS: Total Semester Credit Hours: 64.

Industrial Technology (A.A.S.) A.P.C. - 583

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English I	3
PH 171 Physics I	4
EL 125 Electricity	4
MA 151 Inter. Algebra or MA 142	4
MD 171 Engineering Graphics	3
Physical Education	1
	19

Second Semester

EN 126 Freshman English II, or	3
EN 127 Technical English	3
PH 172 Physics II	4
EL 126 Electricity	4
MA 154 Mathematics or MA 151	4
Physical Education	1
	16

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

30310 Strength of Materials	4
40614 Basic Calculus	4
Technical Electives*	8
	16

Second Semester

30421 Electronics	4
30621 Fluid Power Systems	4
Social Science	3
Technical Electives*	5-6
	16-17

*Technical Electives:

- 30604 Manufacturing Processes I
- 30202 Automotive Welding
- 30303 Elementary Surveying
- 30304 Construction I
- 30624 Shop Practice

- 30605 Engineering Drawing II
- 30607 Manufacturing Processes II
- 30307 Construction Drafting
- 30306 Hydraulics
- 30117 Introduction to Alternate Energy
- 30108 Plumbing Design
- 30314 Project Management
- 30614 Work Simplification & Measurement
- 30118 Active & Passive Energy Systems I
- 30619 Quality Control
- 30620 Production Planning
- 30119 Active & Passive Energy Systems II
- 30002 Computer Applications

GRADUATION REQUIREMENTS: Total semester hours - 64.

Mortuary Science (A.A.S.) A.P.C. - 599

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>	
EN 125 Freshman English I	3
BU 101 Prin. of Business	3
BU 171 Business Law	3
Social Science Elective	3
BI 181 Anat. & Phys.	4
	16

<i>Second Semester</i>	
EN 132 Speech	3
BI 182 Anat. & Phys.	4
BU 121 Accounting I	3
BU 165 Small Bu. Mgt.	3
Social Science Elective	3
Physical Education	1
	17

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>	
10501 Intro. to Fun Service	3
10502 Funeral Service	3
10503 Clin. Theory, Pract. & San. I	4
10219 Pathology	3
41001 Sociology	3
	16

<i>Second Semester</i>	
10504 Clin. Theory, Pract. & San. II	4
10506 Senior Seminar	3
10508 Restorative Art	4
10509 Mort. Hyg. & San. Sci.	3
Social Science Elective	3
	17

<i>Summer</i>	
10507 Clinical Practicum	2

GRADUATION REQUIREMENTS: Total Semester Credit Hours—65.

Science Laboratory Technology (A.A.S.) A.P.C. - 584 Biology Concentration

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>	
EN 125 Freshman English I	3
BI 171 Modern Biology	4
CH 173 Fund. Chemistry I	4
Mathematics Elective	4
Physical Education	1
	16

<i>Second Semester</i>	
EN 126 Freshman English II	3
BI 172 Plant Biology	4
CH 174 Fund. Chemistry II	4
BI 282 Microbiology	4
Social Science Elective	3
	18

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>	
10220 Careers	1
Social Science	3
Electives (4)	
40109 Quantitative Analysis (Strongly rec.)	4
10212 Field Bio. & Ecol.	3
10201 Princ. of Env. Health	3
10210 Dairy & Food Micro.	4
10101 Soil Science	3
10301 Dairy & Food Sci. I	3
10213 Freshwater Biology	4
	16

<i>Second Semester</i>	
Electives (4-5)	
40111 Biochemistry	3
10223 Microtechniques	3
40110 Instru. Analysis	3
10107 Land Mgmt. & Conservation	3
10211 Env. Microbiology	3
10711 Research An. Handling Skills	1
10305 Water Supplies & Sewage Treatment	3
10207 Human Anat. & Phys.	4
40615 Statistics	3
10412 Medical Microbiology	3
10402 Hematology	2
	16

GRADUATION REQUIREMENTS: Total Semester Credit Hours—64.

Biological Technology (A.A.S.) A.P.C. - 614

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English I	3
CH 173 Fund. Chemistry I	4
BI 171 Modern Biology	4
Mathematics (MA 154 suggested)	3-4
Physical Education	1
	15-16

Second Semester

EN 127 Technical English or EN 126 Freshman English II	3
CH 174 Fund. Chemistry II	4
BI 173 Animal Biology	4
Mathematics (MA 160 suggested)	3-4
SS Elective	3
	17-18

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

BI 119 Microbiology	4
MA 105 Comp. & Graph.	2
Specialization Elec.	6
Electives	5
	17

Second Semester

BI 260 (3) or CH 224 (4)	3-4
SS Elective	3
Physical Education	1
BI 118 Human Physiology	3
Specialization Elective	3
Elective	4
	17-18

GRADUATION REQUIREMENTS: a minimum of 66 semester hours with 33 semester hours to have been completed on the Cobleskill campus.

SPECIALIZATION ELECTIVES: courses with BI, CH, EH, MA, or PH numbers offered on the Cobleskill campus other than BI 111-112, CH 111-112 or CH 121-122, BI 118, BI 119, BI 260, CH 224, or MA 105 or their equivalents at FMCC. Students must take a minimum of 8 semester hours of specialization electives (9 s.h. will be required of students who take BI 260).

Chemical Technology (A.A.S.) A.P.C. - 535

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English I	3
CH 173 Fund. Chemistry I	4
Mathematics*	3-4
Elective	2-3
Social Science Elective	3
Physical Education	1
	16-18

Second Semester

EN 127 Technical English or EN 126 Freshman English II	3
CH 174 Fund. Chemistry II	4
Mathematics*	3-4
Social Science Elective	3
Elective	3
Physical Education	1
	17-18

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

CH 231 Organic Chemistry I	4
CH 221 Quantitative Analysis	3
MA 105 Comp. and Graph. Tech.	2
Specialized Science Electives**	6-7
	15-16

Second Semester

CH 232 Organic Chemistry	4
CH 224 Instr. Analysis	3
Specialized Science Electives**	5-6
Electives	5
	17-18

GRADUATION REQUIREMENTS: Total semester hours—66, with 33 hours completed at Cobleskill.

*Mathematics placement dependent upon preparation, competence in intermediate algebra required.

**Courses chosen from biology, chemistry, physics, math, data processing, or physical science.

Floriculture (A.A.S.) A.P.C. - 643

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English I	3
Social Science Elective	3
BI 171 Modern Biology	4
Electives	6
Physical Education	1
	17

Second Semester

EN 127 Technical English or EN 126 Freshman English II	3
Social Science Elective	3
BI 172 Plant Biology	4
Electives	6
Physical Education	1
	17

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

OH 111 Floral Design I	3
OH 131 Floriculture	3
PH 113 Plant Science Laboratory Techniques	1
PH 141 Nursery Management I	3
PH 181 Plant Pathology	3

OH 200-210 Plant Science Occupational Experiences	1
OH 251 Greenhouse Management	3
	<u>17</u>

Second Semester

OH 172 Flower Shop Management	3
OH 186 Entomology	3
PH 114 Plant Science Laboratory Techniques	1
OH 212 Floral Design II	3
OH 200-210 Plant Science Occupational Experiences	1
PH 232 Floriculture II	3
AG 111 Introduction to Soil Science	3
	<u>17</u>

GRADUATION REQUIREMENTS: Total Semester Hours—68.

**Public Health Technology (A.A.S.)
A.P.C. - 624
Environmental Health Concentration**

**FIRST YEAR—FULTON MONTGOMERY
COMMUNITY COLLEGE**

First Semester

EN 125 Freshman English I	3
CH 173 Fund. Chemistry I	4
BI 171 Modern Biology	4
Mathematics*	3-4
Physical Education	1
	<u>15-16</u>

Second Semester

EN 127 Technical English or EN 126 Freshman English II	3
CH 174 Fund. Chemistry II	4
BI 173 Animal Biology	4
BI 282 Microbiology	4
Mathematics*	3-4
	<u>18-19</u>

**SECOND YEAR—COBLESKILL AGRICULTURAL AND
TECHNICAL COLLEGE**

First Semester

EH 102 Environmental Health II	2
EH 207 Milk and Food Sanitation	3
PH 111 Physics I	4
Specialization Elective	3
MA 105 Fund. and Graph.	2
Social Science Elective	3
	<u>17</u>

Second Semester

EH 101 Environmental Health I	2
Social Science Elective	3
Specialization Elective	5
Electives	5-7
Physical Education	1
	<u>16-18</u>

GRADUATION REQUIREMENTS: Total semester hours—66, with 33 hours completed at Cobleskill.

*Mathematics placement dependent upon preparation, competence at level of MA 154 or higher required.

**Medical Laboratory Technology
(A.A.S.)**

A.P.C. - 600

Histotechnology Concentration

**FIRST YEAR—FULTON-MONTGOMERY
COMMUNITY COLLEGE**

First Semester

EN 125 Freshman English I	3
CH 173 Fund. Chemistry I	4
BI 171 Modern Biology	4
Mathematics Elective*	3-4
Physical Education	1
	<u>15-16</u>

Second Semester

EN 127 Technical English or EN 126 Freshman English II	3
CH 174 Fund. Chemistry II	4
BI 173 Animal Biology	4
Mathematics Elective	3-4
Electives**	3
Physical Education	1
	<u>18-19</u>

SECOND YEAR—S.U.N.Y. COBLESKILL

First Semester

BI 251 Histology	3
BY 291 Anatomy	3
MA 105 Comp. & Graph.	2
Social Science Elective	3
BI 113 Med. Orient.	1
Electives	5
	<u>17</u>

Second Semester

BY 118 Human Physiology	3
BY 258 Microtechniques	3
BY 255 Animal Pathology	2
Social Science Elective	3
Electives	5
	<u>16</u>

SUMMER: BI 275 Clinical Experience in Histology (4) required for certification by American Society of Clinical Pathology.

GRADUATION REQUIREMENTS: Total semester hours—66, with 33 completed at Cobleskill.

*Mathematics placement dependent upon preparation, competence at level of MA 154 or higher required.

**May be Microbiology.

**Forest Technology (A.A.S.)
A.P.C. - 620**

**FIRST YEAR—FULTON-MONTGOMERY
COMMUNITY COLLEGE**

First Semester

EN 125 Freshman English I	3
BI 171 Modern Biology or	
SC 141 Intro. Biology I	3-4
Mathematics*	3-4
EC 180 Intro. to Economics	3
Elective	3
	15-17

Second Semester

EN 126 Freshman English II	3
BI 172 Plant Biology or	
BI 173 Animal Biology or	
SC 142 Intro. Biology II	3-4
Mathematics*	3-4
Electives	6
	15-17

**SECOND YEAR—RANGER SCHOOL,
WANAKENA CAMPUS**

Courses in area of specialization.

NOTE: Concurrent application to Fulton-Montgomery and to the College of Environmental Science and Forestry is required. Decisions on admission to the Forest Technology program are rendered by the College of Environmental Science and Forestry.

*Mathematics placement dependent upon preparation; competence in algebra and trigonometry, or higher mathematics required.



CERTIFICATE PROGRAMS

General Education

A.P.C. - 985

The General Education curriculum is a one-year program leading to a certificate of completion. This program may be useful to the student who wishes to strengthen an academic background before embarking on a program of study leading to the Associate degree. It also offers the student with limited or unsettled educational goals the opportunity for a year of broadly-based study and exploration. A minimum of 27 hours must be completed for the General Education Certificate.

First Semester

EN 124 Basic English*	3
MA 147 Algebra or MA 150 Survey of Mathematics	3-4
HD 150 Reading and Learning Skills	3
HD 100 Studies of the Person	3
Physical Education	1
Exploratory Elective—Technical, Vocational, Liberal Arts	2-4

15-18

Second Semester

English Elective	3
Exploratory Electives—Career Education, Liberal Arts & Sciences	9-12

12-15

NOTE: Some students will remain in this program for only semester, some will remain a year, and some will continue into other programs at the College.

*Students may take more advanced courses with approval.

Individual Studies

See previous description of Individual Studies, p. 50.

Human Services

A.P.C. - 949

The Human Services certificate program is designed for those who want to learn the skills and attitudes that are needed for entry-level positions in Human Service agencies and for in-service personnel who want to upgrade their skills, but who do not want to undertake the supporting academic courses required for the two year Associate in Applied Science degree. The program is flexible so that students may choose the courses and field experiences that are most appropriate to his/her interests and to his/her goals.

FIRST YEAR

First Semester

EN 125 Freshman English I	3
SS 291 General Psychology	3
HS 110 Introduction to Human Services	3

9

Second Semester

EN 126 Freshman English II or EN 127 Technical English	3
Human Service Elective*	3
HS 298 Human Services Internship	3
HS 291 Human Service Skills	1
SS 297 Develop. Psychology	3

13

SECOND YEAR

First Semester

Human Services Elective*	3
HS 299 Human Services Internship	3
HS 292 Human Service Skills II	1

7

*Human Service Electives: HS 211, HS 231, HS 251.

Automotive Mechanics

A.P.C. - 926

This one-year Automotive Mechanics Certificate Program is designed to provide students with concentrated skill training for immediate employment. However, all credits can be applied toward an Associates degree.

Emphasis is on practical hands-on experience in all aspects of automotive mechanics including engines, support systems, electrical systems, chassis, and power train. Customer relations is also stressed. Modern electronic equipment is used in highly individualized laboratory projects. Advanced placement and credit for prior learning in school and on the job are possible. Students in this program are expected to provide their own safety footwear, limited hand tools, and other personal items appropriate for automotive laboratory classes.

Graduates may be employed as mechanics helpers, mechanics, and related careers. Jobs are available in small shops, dealerships, and automotive repair chain stores.

First Semester

AT 121 Introduction to Automotive Function*	3
AT 122 Theory of Internal Combustion Engines*	3
AT 124 Automotive Electrical Systems	3
AT 225 Automotive Chassis Systems*	3
Elective	3
Microcomputers	1

16

Second Semester

AT 123 Internal Combustion Engine Support Systems*	3
AT 226 Power Trains-Design Features and Analysis*	3
AT 227 Electronic Engine and Chassis Analysis*	3
AT 228 Consumer Relations and Services	3
Elective**	3
Microcomputers	1

16

GRADUATION REQUIREMENTS: Completion of the courses listed.
Total semester hours - 32.

*Course meets at the Voc-Tech Center. Students make own transportation arrangements.

**Business course recommended.

Office Technology: Clerical A.P.C. - 935

This program leads to a certificate after one year of study. It is designed to provide students with concentrated skill training for immediate employment. However, all credits can be applied toward an Associates degree.

Emphasis is on applying basic clerical skills such as typewriting, administrative support procedures, and business communications in a computerized office environment. An individualized audio-visual tutorial instructional system is used by the instructor in some courses. Graduates will be prepared for employment as clerk typists, receptionists, and general office workers in modern automated offices in business, industry, and government.

FIRST YEAR

First Semester

BU 134 Intermediate Keyboarding*	3
BU 235 Administrative Support Procedures I	3
BU 239 Intro. to Word Processing	3
Business Elective	3
	<hr/> 12

Second Semester

BU 240 Word Processing Applications I	3
BU 137 Business Communications	3
BU 236 Administrative Support Procedures II	3
BU 230 Machine Transcription	3
	<hr/> 12

A minimum of 26 hours (29 hours if a student is required to complete BU 133 in preparation for BU 134) is required.

*A student must have completed BU 133 or Equivalent.

Criminal Justice A.P.C. - 947

This program leads to a certificate in Criminal Justice and is designed to prepare students to become members of the municipal, county, and state police forces, as well as Federal Protection Officer, United States Marshal, campus security guard, correctional officer, institutional guard, youth-aid worker, social worker and other positions in the criminal justice system. The program is open, as well, to those who are currently employed in law enforcement. Below is a suggested sequence of the courses required for this certificate.

First Semester

EN 125 Freshman English I	3
CJ 103 Criminal Law I	3
CJ 106 Introduction to Law Enforcement & Criminal Justice	3
CJ 112 Introduction to Police Organization & Management	3
SS 291 General Psychology	3
Microcomputers	2
	<hr/> 17

Second Semester

EN 126 Freshman English II	3
Mathematics (Strongly Suggested MA 160 Statistics)	3-4
CJ 104 Criminal Law II	3
CJ 105 Principles of Criminal Investigation	3
CJ 107 Police-Comm. Relations or	
CJ 108 Introduction to Juvenile Delinquency	3
SS 281 Introduction to Sociology	3
	<hr/> 18-19

GRADUATION REQUIREMENTS: Completion of the courses listed.
Total semester hours—35.

Medical Information Processing A.P.C. - 045

The one-year Medical Information Processing certificate program is designed to provide students with concentrated skill training for immediate employment. However, all credits can be applied toward an Associates degree.

Emphasis is on practical hands-on experience in medical terminology, medical transcription, and medical administrative support procedures, as well as basic office skills. An individualized audio-visual instructional program is used by the instructor.

Graduates may be employed as medical records aides, medical transcribers, medical word processing specialists, medical office support personnel, and related careers. Jobs are available in hospitals, medical clinics, physician's offices, government agencies, and other health and related agencies. Evening and Summer registration required.

First Semester

BU 134 Intermediate Keyboarding	3
BU 235 Administrative Support Procedures I	3
BU 283 Medical Terminology	3
Elective	3
Microcomputers	2
	<hr/> 14

Second Semester

Elective	3
BU 285 Medical Administrative Support Procedures	3
BU 137 Business Communications	3
BU 287 Medical Transcription I	3
Elective	3
	<hr/> 15

Summer Term

BU 288 Medical Transcription II	3
	<hr/> 3

Program Prerequisite: BU 133 or equivalent.

Suggested Electives: Computer Info. Systems, Word Processing, Humanities, Health, Social Science, Anatomy & Physiology, Human Development.

GRADUATION REQUIREMENTS: A minimum of 32 hours must be completed for the Medical Information Processing Certificate.

Quantity Food Production A.P.C. - 044

This program leads to a certificate in Quantity Food Production at the end of one year. It is designed to provide students with concentrated skill training for immediate employment. However, all credits can be applied toward an Associates degree.

Emphasis is on practical hands-on experience in food selection and preparation, purchasing, cost control, hospitality management, and nutrition. An internship in the food industry is required.

Students will be prepared for positions in all areas of quantity foods: preparation, receiving, operations, purchasing and service. Graduates may be employed by owner operated restaurants, chain restaurants, contractual food service companies, and other agencies associated with the production of food.

First Semester

FS 121 Intro. to Food Service & Sanitation	3
FS 122 Food Preparation I	3
FS 224 Hospitality Management	3
FS 225 Food and Beverage Cost Control	3
HE 121 Nutrition	3
Microcomputers	1
	16

Second Semester

FS 123 Food Purchasing	3
FS 124 Food Preparation II	3
FS 130 Quantity Food Internship*	3-6
Microcomputers	1
	13

GRADUATION REQUIREMENTS: A minimum of 29 hours must be completed for the Quantity Food Production Certificate.

*An elective may be substituted for 3 credits of internship with permission of instructor.

Students taking 3 semester hours of FS 130 must take a 3 semester hour FS elective.

Secretarial Studies

A.P.C. - 927

This program is open to all students who have had 2 years of satisfactory high school training in shorthand, or its equivalent. This program leads to a certificate in secretarial studies at the end of one year. Students completing the program are qualified to accept positions as secretaries, stenographers, and receptionists in business, government and industry. All courses included in this program may be transferred to the Office Technology Administrative degree program.

First Semester

BU 134 Intermediate Keyboarding*	3
BU 233 Advanced Shorthand	4
BU 235 Adm. Support Procedures	3
Business Electives	6
	16

Second Semester

BU 230 Machine Transcription	3
BU 137 Business Communications	3
BU 236 Adm. Support Procedures	3
BU 239 Intro. to Word Processing	3
Microcomputers	2
	14

GRADUATION REQUIREMENTS: A minimum of 30 hours must be completed for the Secretarial Studies Certificate.

*Must have completed BU 133 or equivalent.

Office Technology: Word/Information Processing

A.P.C. - 996

This program leads to a certificate as a word/information processing operator at the end of one year. It prepares students for positions as word/information operators in automated offices in business, industry, and government. Most courses in the program can be used to meet the requirements for an Associate in Applied Science degree.

Program prerequisite: BU 133, Beginning Keyboarding or equivalent.

FIRST YEAR

First Semester

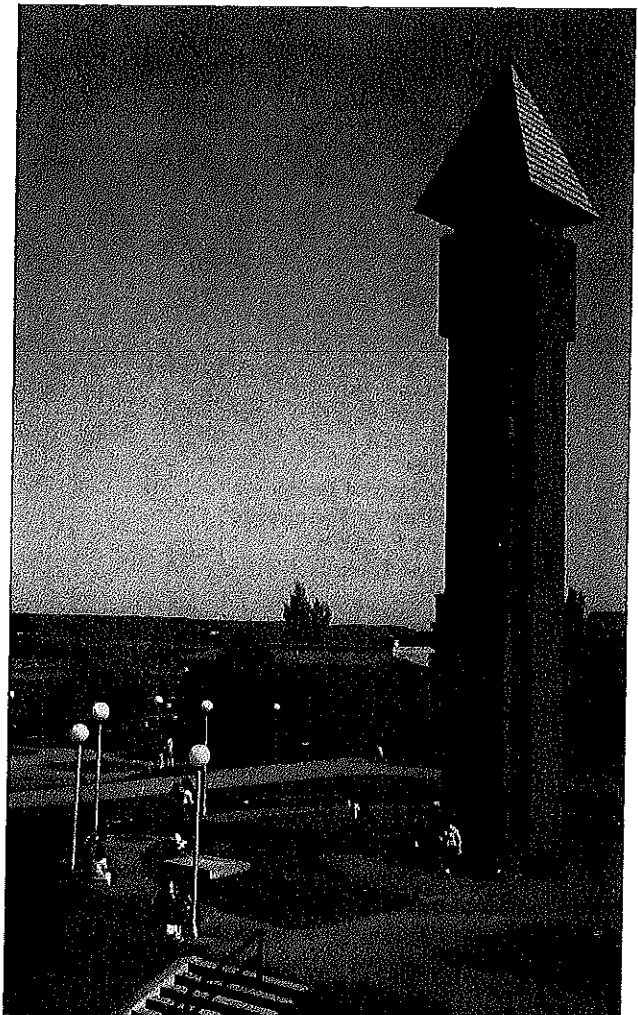
BU 134 Intermediate Keyboarding*	3
BU 235 Administrative Support Procedures I	3
BU 139 Intro. to Word Processing	3
BU 137 Business Communications	3
Business Elective	2
CS 100 Microcomputer Concepts	1
CS 102 Appleworks Spreadsheet	1
CS 103 Appleworks Data-Base	1
	17

Second Semester

BU 230 Machine Transcription	3
BU 241 Word Processing Applications II	3
BU 236 Administrative Support Procedures II	3
BU 240 Word Processing Applications	3
Business Elective	3
	15

GRADUATION REQUIREMENTS: A minimum of 32 hours (35 hours if a student is required to complete BU 133 in preparation for BU 134) is required.

*A student must have completed BU 133 or equivalent.



COURSE DESCRIPTIONS

GENERAL NOTE: All courses described in this catalog will be regularly offered unless noted as follows: F-Fall semester only; W-Interession/Winter term only; S-Spring semester only; SU-Summer session only. The College reserves the right to cancel any course when the enrollment is insufficient to support the course. The right is also reserved not to offer a course if resources become unavailable or if the course has been dropped from the curriculum since the last printing of the catalog.

Extended Individualized Learning Modules

EM 300 Series

Individualized courses in various areas of study designed to meet particular student needs.

Internship

IN 299 Internship 1-4 s.h.

This course will serve as a structure for the awarding of credit for prearranged academically applicable work experiences. Students who have satisfactorily completed relevant courses may be placed with an approved agency on a part-time basis. Participation requires the approval of a College instructor and the appropriate Dean. Evaluation of the student's performance will be the responsibility of the instructor. A maximum of eight (8) semester hours of credit may be earned by any one student.

Prerequisite: Previous relevant course work.

Hours of class per week: to be arranged.

Independent Study

IN 299 Independent Study 1-4 s.h.

Course affords students the opportunity to investigate in-depth areas not available in existing courses. Provided they obtain the sponsorship of a faculty member and the permission of the Dean, students may submit proposals contracting to undertake from one to four semester hours of independent study in approved areas. Students accepted for independent study will be expected to confer regularly with their mentors and to demonstrate satisfactory proficiency in their particular area of study they have proposed to investigate.

Hours: to be arranged.

Directed Study

DS 299 Directed Study 1-4 s.h.

Directed Study affords students the opportunity to study a course already listed in the College catalog, but not scheduled during the particular semester. Participation requires the sponsorship of the appropriate instructor and approval of the appropriate Dean. A student taking the Directed Study is expected to confer regularly with the instructor and meet all the requirements of the course.

Hours of class per week: TBA.

Non-Credit Laboratory Courses

The purpose of these labs is to provide supplementary instruction for students who desire it on a non-credit basis. Fees are covered as part of credit tuition and/or lab fees.

COO1 Computer Laboratory Non-Credit

This course has been designed to provide supervised hands-on computer experience for those students enrolled in data processing and mathematics courses requiring understanding of computer operation and use of computer terminals.

Hours will vary according to student needs.

COO2 Audio-Visual Tutorial Laboratory Non-Credit

This course is designed to provide instructional support for those students enrolled in secretarial science and word processing courses and to provide alternate instructional experiences for those who wish to learn independently.

Hours will vary according to student needs.

COO3 Nursing Laboratory Non-Credit

This course has been designed to provide instructional support for those students enrolled in nursing courses and to provide alternate instructional experiences for those who wish to learn independently.

Hours will vary according to student needs.

COO4 Mathematics Laboratory Non-Credit

This course has been designed to provide remedial assistance in mathematics to students planning to enroll or currently enrolled in any of the traditional mathematics courses offered at the college.

Hours will vary according to student needs.

COO5 Accounting Laboratory Non-Credit

This course has been designed to provide remedial support experiences for those students enrolled in traditional accounting courses, and to provide alternative experiences for those who wish to learn independently to update their vocational skills in accounting.

Hours will vary according to student needs.

COO6 Study Skills Laboratory Non-Credit

Students will work independently under the supervision of the instructor, who will set up an individualized remedial program to enhance the students, study skills and college level performance.

Hours will vary according to student needs.

COO7 Electricity Laboratory Non-Credit

This course has been designed to provide hands-on electric circuitry experience for those students enrolled in electrical programs, who require additional work in electricity.

Hours will vary according to student needs.

Peer Tutoring

PT 299 Peer Tutoring 1-3 s.h.

This course will serve as a structure for the awarding of credit for pre-arranged peer tutoring. Provided they obtain the sponsorship of a faculty member to serve as mentor and the approval of the appropriate Dean, students may contract to provide peer tutoring for one to three semester hours of credit in one semester. Students accepted as peer tutors are expected to confer regularly with their mentors and to provide tutoring services regularly to the students assigned to them. Evaluation of the student tutor's performance will be the responsibility of the mentor.

Number of credits received during one semester will be based on the number of students assigned to the tutor, number of different courses for which tutoring is provided, and the extent of the tutoring services needed to the students assigned.

A student cannot receive credit twice for tutoring the same course(s).

A maximum of six (6) semester hours of credit may be used by a student as electives toward a degree.

Prerequisite: Relevant course work as determined by the mentor.

Hours of class per week: to be arranged.

BUSINESS

Accounting

BU 121 Accounting I 4 s.h.

First half of a one-year course introducing accounting theory. Theory of debit and credit; accounts and special journals; the accounting cycle; accounting for notes and interest; accrued items, receivable, inventories, and plant assets; preparation of financial statements. Emphasis is on sole proprietorship. Computer assignments will be used.

Hours of class per week: 4.

BU 122 Accounting II 4 s.h.

A continuation of BU 121. Accounting for partnerships and corporations; control systems for departments; manufacturing; analysis of statements and data. Computer assignments will be used.

Prerequisite: BU 121. Hours of class per week: 4.

BU 221 Intermediate Accounting I F 4 s.h.

Corporate accounting emphasized. Major classification of items found in financial statements, including cash, investments, receivables, and inventories are analyzed. Computer assignments will be used.

Prerequisite: BU 122. Hours of class per week: 4.

BU 222 Intermediate Accounting II S 4 s.h.

A continuation of the studies in BU 221, including analysis of liabilities, stockholders equity, land, buildings, and equipment. Computer assignments will be used.

Prerequisite: BU 221. Hours of class per week: 4.

BU 224 Cost Accounting F 3 s.h.

Accounting for direct labor, materials, and factory overhead under both on job order costing and process costing. Standard cost principles and procedures, budgeting and direct decision making are among other topics covered.

Prerequisite: BU 122. Hours of class per week: 3.

BU 225 Federal Income Taxes S 3 s.h.

Federal and State Income tax laws and regulations are studied. Taxable income, inclusions and exclusions, capital gains and losses, deductions and other topics are covered. Practice is provided in preparation of income tax returns. Emphasis is on individual returns.

Prerequisite: BU 121 or permission of instructor. Hours of class per week: 3.

BU 229 Seminar in Accounting WI 3 s.h.

Reading and research on approved topics of special interest to the student. Written reports and oral presentations required. This course serves as an elective in the Accounting curriculum.

Prerequisite: Nine semester hours in Accounting. Hours of class per week: 3.

BU 261 Managerial Accounting F 3 s.h.

Course is devoted to the use, rather than the construction, of accounting records and statements. Topics covered are: analysis and interpretation of financial data, flow of funds, cost concepts and applications, budget, and decision-making.

Prerequisite: BU 122 or permission of instructor. Hours of class per week: 3.

Business Administration

BU 101 Principles of Business 3 s.h.

An introductory course to the diverse world of business, its structure, its operations and its impact upon each of us as employees, as consumers, as individuals, and as members of society. Course designed to acquaint the student with major disciplines of business such

as: management, marketing, finance, human resource management and production management which the student may choose as career core for future study and training. Case studies and computerized and manual business games are used.

Hours of class per week: 3.

BU 103 Mathematics of Business Finance 3 s.h.

Review of the basic fundamentals and use of shortcut operations in arithmetic computations. Use of the hand-held calculator is stressed. Instruction in financial topics dealing with bank loans, interest, credit cards, bank reconciliation, property taxes, payroll, inventory, depreciation, trade and cash discounts, partial payments, markup and markdown, and present value. If time permits, an introduction to financial statement analysis.

Hours of class per week: 3.

BU 123 Personal Keyboarding 2 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Offered on a non-vocational basis. In addition to the work required in BU 113, the student will be required to select one of the following course options: Business Exploration; Liberal Arts; or Visual Communications. Option selected will determine the subject matter concentration. All options require the use of the touch system with emphasis on building speed and accuracy. The art of proofreading is also stressed.

Class hours: 2 to 4 per week to be arranged.

BU 131 Beginning Shorthand 5 s.h.

Presentation of the basic principles of Gregg shorthand theory. Intensive drill on brief forms. Development of skills in correct reading and writing techniques. Drills for spelling and punctuation in preparation for transcription.

Hours of class per week: 5.

BU 133 Introductory Keyboarding 3 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Development of basic skills and techniques of a beginning typist are the goals. Touch system operation is mandatory with an introduction in the use of carbon paper, simple tabulations, business and personal letters, memorandums, envelopes, and preliminary manuscripts with proofreader's marks and footnotes. In addition to production tests, timed writings with the emphasis on proofreading are stressed.

Prerequisite: Pretest Optional. Class hours: 3 to 4 class hours per week to be arranged.

BU 134 Intermediate Keyboarding 3 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Keyboarding II emphasizes the further development of speed, accuracy and proofreading. It also includes work in the production of business letters, reports, business forms, special tabulations, manuscripts with footnotes, bibliographies, programs, financial statements, letters of application, and resumes. Production tests and timed writings are used in grading.

Prerequisite: One year high school typing, BU 133, or equivalent; pretest optional. Class hours: 3 to 4 class hours per week to be arranged.

BU 137 Business Communications 3 s.h.

Emphasis on composing various types of business communications in a clear and concise manner while maintaining a readers' goodwill. Course also includes a review of grammar and mechanics of writing, spelling, and some public speaking.

Prerequisite: BU 133 or equivalent recommended. Hours of class per week: 3.

BU 183 Intermediate Shorthand S 4 s.h.

Review and reinforcement of shorthand principles including brief forms and phrases. Emphasis will be on reading and writing, speed building commensurate with previous background. Development of

transcription skills including spelling and punctuation and transcription at the typewriter will be included. Individualized practice in the AVT lab is required.

Prerequisite: BU 131 or equivalent. Hours of class per week: 4 and additional hours in the AVT lab.

BU 140 Salesmanship 3 s.h.

A comprehensive treatment of professional salesmanship including an analysis of consumer types and buying motives, the approach and development of sales strategy. Students required to make sales presentation in role-playing situations. Equal emphasis placed on selling consumer and industrial products.

Hours of class per week: 3.

BU 141 Marketing 3 s.h.

An analysis of the principles, methods, trends and problems existing in marketing. A study of the distribution function of middlemen, their movement of goods and marketing policies, with some discussion of marketing research.

Prerequisite: BU 101. Hours of class per week: 3.

BU 151 Human Resources Management 3 s.h.

An introduction to fundamentals of constructive personnel practices and techniques. Emphasis is placed on a knowledge of the theories of human behavior necessary to implement Human Resource policies dealing with recruitment selection, maintenance and development of human resources.

Hours of class per week: 3.

BU 152 Production Management 3 s.h.

Objective of course is to promote a broad view of production/operations management using both descriptive and analytical material.

Descriptions of production areas and the problems involved are blended with analytical approaches.

Prerequisite: BU 101. Hours of class per week: 3.

BU 153 Supervision S 3 s.h.

Study of the supervisor, "key person" in a company's chain of command. Supervisory role as perceived by superiors, subordinates, and peers. Study of the skills, attitudes and aptitudes necessary for effective supervision. Emphasis placed on practical solutions to employer-employee problems within supervisor's authority and responsibility. Lecture, case discussion, and role-playing instructional techniques used.

Prerequisite: BU 101. Hours of class per week: 3.

BU 160 Introduction to Finance 3 s.h.

Course introduces the student to the role of finance in modern business operations, providing a survey of both internal and external financial requirements and transactions handled primarily by mid-management personnel.

Prerequisite: BU 121 strongly recommended. Hours of class per week: 3.

BU 164 Credit Administration 3 s.h.

Course designed to train the student for a possible career in credit management, introducing the student to the actual problems of granting credit as faced by institutions such as banks, finance companies, and other lending institutions.

Hours of class per week: 3.

BU 165 Small Business Management 3 s.h.

Course provides essential concepts of starting and operating a small business. Topics covered include: initial procedures in starting a small business, record keeping, financing, labor/tax laws, promotion techniques, profit planning/cost control, inventory control, credit policies, sources of information, and franchise operations.

Prerequisite: Not open to first semester students except with permission of instructor. Hours of class per week: 3.

BU 170 Advertising 3 s.h.

Survey of the advertising field, policies, procedures, and practices in planning and preparing various types of advertisements and selecting media.

Hours of class per week: 3.

BU 171 Business Law I 3 s.h.

Course designed to familiarize the student with the law as it affects business personnel and social activities. A study of basic legal principles and procedures in addition to such topics as the origin and kinds of law, the law of contracts, sales, commercial paper, and of agency and employment should provide the student with an understanding of the rights and duties of individuals and businesses. Approach used includes case and text analyses and discussion.

Hours of class per week: 3.

BU 172 Business Law II 3 s.h.

This Business Law course presents an in-depth treatment of areas such as: Agency and Employment, Partnerships, Corporations, Commercial Paper, etc. Career oriented content related to entrepreneurship, civil service, and professional exams will be stressed.

Hours of class per week: 3.

BU 173 Business Statistics S 3 s.h.

Course deals with statistical application of practical problems in economics and business. Areas considered are methods of collecting statistical business data, methods of predictions and probability, inventory control, analysis of systems, and application of measures.

Prerequisite: High School algebra or equivalent. Hours of class per week: 3.

BU 179 Principles of Management 3 s.h.

This course deals with the basic principles of management with applications to both entry-level as well as middle managers. Principles such as the nature and role of the manager, the decision-making process, and the traditional management functions of planning, organizing, leading and controlling will be covered.

Hours of class per week: 3.

BU 199 Career Preparation S 1 s.h.

Primary objective of the course is to help prepare students for successful entry into work organizations. Included are such topics as resume preparation, interviewing skills development, evaluation of employment opportunities, exploration of personal career objectives and job search methods.

Hours of class per week: 8 two-hour sessions or 10 one-and-one half hour sessions.

BU 243 Retail Management S 3 s.h.

Study of the principles and problems in the management of retail operations covering organization, store planning, selecting locations, customer services, merchandising policies, stock levels, and purchasing procedures.

Prerequisite: BU 101. Hours of class per week: 3.

BU 250 Management Decision-Making S 3 s.h.

Course is an in-depth approach to the facets of managerial decision-making, emphasizing the role of "Middle Management" in the decision process. Emphasis is placed on the case study approach using the techniques of computer simulation, seminars and role-playing.

Prerequisite: BU 101 and other Management Option course. Hours of class per week: 3.

BU 254 Management and the Law S 3 s.h.

An environmental approach to the study of law, that is, a study of the nature, formation, and application of law to businesses and business decisions. This course follows a macro approach rather than the traditional micro approach of detailed substantive rules in areas such as contracts, agency, etc.

The course topics will include: a discussion of the Commerce Power, i.e., the power of the federal government to regulate business; the Constitutional basis for such exercise of power; the growth of Administrative Agencies as a result; the controls exercised by such agencies affecting businesses in such areas as: stock transfers, anti-trust, price discrimination and consumer protection. Lecture and case analysis are techniques used.

Prerequisite: Minimum of two business courses or permission of the instructor. Hours of class per week: 3.

BU 262 Introduction to Investments 3 s.h.

Course related to security market structure. Investment objectives of risk, growth, and income portfolios analyzed. Topics will include stock market research, buying and selling, language, capital gains and losses, and tax considerations supported by Federal and State regulations.

Hours of class per week: 3.

BU 350 Management: Policy, Strategy and Decision-Making 3 s.h.

A course which develops a conceptual framework for decision-making and strategy formulation. The process of decision-making, formulating policies and developing strategies is discussed and analyzed through case studies, computer simulations and projects. Classroom analysis of actual management decisions and the critique of strategies, some successful as well as failures, will be extensively used. Student is expected to develop a strategy for a hypothetical firm and the policies and decision points required.

Prerequisite: 12 credits of business (BU) course work. Hours of class per week: 3.

BU 354 Legal Environment of Business 3 s.h.

An emphasis on government regulatory agencies, sources of law, court systems and major regulations which affect business. Specific attention would be given to Law and Regulations affecting: Securities Markets, Business Growth and Practices, Consumers, Employment, and Environment. Integrated throughout this course would be ethical as well as legal dimensions of Business Operations. Sources such as, Securities Exchange Act of 1933 and 1934, the Sherman Antitrust, Clayton Act and Federal Trade Commission Act, court decisions and cases will be utilized.

Prerequisites: BU 171 and BU 172 or BU 254 or permission of instructor. Hours of class per week: 3.

Computer Information Systems

CS 100 Computer Concepts for Microcomputers 1 s.h.

This course provides students with an introductory background of computer terminology, applications, components and hands-on experience related to the micro or personal computer. Emphasis will be on preparing the students to ultimately function as "users" of applications software (not as "programmers") on a variety of microcomputer equipment. This course will function as a first step in computer literacy. It is intended to support any academic or professional discipline that will require "literate" use of microcomputers and applications software as part of the course/job requirement.

Hours of class per semester: 15.

CS 101 Microcomputer Application: Word Processing 1 s.h.

Students will learn to use microcomputers to process words via hands-on experience. Topics include: system components, editing, and formatting. Special application programs, printers and examples of system usage will be covered.

Prerequisites: Keyboarding pre-test and CS 100 or equivalent, or permission of instructor. Hours of class per semester: 15.

CS 102 Microcomputer Application: Electronic Spreadsheet 1 s.h.

The course uses hands-on experience to introduce students to the concepts and applications of an electronic spreadsheet. Spreadsheets are used in the organizing, calculating, and presentation of financial, statistical, and other data used as a basis for decision-making. Students will be required to use the microcomputer lab to complete various projects assigned.

Prerequisite: CS 100 or equivalent or permission of instructor. Hours of class per semester: 15.

CS 103 Microcomputer Application: Data Base Management 1 s.h.

This course will provide students with background and hands-on experience in data base management techniques. The topics can be applied in any academic or professional discipline that requires getting and keeping information in an organized, current and reportable format.

Prerequisites: CS 100 or equivalent or permission of instructor. Hours of class per semester: 15.

CS 110 Introduction to Computers 3 s.h.

Orientation course designed to introduce the terminology and concepts of computer and data processing. Topics include computer components, peripheral devices, number systems, machine language coding concepts, data processing coding techniques, and an introduction to computer programming using the BASIC language. Students will be required to make use of computer facilities to complete programming projects.

Hours of class per week: 3.

CS 113 Programming Assembler Language 3 s.h.

Introduce concepts of Assembler Language including hardware, software, flowcharting, documentation, and programming. Through text samples and business type programming assignments, the following operations or techniques will be covered: Basic Input and Output Operations, Comparing, Addition, Multiplication, Division, Use of Work Areas, Control Macros, Heading and Print Overflow. This basic foundation should provide the student with the ability to more effectively use assembly language in appropriate applications and also to use and understand the technical manuals supplied by computer manufacturers.

Prerequisites: CS 110 or equivalent work experience. Hours of class per week: 3.

CS 120 Computer Programming (FORTRAN) 3 s.h.

Use of the computer for mathematical problem solving and report generation. The course is problem oriented and utilizes FORTRAN programming language. Laboratory exercises on the College computer.

Prerequisite: CS 110 or permission of instructor. Hours of class per week: 3.

CS 121 Computer Programming (COBOL) 3 s.h.

Use of the computer for standard business applications. Programming techniques and report generation procedures through the utilization of the high-level programming language COBOL are emphasized. Laboratory exercises on the College computer.

Prerequisite: CS 110 or permission of instructor. Hours of class per week: 3.

CS 122 Computer Programming (R.P.G.) 3 s.h.

Use of the computer to produce standard business reports. Course is problem oriented and utilizes Report Program Generator as its programming language. Laboratory exercises on the College computer. Emphasis on report generation and programming procedures.

Prerequisite: Completion of or concurrent registration in CS 110 or permission of instructor. Hours of class per week: 3.

CS 123 Computer Programming (BASIC) 3 s.h.

Use of the computer to provide problem solving capabilities utilizing BASIC (Beginners' All Purpose Symbolic Instruction Code). Topics to be discussed are conditional transfers, reading, printing, loops, lists and tables, functions and subroutines, conversational programming, strings and chaining. Interactive laboratory exercises will be designed utilizing College computing facilities.

Prerequisite: CS 110 recommended. Hours of class per week: 3.

CS 124 Computer Programming Pascal 3 s.h.

Use of a microcomputer for instructing programming techniques with this high level language. Emphasis will be placed on problem-solving techniques, anti-bugging, debugging as used in the program development cycle. In general, concepts common to all computer languages will be covered. Interactive programming will also be demonstrated.

Prerequisite: Prior programming course and/or experience in FORTRAN or COBOL or RPG or BASIC. Hours of class per week: 3.

CS 130 CIS Internship 3-4 s.h.

Limited to students majoring in Computer Science or Computer Information Systems; involves an arranged schedule of work at a business site which employs computer-related personnel; designed to offer students direct on-the-job involvement in computer-related jobs such as programming, operations, systems analysis, sales, service; or training.

Prerequisites: two programming courses and permission of instructor, and acceptance by employer. Hours of class bi-weekly: 1; on-the-job hours per week: 6-8.

CS 133 Advanced Programming Techniques 3 s.h.

Advanced programming techniques such as editing, sequential and random file processing, multiple I/O files, external subroutines, sort and on line transaction/screen processing using COBOL language. Total program design, structure, documentation, scheduling and presentations stressed. Laboratory exercises on the College computer.

Prerequisite: CS 121. Hours of class per week: 3.

CS 135 Systems Analysis and Design 3 s.h.

Present methods and techniques which a systems analyst uses to analyze and design computerized business data processing systems. Emphasis is on the organization, personnel, procedures, files, documents, and equipment that make up a business system. Theory is reinforced through case studies which illustrate common applications. Written and oral project presentations provide hands-on systems analyst experience.

Prerequisites: CS 110, 113, and CS 133 or equivalent work experience, CS 120 recommended. Hours of class per week: 3.

Secretarial Science

Note: Several secretarial science courses utilize the Audio-Visual-Tutorial (AVT) system of instruction. AVT combines audio-visual and printed materials with instructional staff assistance tailored to meet each student's individual learning needs. This structured, yet flexible system permits the student to begin a course of study at a level based on previous knowledge, training and experience.

BU 100 Computer Keyboarding 1 s.h.

This course is designed to teach basic keyboarding skills necessary to equip students to enter a variety of fields such as: Computer Science, Data Processing, Accounting, or any business occupation that uses a keyboard to input information. The purpose of this course is to develop touch keyboarding skills accurately and quickly and to develop an understanding of the concepts used in keyboarding operations for inputting and retrieving information on a computer.

Hours of class per semester: 15

BU 113 The Typewriter Keyboard 1 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. The keyboard is introduced requiring the touch method of operation. Basic typewriter operation, styles of type, typewriter maintenance and methods of correcting errors are taught. P or U grading used is based on timed writings.

Hours of class per week: 1.

BU 123 Personal Keyboarding 2 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Offered on a non-vocational basis. In addition to the work required in BU 113, the student will be required to select one of the following course options: Business Exploration; Liberal Arts; or Visual Communications. Option selected will determine the subject matter concentration. All options require the use of the touch system with emphasis on building speed and accuracy. The art of proofreading is also stressed.

Class hours: 2 to 4 per week to be arranged.

BU 131 Beginning Shorthand 5 s.h.

Presentation of the basic principles of Gregg shorthand theory. Intensive drill on brief forms. Development of skills in correct reading and writing techniques. Drills for spelling and punctuation in preparation for transcription.

Hours of class per week: 5.

BU 133 Introductory Keyboarding 3 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Development of basic skills and techniques of a beginning typist are the goals. Touch system operation is mandatory with an introduction in the use of carbon paper, simple tabulations, business and personal letters, memorandums, envelopes, and preliminary manuscripts with proofreader's marks and footnotes. In addition to production tests, timed writings with the emphasis on proofreading are stressed.

Prerequisite: Pretest Optional. Class hours: 3 to 4 class hours per week to be arranged.

BU 134 Intermediate Keyboarding 3 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Keyboarding II emphasizes the further development of speed, accuracy and proofreading. It also includes work in the production of business letters, reports, business forms, special tabulations, manuscripts with footnotes, bibliographies, programs, financial statements, letters of application, and resumes. Production tests and timed writings are used in grading.

Prerequisite: One year high school typing, BU 133, or equivalent; pretest optional. Class hours: 3 to 4 class hours per week to be arranged.

BU 137 Business Communications 3 s.h.

Emphasis on composing various types of business communications in a clear and concise manner while maintaining the reader's good will. Course also includes a review of grammar and mechanics of writing, spelling, and some public speaking.

Prerequisite: BU 133 or equivalent recommended. Hours of class per week: 3.

BU 183 Intermediate Shorthand S 4 s.h.

Review and reinforcement of shorthand principles including brief forms and phrases. Emphasis will be on reading and writing, speed building commensurate with previous background. Development of transcription skills including spelling and punctuation and transcription at the typewriter will be included. Individualized practice in the AVT lab is required.

Prerequisite: BU 131 or equivalent. Hours of class per week: 4 and additional hours in the AVT lab.

BU 230 Machine Transcription 3 s.h.

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. A comprehensive course designed to provide the student with the necessary skills to prepare typewritten work from a recorded voice. Material to be transcribed will consist of various forms of business correspondence used in fifteen different employment areas such as governmental, legal, medical, manufacturing, banking, retailing, etc. In addition, strong emphasis is placed on building language and vocabulary skills such as spelling, grammar, word division, abbreviations, punctuation, pronunciation, and word definition to prepare the student to edit when necessary. Both belt and cassette transcribers are available. Not open to students who have credit for BU 129.

Prerequisite: EN 125, or BU 137, BU 134, or permission of instructor. *Hours of class per week:* 3.

BU 233 Advanced Shorthand F 4 s.h.

Emphasis on increasing speed and accuracy in taking dictation of new material and transcribing mailable copy using a typewriter. Review of spelling, grammar, and proofreading is included. Production of mailable materials is stressed.

Prerequisite: BU 183 or equivalent. *Hours of class per week:* 4 and additional hours in the AVT lab.

BU 235 Administrative Support Procedures I 3 s.h.

An overview of office services and responsibilities of office employees will be provided. Course content includes procedures for processing mail; assisting with business reports; developing receptionist and telephone techniques; handling banking, financial and payroll transactions; preparing expense reports; using reference materials, and selecting method of duplicating.

Prerequisites: BU 133 or equivalent, or concurrent enrollment, or BU 137. *Hours of class per week:* 3.

BU 236 Administrative Support Procedures II 3 s.h.

Career opportunities and job application procedures are presented. Topics covered include making travel and conference arrangements, preparing minutes of meetings, and records management.

Prerequisite: Enrollment in BU 133 or equivalent, BU 235 is not a prerequisite for BU 236.

BU 239 Introduction to Word Processing 3 s.h.

This is an orientation course designed to introduce the terminology and concepts of word processing as part of the office automation/information system in the modern office. Topics include: an industry overview, input and output, and reprographics and distribution. Emphasis will be on the people, procedures, and equipment utilized in word processing. Machine concepts will be presented. Laboratory exercises on electronic typewriters and word processors will be assigned.

Prerequisite: BU 133 or equivalent.

BU 240 Word Processing Applications I 3 s.h.

Office output applications on word processors will be taught. Students will be required to apply these applications using word processors to prepare typical office communication projects. The use of a word processing procedures manual will be stressed along with the skill of proofreading. An introduction to reprographics and telecommunications will also be provided.

Prerequisites: BU 134, BU 239, or equivalent.

BU 241 Word Processing Applications II 3 s.h.

This course will be a continuation of the applications learned in WP I. Documents will be produced under simulated working conditions. In addition, emphasis will be given to Desk Top Publishing as it relates to the word processing field. Records management, file maintenance, purging, etc., will be covered. Through the simulated working environment, time management and decision-making abilities will be developed. The AVT lab will be utilized.

Prerequisite: BU 240 (co-requisite for WP certificate majors). *Hours of class per week:* 3.

BU 249 Information/Word Processing Practicum S 3 s.h.

This course will give the word processing student actual on-the-job work experience in a word processing center. The duties performed will primarily be those of correspondence secretary rather than administrative in nature. Although the primary workstation for this course will be the College's Word Processing Center, other arrangements, if available, can be made. Self-logging will be major responsibility of the student requiring a minimum of ten hours per week in a word processing center. At least three projects involving text assembly, list processing background merge, search and replace, electronic message communications, and justifying will be required.

Prerequisites: BU 230 and BU 239. *Hours of class per week:* 10-15.

BU 259 Word Processing Management S 3 s.h.

Upon successfully completing this course, the student will understand the need for and effect of creating, implementing, and managing a program for improving the effectiveness and efficiency of organizational communications. Emphasis will be on investigating word processing systems - personnel, procedures, and equipment.

Prerequisite: BU 239 or permission of instructor. *Hours of class per week:* 3.

BU 283 Medical Terminology F 3 s.h.

Emphasis is on understanding medical terms. The logic behind the formation of medical terms, analysis of words, and interpretive and deductive skills will be used. Terms associated with all anatomical systems will be covered. AVT slides and tapes may be used.

Prerequisite: None. *Class hours:* 3.

BU 285 Medical Administrative Support Procedures F 3 s.h.

Emphasis is on topics covered by the American Association of Medical Assistants' Study Outline for Certification Review Administrative Division: patient relations, legal and ethical issues, communications, financial records, billing and collection, and insurance.

Prerequisites: BU 133 or equivalent. *Hours of class:* 3.

BU 287 Medical Transcription I S 3 s.h.

This course begins with an introduction to medical transcription and use of medical references. Medical document transcription is emphasized. Terminology, language skills, and transcription skills are systematically reinforced. Assignments are drawn from actual records. The AVT instructional system may be used.

Prerequisite: BU 134 or permission of instructor. *Class hours:* 3.

BU 288 Medical Transcription II S 3 s.h.

This course continues to build on the material learned in Medical Transcription I. Detailed autopsies are emphasized. Specialty areas such as: cardiology, psychiatry, neurology, ob/gyn, respiratory system are included. Terminology, language skills, and transcription skills will continue to be systematically reinforced. Electronic keyboards will be utilized. AVT instructional system may be used.

Prerequisites: BU 287. *Hours of class per week:* 1.

Economics

EC 180 Introduction to Economics 3 s.h.

One-term course designed around topics and problems which emphasize the individual's participation in the economy, both as consumer and supplier of productive resources, and the private and public institutions through which economizing is accomplished. Basic economic concepts will be introduced where necessary to explain economic activity. Special attention in discussion sessions to topics such as: employment and unemployment, poverty and affluence, education and opportunities, incomes and costs of living.

Hours of class per week: 3.

EC 190 Economics for the Consumer 3 s.h.

One-term course designed to develop the basic understanding every college graduate should possess regarding insurance, credit, homeownership, management of money, budgeting, investment, and retirement planning.

Hours of class per week: 3.

EC 281 Microeconomics 3 s.h.

This course is an analysis of economic theory coupled with practical applications related to the consumer and the individual firm. It considers concepts of a more technical nature relative to price, distribution, production, costs and indifference curves under various market conditions.

Prerequisite: Sophomore status or permission of the instructor. Hours of class per week: 3.

EC 282 Macroeconomics 3 s.h.

An analysis of aggregate economic behavior with application to the dynamic present-day economy. A study in detail of macroeconomic fluctuations of the business cycle with special emphasis given to the income-expenditure theory of cycles and trends, forecasting, high level of employment and international trade. Monetary resources, and economic growth policies are reviewed.

Prerequisite: Sophomore status or permission of the instructor. Hours of class per week: 3.

Educational Resources

ER 110 Science of Library & Information Research S 1 s.h.

In combined seminar and applied sessions four areas of library research and use will be considered: classification systems, card catalogs, periodicals, and reference materials. All formats of information, print and non-print (filmstrips, slides, etc.) and media equipment will be considered. Concurrently, the student will prepare a subject bibliography according to a standard format.

Hours of class per week: 3 for five weeks.

ER 111 Research Practicum (composition) S 1 s.h.

The bibliographic work and research techniques completed for ER 111 will be expanded by the student and a research paper will be written. There will be at least one formal class session on the organization and format of the bibliography and term paper.

Prerequisite: ER 110. Hours of class per week: 3 for five weeks.

ER 112 Learning Experience in Educational Resources S 1 s.h.

Based upon competencies already gained from ER 110 the student will investigate, during supervised work periods, the various components of a complete information services, technical processing. There will be a preparatory session on introduction to library services, circulation, reference services, and technical processing.

Prerequisite: ER 110. Hours of class per week: 3 for five weeks.

Photography

ER 101 Principles of Photography F 3 s.h.

The study of the history of photography, balance of color, lighting and composition in the photograph, basics of taking pictures (camera operation, exposure, films, filters, flash, lenses, composition).

Hours of class per week: 2. Hours of lab per week: 3. Students are required to provide their own film and supplies. Student owned cameras are helpful but not required.

ER 102 Advanced Photography S 3 s.h.

Advanced photo techniques with emphasis on posing, lighting and composition; darkroom techniques, negative retouching, print enhancement and mounting. Studio and field shooting sessions with related darkroom work.

Prerequisite: ER 101. Hours of class per week: 2. Hours of lab per week: 3. Students are required to provide their own film and supplies. Student owned cameras are helpful but not required.

ER 103 Commercial Photography S 3 s.h.

Emphasis on techniques and practices of advanced photography of small and large products with the use of large and small format cameras. Laboratory and field visitations with studio and location shooting sessions.

Prerequisite: ER 101. Hours of class per week: 2. Hours of lab per week: 3. Offered evenings only. Students are required to provide their own film and supplies. Student owned cameras are helpful but not required.

ER 150 Darkroom Techniques I 3 s.h.

Black and white film processing, printing, and enlarging. Students who finish this course will be familiar with the functions and purposes of darkroom equipment and darkroom procedures. Student required to submit completed portfolio of no less than ten finished 8" x 10" photographs.

Hours of lab and recitation per week: 3. Offered evenings only. Students required to provide own film and supplies.

ER 151 Darkroom Techniques II 3 s.h.

Color film processing, printing, and enlarging; retouching techniques. Emphasis on laboratory experience. Students completing this course will be familiar with the functions and purposes of color photo equipment and procedures for the darkroom. Student required to submit completed portfolio of no less than ten finished 8" x 10" color photographs.

Hours of lab and recitation per week: 3. Offered evenings only. Student required to provide own film and supplies.

Health, Physical Education and Recreation

100 Series-Service Program 1 s.h. each

Courses are designed to provide the students with a variety of lifetime sports and fitness activities. Emphasis is on making fitness through physical activity a part of everyday living.

PE 110 Slimnastics and Physical Fitness

- 111 Jogging
- 112 Introduction to Archery, Tennis, Racquetball
- 113 Archery Skills
- 114 Canoeing**
- 115 Advanced Canoeing**
- 116 Golf & Racquet Activities*
- 117 Volleyball & Racquetball
- 119 Racquet Activities
- 120 Tennis & Aquatics F
- 121 Intermediate Racquetball & Weight Training*
- 122 Tennis & Bowling* F
- 123 Bowling*
- 125 Skiing (Beginning)* S
- 127 Cross-Country Ski Touring II* S
- 128 Dance S
- 141 Beginning Swimming
- 142 Intermediate Swimming S
- 143 Lifesaving** F
- 144 Skin & Snorkel Diving S
- 149 Water Safety Instructors** S

Hours of class per week: 2.

*Course meets at sites other than campus. Students make transportation arrangements.

**Prerequisites: See instructor.

160 Series-Majors Program 1 s.h. each

These activity courses are designed for the H.P.E.R. major. Special emphasis is placed on student performance and teaching techniques.

- PE 165 Soccer & Weight Training F
- 166 Racquet Activities & Fitness S
- 241 General Aquatics for P.E. Majors S

Hours of class per week: 2.

HE 121 Nutrition F 3 s.h.

A study of the basic nutritional need required for the maintenance of active health. Special emphasis will be placed on relating nutritional needs to specific menu planning.

Hours of class per week: 3.

HE 125 Advanced Nutrition S 3 s.h.

An understanding of the nature and relationship between nutritional requirements and the nutritive value found in foods. Emphasis will be placed on food storage and preparation as it pertains to the maintenance of a high nutrient value. Vitamin and mineral deficiency diseases will be stressed.

Prerequisite: HE 121. Hours of class per week: 3.

HE 135 Personal Health 3 s.h.

A one-semester course dealing with the application of scientific principles of effective, healthful living. Topics include critical areas of health, the causes and effects of health problems, and the practical application of this knowledge toward positive action. Drugs as well as environmental health, family hygiene, mental health, and social diseases will be covered.

Hours of class per week: 3.

HE 136 First Aid & Safety Education 3 s.h.

A one-semester course to include accident causation and prevention in industry, recreation, home, and community. The Red Cross Advanced First Aid & Emergency Care certification will be granted following satisfactory completion of an emergency unit as outlined by the American National Red Cross.

Hours of class per week: 3.

HE 237 Human Sexuality 3 s.h.

An examination of the many concepts of human sexual development, with a view toward development of patterns that are self-actualizing. Some of the areas of study are: Human sexuality as an expression of total personality, structure functions, as well as dysfunctions of the anatomy involved in reproduction and sexuality, birth control, family planning and abortion; mechanisms of genetics, pregnancy and childbirth, sexual diseases and disorders, courtship, marriage, parenthood, and sexual adjustment in marriage.

Hours of class per week: 3.

HE 235 Community Health F 3 s.h.

A detailed investigation of communicable diseases including definition, transmission, and control in respect to prevention of disease and promotion of health. Organized public health activities as conducted by local, state, national and international agencies.

An introduction to air and water pollution control, including effects and sources of pollution. Field trips are arranged.

Hours of class per week: 3.

HE 337 Advanced Seminar in Human Sexuality 3 s.h.

A seminar providing presentation, detailed investigation and concentrated discussion of selected contemporary issues and topics in human sexuality. Emphasis is placed on student involvement in topic selection, research and experimental investigation. Topic selection

is based on student interest and selected current controversial areas of sexuality.

Prerequisite: HE 237. Hours of class per week: 3.

PE 021 American Leisure Time Activities 1 s.h.

An introduction to lifetime sport activities popular in America. Physical, social and mental benefits of activities are stressed through participation. The course may not be used to satisfy Physical Education activity course requirements.

Hours of class per week: 2.

PE 031 Intramural Activities 1 s.h.

Students are required to participate satisfactorily in supervised sport activities to complete course requirements. The schedule of activities is available from the Physical Education faculty. This course may not be used to satisfy Physical Education activity course requirements, but may be repeated for additional elective credit.

Hours of class per week: 1.

PE 141 Beginning Swimming 1 s.h.

This course is designed for students who are either non-swimmers or marginal swimmers as determined by preliminary screening. The course objective is to have the student acquire enough basic knowledge and skill to effectively protect themselves and assist others, when in the proximity of water, under conditions of danger and stress. (student option)

Prerequisite: Satisfactory medical examination. Hours of class per week: 2.

PE 142 Intermediate Swimming S 1 s.h.

This course is designed for the student who has completed basic swimming or is capable of swimming with confidence. Intermediate swimming will include the learning of the four competitive swimming strokes. The basic rudiments of diving will also be taught.

Prerequisite: Basic swimming. Hours of class per week: 2.

PE 143 Lifesaving and Water Safety F 1 s.h.

A course structured for the highly skilled swimmer. All students who pass the initial screening criteria must also pass an additional aquatic skill test to be eligible to enroll in this course. Basically this individual should be able to do all the basic and advanced swimming strokes and have a reasonable level of stamina and endurance.

Upon successful completion of the course a student, based on newly acquired skill, will be able to effectively and efficiently assist or rescue a drowning individual.

Prerequisite: Satisfactorily pass the aquatic screening test, and satisfactory medical examination. Hours of class per week: 2

PE 144 Skin and Snorkel Diving S 1 s.h.

A preliminary lead-up course of Scuba. Students will learn all the fundamental skills and basic concepts associated with self contained underwater breathing apparatus. (Scuba)

Principles of Scuba Diving, safety, emergency techniques, physical endurance, (associated with diving) and some of the basic physics and medical aspects of diving will be taught. PE 144 will carry no certification.

Hours of class per week: 2.

PE 149 Water Safety Instructors S 1 s.h.

This course will be a sequel to Senior Lifesaving. Students enrolling for W.S.I. will be afforded instruction on teaching techniques. They will be involved in at least one independent study project and their practical work will include V.T.R. self-evaluation. Each candidate will have student teaching responsibilities and evaluations.

Prerequisite: Successful completion of PE 143. Hours of class per week: 2.

PE 171 Ice Fishing* 3 s.h.

Course takes advantage of College location near Adirondack lakes. Some time spent in classroom discussing development and

theory of ice fishing and use of equipment. Talks by local conservation officials. Visit to local hatchery. Much time spent ice fishing on Sacandaga and other lakes of the region.

Hours of class per week: 3.

PE 201 Introduction to Health, Physical Education and Recreation **F 3 s.h.**

Provides an historical background and understanding of the role of health and physical education in education. Individual objectives and qualifications are reviewed, as are the opportunities in the profession.

Hours of class per week: 3.

PE 231 Camping* **S 3 s.h.**

Selected, guided experiences in camping including nature and conservation, camp craft, nature craft, waterways, and conduct and management of resident and day camps.

Hours of class per week: 3.

PE 235 Outdoor Education* **S 3 s.h.**

This course is designed for students interested in management of wildlife and natural resources in New York State. Topics to be included are fisheries, wildlife management, and land control. Field trips will be coordinated with the New York State Department of Fish and Game and the Conservation Department. Special emphasis will be in Federal and State controls.

Hours of class per week: 3.

PE 241 General Aquatics For Physical Education Majors **S 1 s.h.**

This required course is a broad introduction to aquatic activities including: Basic strokes, simple forms of rescue, survival swimming, springboard diving, small craft, mask-snorkel-fins, and the American National Red Cross Swimming Program.

Hours of class per week: 2.

PE 251 Lifetime Sports* **S 2 s.h.**

Philosophy and instructional techniques in two of the lifetime sports. Activities include golf and badminton.

Hours of class per week: 2.

PE 252 Lifetime Sports* **F 2 s.h.**

Philosophy and instructional techniques in two of the lifetime sports. Activities include bowling and tennis.

Hours of class per week: 2.

PE 253 Lifetime Sports* **F 2 s.h.**

Philosophy and instructional techniques in two of the lifetime sports. Activities include volleyball and archery.

Hours of class per week: 2.

Human Development

HD 100 Studies Of The Person **3 s.h.**

This interdisciplinary course offers the student an opportunity to increase his self-understanding and move toward full development of his personal potential as he explores the question of what it means to be a fully functioning human being. Course content is drawn from a variety of academic disciplines and is organized around issues of emotional development, such as:

1. Identity (Finding answers to the question, "Who Am I?")
2. Connectedness (Relationship with other people and the environment)
3. Power (Exercising control over one's life)

Topics include: Self Actualization and the Fully Functioning Person, Values and Lifestyles, Assertiveness Training, Life Passages, Man in Nature, Management of Stress, and Interpersonal Relationships.

Hours of class per week: 3.

HD 130 Supervised Community Service* **S 3 s.h.**

Students are assigned to work with clients in human service agencies in the community (Sheltered Workshops for Retarded Adults, Special Education classes in the schools, Correctional Institutions, Youth Centers). In addition to their client contact, they attend regularly scheduled class sessions and individual conferences with the instructor for the purpose of reflecting upon their experiences and integrating the insights they have gained in their work. Students also complete selected readings and short papers related to their human service experience.

Prerequisite: Permission of the instructor. Hours of class per week: 1.

HD 150 Reading and Learning Skills **3 s.h.**

This course includes techniques designed to improve comprehension, vocabulary, reading rate and critical reading. Various learning skills, such as: note-taking, study schedules, writing research papers, Xerox Listening Lab and techniques of study for different courses will also be taught.

Hours of class per week: 3.

HD 221 Human Relations and Group Dynamics **3 s.h.**

This course is designed to assist students in acquiring knowledge and skills which will enable them to communicate more effectively with other people, individually and in small groups. Learning activities include group process observation, role-playing and human relations skill training as well as film and lecture presentations on theories of interpersonal communication. Topics include: Blocks to Communications, Listening, Confrontation, Male-Female Relationships, Marriage, Family Relationships, Group Dynamics and Leadership. This course also contains a substantial unit of Transactional Analysis.

Hours of class per week: 3.

HD 225 Man's Search for Meaning **3 s.h.**

(An Advanced Seminar On Individual Development)

An in-depth study of selected theories which reflect current thinking in the area of individual development. The course will stress self-understanding through application of the theories under study.

Hours of class per week: 3.

HD 250 Stress and Its Management: A Psychosocial Perspective **3 s.h.**

The course will focus on theoretical and applied aspects of stress and its management. Included will be physical and psychological ramifications of the stress response, and an examination of the literature regarding personal, cultural, societal, medical, vocational, and environmental implications of stress. The development of the needs/values systems and its relationship to the stress response will be discussed. Selected stress reduction techniques will be introduced.

Hours of class per week: 3.

*Course meets at sites other than main campus. Students make transportation arrangements.

HUMANITIES

English

EN 124 Basic English

3 s.h.

This course teaches the fundamentals of writing and may be a prerequisite for further study of composition for some students. It is aimed at helping students who need special assistance in the improvement of writing and includes a study of grammar and composition with emphasis on the fundamental principles of writing. Not credited toward the Associate Degree English and humanities requirements, but may be used for elective credit.

Hours of class per week: 3.

EN 125 Freshman English I

3 s.h.

The first of a two semester sequence in communication skills, this course emphasizes basic techniques for writing and speaking improvement. Students learn to write a short essay which is grammatically and mechanically correct, logical and coherent. They also learn to deliver a clear, concise oral presentation. Research techniques and procedures for documenting sources are also covered.

Hours of class per week: 3.

EN 126 Freshman English II

3 s.h.

Students expand on the skills learned and the procedures introduced in EN 125. Some of the oral and written reports will require critical evaluation of imaginative literature and essays.

Prerequisite: EN 125. Hours of class per week: 3.

EN 127 Technical English

S 3 s.h.

A study of the problems of organizing, writing, and presenting technical subject matter and materials with emphasis on description, process, abstract, technical reports and manuals. Instruction and practice will be provided in technical writing and reporting.

Prerequisite: EN 125 (Students in the technologies may take EN 127 Technical English in lieu of EN 126 Freshman English; other students may take EN 127 as an HU elective course.)

Hours of class per week: 3.

EN 132 Speech

3 s.h.

This course introduces the student to the forms of public speaking and affords the opportunity to practice both the formal and informal deliveries of speech. Individual expression and creativity are still the main tenets of this course. The course aims to enrich the student's ability to communicate. Emphasis is placed on the spoken word. Various forms of discourse are studied and put into practice. Outside readings are required and the student prepares critical evaluations. The student is also given the opportunity to work with panel and discussion groups.

Hours of class per week: 3.

EN 200 Short Story

S 3 s.h.

A survey of the development of the short story from its origins in the oral tradition to its present form. Emphasis is placed on the artistic development of this literary genre by the students' readings and discussions of a wide variety of 19th and 20th century short stories representing various authors and traditions. Course work includes critical papers and group presentations.

Prerequisite: EN 125, (EN 126 desirable). Hours of class per week: 3.

EN 231 Masterpieces of World Literature I

F 3 s.h.

The course surveys world literature from the Greek and Roman classics up to the Renaissance. The readings include selections from Homer, Sophocles, Plato, Virgil, Dante, Chaucer, and other representative authors.

Prerequisite: EN 126 desirable. Hours of class per week: 3.

EN 232 Masterpieces of World Literature II

S 3 s.h.

The course surveys world literature beginning with the Age of Reason. Readings include Voltaire, Flaubert, Melville, Eliot, Mann and others.

Prerequisite: EN 125 (EN 126 desirable). Hours of class per week: 3.

EN 233 American Literature I

F 3 s.h.

A survey of American Literature from the Puritan period to the middle of the Nineteenth Century.

Prerequisite: EN 125 (EN 126 desirable). Hours of class per week: 3.

EN 234 American Literature II

S 3 s.h.

A survey of American Literature from the Middle of the Nineteenth Century to the present.

Prerequisite: EN 125 (EN 126 desirable). Hours of class per week: 3.

EN 235 Modern Drama

S 3 s.h.

This course is an introduction to modern drama as literature and includes a representative sample of a number of plays. Aspects of modern drama such as naturalism, expressionism, and theatre of the absurd are considered as seen in the works of Ibsen, Strindberg, Chekhov, Pirandello, Lorea, Ionesco, and Albee. American playwrights include O'Neill, Miller and Williams. Emphasis is placed on the meaning and appreciation of the plays through class discussion. Students will see a current dramatic production. A critical paper is required.

Prerequisite: EN 125 (EN 126 desirable). Hours of class per week: 3.

EN 237 Introductory Readings in Modern Literature

S 3 s.h.

This course is an introductory approach to literature. Emphasis is placed on cultural analysis and advanced critical skills.

Hours of class per week: 3.

EN 239 The Modern Novel

S 3 s.h.

The study, interpretation, discussion, and analysis of some of the great American and European novels in the period from 1900 to the present day. Major works by leading Twentieth Century novelists will be considered.

Prerequisite: EN 125-126 desirable. Hours of class per week: 3.

EN 241 Great Themes of Literature

S 3 s.h.

A study of the themes of Literature which stimulate and reflect human consciousness. A study of the themes will expose basic truths about man's behavior, his emotions, his inherent weaknesses, his capacity for greatness, and the darker complexities of his mind. ("Man and Woman"—"Power and Corruption"—"Heroes and Cowards"—"Authority and Rebellion"—"Crime and the Criminal"—"Conscience in Conflict.")

Hours of class per week: 3.

EN 243 Oral Interpretation of Literature

S 4 s.h.

Study and practice in the performance techniques and literary material appropriate to dramatic oral presentation, either individually or in concert. Particular attention will be paid to vocal expressiveness, in three genres—prose, poetry, and drama. Opportunities to perform, publicly, as a Readers' Theatre group will be provided.

Prerequisite: EN 126. Hours of class per week: 4.

EN 245 World Drama

S 3 s.h.

An examination of major dramas from the Greeks to the late nineteenth century, with consideration of their literacy, theatrical, and socio-cultural values. Readings will include representative plays from the following periods, epochs, or "movements": Classical Greece and Rome; the Middle Ages; the Renaissance; Neo-Classical;

Restoration; Romantic; Realistic. Genres: tragedy, comedy, melo-drama, farce, and various hybrids.

Prerequisite: EN 125 (EN 126 desirable). Hours of class per week: 3.

EN 257 Creative Writing **S 3 s.h.**

Instruction and practice in the various avenues of creative written expression. Poetry, drama, novel, short story, and other literary forms are investigated, but primary emphasis is placed on the student's development of his writing abilities along the lines of his particular interests and needs. Creative work is encouraged through regular individual conferences.

Prerequisite: EN 125 or EN 126 desirable; permission of instructor. Hours of class per week: 3.

Theater

TH 101 Theater History **F 3 s.h.**

The interaction of cultural, political, economic, and scientific forces upon dramatic art during the major epochs in Western civilization and their implications for the modern movements in dramatic theory and practice. Students will trace the development of the theater from its beginnings until the present. Major emphasis is to be on Europe and America. Oriental theater will be treated only briefly and with an eye to its influence on recent trends in the West.

Hours of class per week: 3.

TH 102 Stagecraft **F 4 s.h.**

Stagecraft will provide students with theory and practice of visual, aural, and construction facets of theater through study of scenery, sound, and lighting equipment. Workshop is required.

Hours of class per week: 4.

TH 105 Fundamentals of Acting **S 3 s.h.**

Studies in movement and speech as aspects of dramatic art; exercises to enrich and discipline the imagination and to develop and control the responses of the body and speech to the imagination. The course will also entail some preliminary application of the elements of acting to the study of scenes. This will include analysis of the script for structure, objectives, and style.

Hours of class per week: 3.

TH 136 Introduction to Theater **3 s.h.**

This course is intended as a survey to introduce the student to theater as a technique apart from, although closely related to, literature. The student will study acting techniques, stage devices, set design, costuming, make up. Significant drama will be read to identify application of drama as art, audience reactions and needs, methods of expression, and interpretation. Textbooks will be used and laboratory experience will be provided.

Hours of class per week: 3.

TH 201 Introduction to Theater Production **F 3 s.h.**

This course includes the fundamentals of directing, principles of design, and organization and management of theatrical production.

Prerequisite: TH 102 desirable; completion of current registration of EN 126; or permission of instructor.

Hours of class per week: 3.

TH 202 Theater Seminar **S 4 s.h.**

Application of theater study to the challenges of theater practice. This course provides an intensive study of the components of theater in relation to actual productions; plays will be produced and directed by seminar students.

Prerequisite: TH 201 or permission of instructor. Hours of class per week: 4.

Modern Foreign Languages

FL 141-142 Elementary French I, II

F,S 3 s.h. each semester

A beginner's course covering the fundamentals of oral comprehension, oral expression, and grammar. Readings in French familiarize the student with the civilization of France.

Hours of class per week: 3.

FL 241-242 Intermediate French I, II

F,S 3 s.h. each semester

In this intermediate course the comprehension and use of the spoken language are studied, as well as its grammar and composition, and the cultural aspects of the language. Reading texts are chosen to enable the student to converse in idiomatic French and to awaken his interest in French Literature.

Prerequisite: FL 142. Hours of class per week: 3.

FL 143-144 Elementary Spanish I, II

F,S 3 s.h. each semester

A beginner's course, covering the fundamentals of oral comprehension, oral expression, and grammar. Readings in Spanish introduce the student to the Hispanic World and serve as a basis for conversations.

Hours of class per week: 3.

FL 243-244 Intermediate Spanish I, II

F,S 3 s.h. each semester

The comprehension and use of the spoken language is further developed in this second-year language course. Grammar, composition, and the cultural aspects of the language are studied. Readings in Spanish introduce the student to Hispanic life and literature.

Prerequisite: FL 144. Hours of class per week: 3.

FL 343 Spanish Conversation and Composition **3 s.h.**

This course is designed to help students express themselves in idiomatic Spanish. Emphasis will be placed on vocabulary used in every day situations. Grammar will be reviewed as needed to facilitate oral and written communication. Assigned readings will assist the student in learning the expressions necessary for communication.

Prerequisite: FL 244 or equivalent. Hours of class per week: 3.

FL 344 Readings in Spanish **3 s.h.**

This is not a sequential course. A variety of readings in Spanish from works of representative authors. Class discussion will focus on the analysis of assigned readings to give the student a general basis for more specific work in literature and to help him understand articles in Spanish publications. Oral expression will be stressed.

Prerequisite: FL 244 or equivalent. Hours of class per week: 3.

FL 145-146 Elementary Italian I, II

F,S 3 s.h. each semester

A beginner's course covering the fundamentals of oral comprehension, oral expression, reading, and grammar of the Italian language. Italian will be presented in culturally relevant situations that will help students become acquainted with the civilization, life-style, and customs of the Italian people.

Hours of class per week: 3.

FL 147-148 Elementary German I, II

F,S 3 s.h. each semester

A beginner's course stressing the conversational approach to the language. Essential grammar is studied and composition is introduced.

Hours of class per week: 3. Hours of lab per week: 1.

FL 149-150 Elementary Polish I, II

F,S 3 s.h. each semester

A beginner's course covering the fundamentals of oral comprehension, oral expression, reading, and grammar of the Polish language.

Hours of class per week: 3.

Music

MU 101 The American Broadway Musical F 3 s.h.

This course teaches the fundamentals of reading music and vocal interpretation for the musical stage. The course will examine the scores of a number of Broadway musicals with special attention to Kern's *Show Boat*, Rodger & Hammerstein's *Oklahoma* and Sondheim's *Company*.

Hours of class per week: 3.

MU 201 History of the American Musical F 3 s.h.

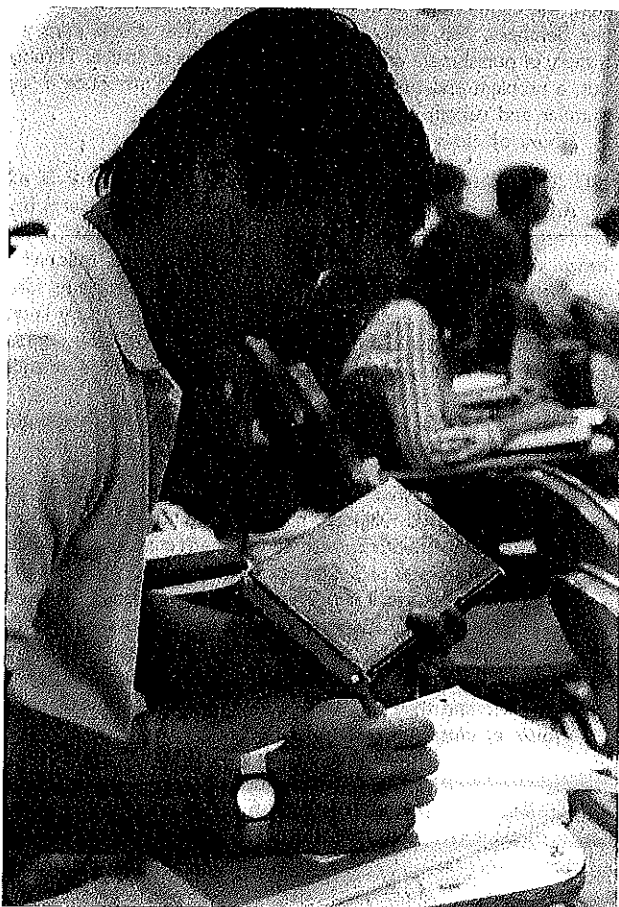
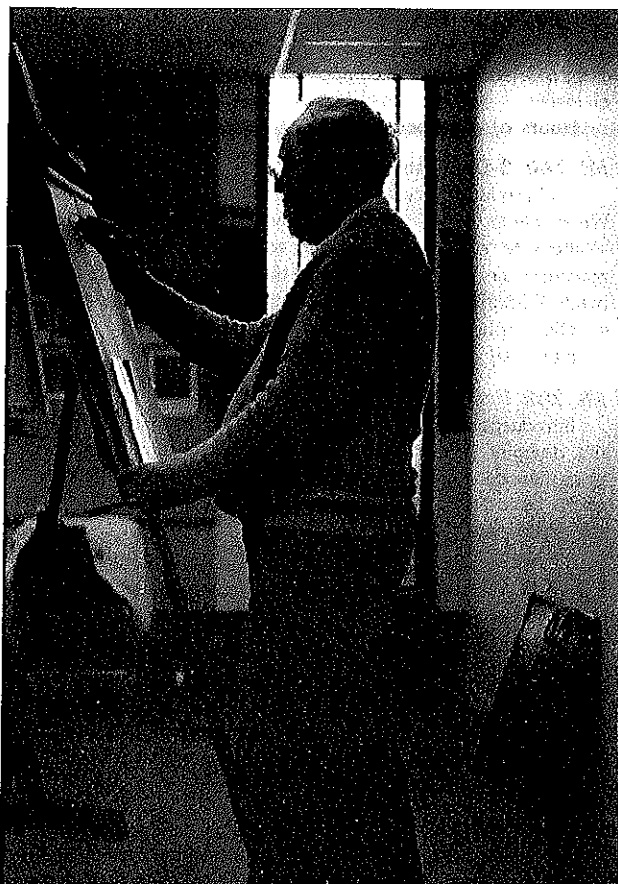
This course will trace the development of the American Musical through the use of music and lyrics. Emphasis will be placed on style development and aesthetic achievements. The Time-Life Record Series, "American Musicals", will be utilized. Students will have an opportunity to attend a Broadway Musical.

Hours of class per week: 3.

MU 102 American Broadway Musical Production S 3 s.h.

This course will consist of an in-depth study of the musical score, lyrics, and book of a particular Broadway show and will result in its production. These activities involve 60 hours of class and rehearsal time and will culminate with the performance of the show. This course may be repeated once for credit.

Hours of class per week: 3.



Art

AR 100 Studio Art S 3 s.h.

This basic course in drawing, painting, and sculpture will introduce the novice artist to the varied forms of self-expression and will aid in controlling the tools which are available. There will be studio experience with a variety of art media. Emphasis will be placed on line, color, texture, form and space. An analysis and critique of the student's studio work will be made.

Hours of class per week: 4.

AR 101 Art History F 3 s.h.

Introduction to the history of art. A survey of world painting, sculpture, and architecture from prehistoric times to the Renaissance. Emphasis will be placed on stylistic developments and appreciation of man's aesthetic achievements. Presentation will combine lecture, text, and visual materials.

Hours of class per week: 3.

AR 102 Art History S 3 s.h.

A continuing introductory course to the History of Art. This course surveys world painting, sculpture, and architecture, from the Renaissance to the present twentieth century.

Prerequisite: None (AR 101 desirable). Hours of class per week: 3.

AR 125 Computer Graphics 3 s.h.

This course provides students with the experience of designing and implementing projects in computer graphics, animation, and fine art. The emphasis is on combining fine art techniques with computer image processing.

Hours of class per week: 4.

AR 150 Basic Design 3 s.h.

Introduction to the elements and principles of two-dimensional design. Organization and composition on a flat surface with a variety of media.

Hours of class per week: 4.

AR 160 3-Dimensional Design S 3 s.h.

An introductory studio course on the fundamentals of sculpture. Wood, paper, metal, wire, plaster, and clay will be used to identify solutions to problems in volume, scale, weight, texture, balance, movement and tension. Ideas being transformed into sculptural statements through visual logic and creativity, utilizing a variety of construction techniques will be stressed.

Hours of class per week: 4.

AR 200 Printmaking I F 3 s.h.

Introduction to basic printmaking process: intaglio (etching, aquatint, drypoint, lift ground, mezzotint). The collagraph print, the relief print, (woodcut, color relief print, wood engraving). A consideration of the basic technique in printmaking. Emphasis on self-expression via experimentation.

Prerequisite: AR 100 equivalent or permission of instructor. Hours of class per week: 4.

AR 210 Drawing I F 3 s.h.

A preliminary drawing course emphasizing the study of perspective, form and composition to expand seeing, and to develop the techniques and procedures necessary in recording visual information. Landscape, still life, natural and machine objects will be observed and used as content.

Hours of class per week: 4.

AR 211 Drawing II S 3 s.h.

An exploration in a variety of drawing media, with emphasis on personal expression. Topics include studies in perceptual as well as conceptual drawing as a preparatory sketch, as diary, and as a finished product. Emphasis will be placed on the subjective, creative process.

Prerequisite: AR 210, or permission of instructor. Hours of class per week: 4.

AR 220 Painting I F 3 s.h.

An exploration to expand awareness of painting as a means of visual thinking and communication. Basic concepts will be stressed such as, composition, color theory, texture, value, form and content. Emphasis will also be on the variety of techniques available and personal creative solutions to specific painting problems.

Hours of class per week: 4.

AR 221 Painting II S 3 s.h.

A continuation in the exploration of design concepts, composition, techniques, and expressive methods utilized in painting. Emphasis will be placed on individuals defining the direction of their work.

Hours of class per week: 4.

AR 275 Pottery F 3 s.h.

A general course in pottery utilizing a variety of forming techniques with emphasis on coil, slab, and wheel thrown pieces, as well as ceramic sculpture. Concepts concerning clay, glazes, slips, texture, form, and firing techniques will be developed. Students will be required to furnish their own supplies.

Hours of class per week: 4.

AR 300 Fine Arts Seminar S 3 s.h.

This course will allow the student the opportunity to develop a professional profile. Topics include matting, and mounting of selected works; portfolio presentation; slide presentations; contemporary trends; exhibition participation, and discussions of individual works in progress.

Hours of class per week: 4.

Philosophy and Language**HU 251 Introduction to Philosophy** F 3 s.h.

An introduction to philosophical problems and selected philosophers of the ancient period; pre-Socratics, Plato, Aristotle. Emphasis is placed on the rise of the scientific tradition in ancient philosophy vs. mythological treatment of cosmogonical issues prior to the pre-socratics. Students will deal with problems from the basic divisions of philosophy, metaphysics, epistemology, ethics, with emphasis on critical thinking—i.e. "doing" philosophy as well as gaining knowledge of the historical development of philosophical ideas.

Hours of class per week: 3.

HU 254 Logic and Argument S 3 s.h.

This course presents logic as a means for analyzing social, political, and philosophical controversy. The approach is from the linguistic and semantic side, with training in finding the thread of argument within the tangles of commonplace speech and writing. Interest in language is important. This course covers most of the traditional logic of philosophy, such as the syllogism and the use of reasoning in the development of new knowledge, as well as the elements of critical thinking.

Prerequisite: Sophomore standing or completion of 6 hours of English. Hours of class per week: 3.

HU 258 Ethics S 3 s.h.

The study of ethics provides unique insights into human behavior, personality, and goals. Beginning with topics like the acquiring of a moral code, the roles of reason and rationalization, the distinction between law and morality, and long-standing issues like psychological egoism and ethical relativism, the course develops methods for sorting out questions of morality, fairness and rights. By means of many familiar and practical problems the conflicting claims of egoists and altruists, the past and the future oriented, those advocating rules and those favoring net benefit are presented and evaluated. As with other studies in philosophy, the approach is to use relevant discussion, not dogma, and in this open manner analyze leading ethicists like Bentham, Mill, Kant, Ross, and Hume. The course ends with a study of punishment and rewards and theories of justice. Throughout, a problem and case-study method is used to introduce a large number and variety of moral problems.

Hours of class per week: 3.

HU 267 Modern Philosophers F 3 s.h.

An introduction to philosophers and philosophic problems from Descartes to the contemporary period. Emphasis is placed on historical development of ideas and such movements as rationalism, empiricism, pragmatism, and analytic philosophy. Problems range from the mind-body dualism of Descartes to how we justify knowledge. This course will show how consideration of philosophical problems relates to our everyday lives, and influences scientific investigation and social/ethical concerns.

Prerequisites: HU 251 or background in Science, Math desirable. Hours of class per week: 3.

HU 271 Comparative Religions S 3 s.h.

A survey of world religions, major and minor, of the past and present. Religions of both Eastern and Western cultures investigated. Historical development of religion presented through mythology of Egypt, Greece, etc. as well as the historical progression of the semitic religions: Judaism—Christianity—Islam. Emphasis placed on determining similarities and differences among the various religions, but course also deals with the influence of religion on science, art, politics, etc., and their influence on religion.

Hours of class per week: 3.

Communications

CO 171 Introduction to Mass Communications 3 s.h.

An introduction to mass communication theory and practice, including a survey of the historical, social, legal, political and economic aspects of mass communication; a critical study of the rights, responsibilities and current practices of the mass media including print journalism, broadcast journalism, advertising and public relations and their impact on local, national, and international affairs.

Prerequisite: EN 125 or permission of instructor. Hours of class per week: 3.

CO 220 Introduction to Public Relations 3 s.h.

The student will be introduced to the principles, history and practice of public relations; and will develop an understanding of the processes that influence public opinion. This course will also cover the ethics and responsibilities of the practitioner to the media and the public, and discuss the public relations tools and resources that are available.

Prerequisite: EN 125. Hours of class per week: 3.

CO 231 Journalism 3 s.h.

A study of the principles and practices of journalism, with special emphasis on print journalism. The question of what constitutes the news, the techniques of news gathering, news and feature writing, news editing, and ethical questions faced by journalists will be critically examined. Students will write articles to be submitted to the College publications, hometown newspaper, or other publications.

Prerequisites: EN 125 (EN 126 desirable) and CO 171. Hours of class per week: 3.

CO 254 Video Production 3 s.h.

Theoretical and practical exploration of design and production techniques for the video as a medium of communication. Students will gain experience in video production by working in the studio, in the field, and at the control console at the College's telecommunications center.

Hours of class per week: 3.

EDUCATION

ED 110 Introduction to Education for Teacher Assistants 3 s.h.

An introductory course designed to meet the needs of those who want to work in elementary and secondary schools as teacher assistants. The course will acquaint the students with the organization of American public education, major issues in elementary and secondary education today, and important regulations as they affect classroom teaching. The course will also attempt to generate an awareness of the basic legal issues in American public education.

Hours of class per week: 3.

ED 111 Education Theory and Practice for Teaching Assistants 3 s.h.

A second level course designed to aid the teaching assistant in theory and practice. A theory into practice approach will be used to explore the following areas: assertive discipline; effective teaching; interpersonal relations; effective communications; collaborative learning; stress management; informal structures; effective schools.

Prerequisite: ED 110. Hours of class per week: 3.

ED 171 Introduction to Early Childhood Education 3 s.h.

The course presents information and theory regarding materials and methods of teaching children three to eight years of age. Students will explore the nature and nurture of creativity in young children. Language, Arts, Music, and Movement Activities will be

related to principles of child development. Emphasis is placed upon developing the student's understanding of proper learning environment, child's total development and the teacher's role and responsibilities including planning and developing goals, activities, evaluation techniques and classroom management. Attention is given to specific skills and needs of those working in child care centers, head start programs, nursery schools, pre-kindergarten, kindergarten, and lower elementary school grades. The course includes visits to the College's nursery school.

Hours of class per week: 3.

ED 225 Arts and Crafts for Early Childhood Education 3 s.h.

A course on how to teach the visual elements of design, creative thinking skills and media techniques to children. Variety of arts and crafts activities will be explored. Students will have hands-on experience in media. Activities will be related to the principles of child development and the ability to provide appropriate learning experience in children.

Prerequisite: ED 171 or permission of instructor. Hours of class per week: 3.

ED 250 Music for Early Childhood Education 3 s.h.

A study of musical needs of young children and appropriate instructional techniques. Emphasis placed on understanding rhythms and creating and using suitable materials. Activities will be related to the principles of child development and students will explore the curriculum area of music as a means of encouraging the child's development and individual expression.

Prerequisite: ED 171 or permission of instructor. Hours of class per week: 3.

ED 275 Children's Literature 3 s.h.

A survey of all forms of children's literature and a study of a variety of materials of major writers and illustrators with which children can find identification or expression. Students will carry out critical study and evaluation of many children's books and periodicals in areas of fiction, non-fiction, and poetry. Criteria will be examined for selection of children's books for pleasure, enrichment of curriculum areas and child development. Appropriate presentation techniques will be examined.

Prerequisites: ED 171 and EN 125. Hours of class per week: 3.

SCIENCES

Biology

SC 141 Introductory Biology F 3 s.h.

This course stresses the human relevance and social implications of biology. Historical antecedents of modern scientific developments are discussed. Cellular anatomy, physiology, and energetics are discussed in genetic and ecological perspective. Laboratory sections include investigations which emphasize either Allied Health, Natural Resources or traditional experiences. Observation, interpretations, and library research are integrated by means of written laboratory reports.

Hours of class per week: 2. *Hours of lab per week:* 3.

SC 142 Introductory Biology S 3 s.h.

A biosystematic approach to plant and animal taxa, both living and extinct, utilizing representative fossils and live specimens when available. An understanding of man's origin and place in the biosphere is complemented by topics from comparative anatomy, physiology, and medicine as they relate to the human organism with a major emphasis on genetics.

Observation, interpretation, and library research are integrated by means of written laboratory reports. Included are: dissection and

micro-anatomy of representative invertebrates, vertebrates, and plants, field collection, identification, and study of plants and animals of biologic interest.

Hours of class per week: 2. Hours of lab per week: 3.

BI 171 Modern Biology **F 4 s.h.**

A course in general biological principles relating cell structure to function. Topics discussed will include the origin and evolution of life; biochemistry, energetics; the molecular basis of cell metabolism; principles of heredity and the genetic control of cell activity; cell division; the homeostatic regulation of the cell environment. Physiological processes at the organismic level will be analyzed and correlated with the simpler manifestations at the cell level. Emphasis will be placed on modern research, the nature and philosophy of science, and the art of experimentation as carried on concurrently in the laboratory portion of the course.

Hours of class per week: 3. Hours of lab per week: 3.

BI 172 Plant Biology **S 4 s.h.**

An introduction to the structure, functions, and development of seed plants, followed by a survey of the diversity and economic significance of the plant kingdom. The organs of plants will be studied in relation to their morphogenesis, functional interaction, and special physiological roles. These plant organs will also be studied in relationship to their interaction with environmental factors such as air and soil. The major plant groups will be studied from the algae through the Angiosperms. The interactions of the plants in each of these groups will be considered with respect to such concepts as energy flow, competition, parasitism, plant succession, and biome composition. Major emphasis will be placed on basic concepts of population genetics and evolution.

Prerequisite: BI 171 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.

BU 173 Animal Biology **S 4 s.h.**

An evolutionary survey of the animals, from Protozoa through Chordata, and their ecology. Both gross and microscopic structures of vertebrates and invertebrates will be studied in relation to their development, functional interactions, and special physiological roles. These concepts shall be related to paleontology, biogeography, and population genetics, so that the student will be aware of the evolutionary significance of the structures studied. Emphasis will be placed on vertebrate history and behavior, especially as it concerns the origin of man.

Prerequisite: BI 171 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.

BI 176 Ecology **S 3 s.h.**

A study of the interrelationship between living systems and their physical environment. Emphasis will be placed on the understanding of different ecosystems, their balance and dynamics. Man's role as a member of the biosphere will be stressed.

Prerequisite: SC 141, BI 171, or permission of instructor. Hours of class per week: 3. Field trips will be taken.

BI 181-182 Anatomy and Physiology **F,S 4 s.h.**

Two-semester course exploring the human body as an integrated complex of systems. Fundamental concepts of biology, chemistry, and physics are explored as aids to understanding physiology of systems. Study of structure and function of each organ system, with emphasis on interrelationships. Special emphasis on cellular physiology, cellular reproduction, fluid and electrolyte balance, acid-base balance and stress as it affects endocrine and neurophysiology.

Hours of class per week: 3. Hours of lab per week: 3.

BI 282 Microbiology **4 s.h.**

This course explores the morphology, physiology, and ecology of the major groups of microorganisms. Emphasis will be placed upon recent developments in the field of disease, immunology, and industrial applications. The laboratory will illustrate latest techniques

in identification, culturing, and isolation of microbes as well as modern applications of microbiology.

Prerequisite: BI 171 or SC 141, BI 181 recommended or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.

Chemistry

SC 170 Introductory Chemistry **3 s.h.**

A course in the applications of chemistry to societal problems. Topics to be covered: measurements, problem solving techniques using graph analysis and computers; basic principles in chemistry, such as atomic theory; chemical bonding, states of matter, and chemical reaction organic chemistry and chemistry of life; forms of energy, including solar, nuclear and fossil fuels; toxic waste, radioactive waste, and acid rain; chemistry of food and additives; environmental chemistry of air, water and soil.

An important element of the course will be preparation and presentation of a research paper on a chemical aspect of a topic selected by the student with the instructor's approval.

Hours of class per week: 2. Hours of lab per week: 3.

CH 173-174 Fundamentals of Chemistry
CH 174-S 4 s.h. each semester

A course in the fundamentals of chemistry stressing basic principles. Topics included are: atomic theory, thermochemistry, thermodynamics, periodicity, states of matter, chemical bonding, organic chemistry, solutions, oxidation-reduction reactions, chemical equilibrium, kinetic theory, acid-base reactions, and electrochemistry.

Hours of class per week: 3. Hours of lab per week: 3.

Engineering Science

ES 235 Mechanics: Statics **F 3 s.h.**

Course designed for sophomore engineering, mathematics, and physics majors. Presents the principles of statics of particles and rigid bodies and indicates the general methods of applying them to the solution of varied engineering problems and develops the analytical ability of the student. Topics covered are: vector algebra; forces and equilibrium; structures, plane and space trusses, frames and machines; centroids of lines, areas, and volumes; flexible cables, beams with distributed loads; friction; area movements of inertia and mass movements of inertia, inertia tensor.

Prerequisites: PH 171 and MA 157; completion of or concurrent registration in MA 158. Hours of class per week: 3.

ES 236 Mechanics: Dynamics **S 3 s.h.**

Course designed for sophomore engineering, mathematics, and physics majors. Presents the principles of dynamics of particles and rigid bodies and indicates the general methods of applying them to the solution of varied engineering problems and develops the analytical ability of the student. Topics covered are: equations of motion, rectilinear and curvilinear motion, motion relative to translating and rotating axes; work and energy; impulse and momentum; Euler equations, the gyroscope; central force motion; simple harmonic motion, damped oscillations and forced oscillations.

Prerequisites: PH 171 and MA 157-158. Hours of class per week: 3.

ES 281 Electric and Electronic Circuits **S 4 s.h.**

A course on the analysis of linear and nonlinear circuits, designed for engineering and physics majors. Topics covered are: Ohm's law, Kirchoff's laws, superposition principle, mesh analysis, modal analysis, Thevenin's theorem, Norton's theorem, maximum power transfer; inductance and capacitance; response of first and second order systems—natural response, steady state response and complete response; average and rms values, phaser, impedance, complex

power, series and parallel resonant circuits; complex frequency, transfer functions, poles and zeroes; characteristics of diodes and transistors and operational amplifiers.

Prerequisite: PH 172 and concurrent registration in MA 258.
Hours of class per week: 3. *Hours of lab per week:* 3.

Geology

SC 143 Earth Systems 3 s.h.

A perspective on the Earth that emphasizes the structure dynamics, and resources of the planet, and examines man's use and misuse of finite resources. Major topics include rocks, minerals, and mining soils from a geologic perspective; surface and underground waters—their movement, origins, use and abuse; the atmosphere and its pollution; natural geological hazards such as landslides, earthquakes and faults; geothermal, tidal and other sources of energy; landforms and land use; wastes and their treatment; environmental action and the future. Labs will include practical identification of minerals and rocks; topographic maps.

2 lectures per week. Hours of lab per week: 2.

SC 144 The Ancient Earth 3 s.h.

A look at the Earth's history, ancient environments, and the fossil record. The dimension of time is a unifying theme that links the history and present state of the oceans; the fossil fuels—earth's savings bank; landscapes and their "evolution", fossilization and the "endangered species" of the past; the evolution and fossil record of invertebrates and fishes; the dinosaurs—when giants walked the earth; mammals, man and glaciers; the geological history of New York State and the Northeast. Labs will include study of the fossil record, nearby sedimentary rock sequences, detailed study.

Hours of class per week: 2. *Hours of lab per week:* 2.

Physics

PH 161-162 Introduction to Physics I, II 3 s.h. each semester

A two-part first course in physics intended for technologies students and other non-science majors. Course uses lectures supported by laboratory investigation to achieve a hands-on, practical approach to understanding important physical laws of nature. Topics covered include quantitative methods for describing motion; the relationships between forces and motion; work, power, and energy; momentum methods for analysis of collisions and explosions; torque and rotational motion; vibrations and waves; sound; basic electricity and magnetism; electromagnetic waves; atoms and spectra; atomic nuclei and nuclear energy; geometric and wave optics; heat and thermodynamics; and fluid mechanics.

Prerequisites: High school algebra, MA 147 or equivalent (or permission of instructor). SC 161 recommended, but not required to be taken before SC 162. *Hours of class per week:* 2. *Hours of lab per week:* 3.

PH 171-172 Physics I, II F,S 4 s.h. each semester

A comprehensive course stressing the basic concepts, principles, and laws of physics, designed for engineering, mathematics and science majors. Areas covered are: fundamentals of mechanics, heat and thermodynamics, electricity and magnetism, oscillations and waves. Atomic and nuclear physics is also briefly studied. Fundamental forces and conservation of energy, linear momentum, and angular momentum are used as unifying themes of different branches of physics. Major emphasis is placed on developing the analytical ability and problem solving skills of the student.

Prerequisites: Concurrent registration in MA 157 or permission of instructor. *Hours of class per week:* 3. *Hours of lab per*

week: 3.

PH 271 Physics III F 4 s.h.

Course designed for engineering and physics majors. Topics covered are: Maxwell's equations and electromagnetic waves; special theory of relativity; photoelectric effect, Compton effect, pair production and annihilation, X-Rays, electron diffraction, deBroglie waves; particle in a box; uncertainty principles, Bohr model of the atom; Schrodinger equation; Pauli exclusion principle and the periodic table; nuclear structure; radioactivity; nuclear fission and fusion reactions; Maxwell-Boltzman distribution, quantum statistics, laser, band theory of solids and semiconductors.

Prerequisites: PH 171-172 and MA 157 or permission of instructor. *Hours of class per week:* 3. *Hours of lab per week:* 3.

Introductory Sciences

SC 121 Basic Skills for Science and Technology S 3 s.h.

A course designed for providing the preparation needed for success in the study of all science and technology courses. Topics include recognizing the relevant scientific concepts while reading problems, effective use of diagrams for the solution of problems, selecting relevant relationships of physical variables for solving problems, deducing needed relationships of variables, manipulating algebraic relations and in arriving at a solution in terms of symbols representing variables, use of physical units and their conversions, dimensional analysis, effective use of graphs for solution of problems, applying right-triangle trigonometry to the solution of technical problems, use of measuring devices, and data analysis using computers. Not credited toward the Associate Degree science requirements, but may be used for elective credit.

Hours of class per week: 3.

SC 130 Science, Technology, and Society S 3 s.h.

A course on the nature of science and technology and on the interaction between science, technology, and society. The nature of science and its influence on society are explored through a study of rational cosmological models and theories on the structure of matter. The nature of technology, the extent of science-technology coupling, and the impact of technology on man and the environment are investigated through a study of man's utilization of different sources of power and methods of communication. Systems approach to problem assessment, feedback elements of the decision-making process, modeling, and optimization are studied. The need for the assessment of technology and matching technology to society and the environment are stressed.

Hours of class per week: 2. *Hours of lab per week:* 2.

SC 131 Environmental Physics S 3 s.h.

Course centered around the contemporary problems—energy, pollution, and depletion of natural resources—of our physical environment. Different forms of energy, energy conservation principle, our energy resources, methods of energy conversions and their by-products, first and second laws of thermodynamics, and efficiency of the present energy usage—thermal pollution, air pollution, solid waste, noise pollution, nuclear radiation pollution, and their effects on man and the environment—are analyzed. The potential for more efficient use of our natural resources is explored. Energy sources of the future—breeder reactor, fusion reactor, solar energy, geothermal energy, magnetohydrodynamics, fuel cells, and energy from wastes are studied. Earthquake prediction, weather forecasting, and weather modification are also covered.

Hours of class per week: 2. *Hours of lab per week:* 2.

SC 151 Introduction to Physical Anthropology 3 s.h.

This course first introduces the discipline of anthropology and then uses the fossil evidence for hominid evolution in conjunction with the study of past and present primates as well as basic genetics

to investigate current theory concerning the ascent of Homo Sapiens. Archeology and prehistory combine to present an introduction to the behavior of hunting and gathering groups. Emphasis is continually on the interaction of Homo Sapiens with the total environment.

Hours of class per week: 2. Hours of lab and recitation per week: 2.

Mathematics

MA 141 Basic Technical Mathematics F 4 s.h.

This course is restricted to students with a minimal competence in arithmetic skills. It will not satisfy liberal arts mathematics requirements. Topics include whole numbers and the place value system; verbal problems, exponents; square roots; primes; factoring; L.C.M.; fractions; decimals; discount, profit and interest; mensuration, perimeter and circumference; area and volume.

Hours of class per week: 4.

MA 142 Technical Mathematics 4 s.h.

A first course for most students in Automotive, Construction, Natural Resources, and Visual Communications Technologies. Topics include review of signed numbers and operations, exponents, algebraic fractions, calculator usage, the metric system, perimeter/area/volume, triangle trigonometry, law of sines and cosines, surveying applications, and dimensional analysis. Not credited toward the A.S. or A.A. degree mathematics requirements.

MA 147 Algebra 4 s.h.

A modern approach to introductory algebra. This course is designed for students who have a limited mathematics background. Topics include sets and number systems; operations; exponents; polynomials and rational expressions; first degree equations; functions and graphs; verbal problems. Not credited toward the Associate Degree mathematics requirements.

Hours of class per week: 4.

MA 150 Survey of Mathematics I 3 s.h.

An overview of mathematics for the non-science student. Topics include elementary symbolic logic, introductory set theory, numeration systems, number bases, modular arithmetics, and properties of abstract mathematical systems. Not open to students who have credit for Intermediate Algebra, MA 151, Math 11 or Course 3. Not credited toward the A.S. degree in Math/Science or Engineering Science but may be used for elective credit.

Hours of class per week: 3.

MA 151 Intermediate Algebra for College Students 4 s.h.

This course is designed for students who have had only a minimum of high school mathematics and who wish to enroll later in any of the following courses: MA 154, MA 160. Topics include properties of real numbers; polynomials and rational expressions; equations, exponents and radicals; functions and graphs, simultaneous systems, logarithms; right-triangle trigonometry.

Prerequisite: MA 147 or one year of high school algebra. Not open to students who have credit for Math 11 or Course 3. Hours of class per week: 4.

MA 154 Pre-calculus Mathematics 4 s.h.

Background material for the study of the calculus. Topics include logic, sets and proof; relations, functions, and graphs; inequalities and absolute value; exponential and logarithmic functions; circular functions and topics from trigonometry; complex numbers; synthetic division and solution of polynomial equations.

Prerequisite: Intermediate Algebra, MA 151, Math 11, Course 3 or permission of instructor. Hours of class per week: 4.

MA 157 Analytic Geometry and Calculus I 4 s.h.

First course in a sequence of four courses covering topics from the calculus, analytic geometry, differential equations and advanced

areas. Primarily for mathematics or science majors, although qualified students from other fields are encouraged to elect the course. Topics include: functions; limits; continuity; asymptotes; differentiation of rational, polynomial and trigonometric functions; curve sketching; antidifferentiation; Riemann sums and the definite integral; applications.

Prerequisite: MA 154 or 3 1/2 years of high school mathematics or 3 years of high school mathematics and permission. Hours of class per week: 4.

MA 158 Analytic Geometry and Calculus II 4 s.h.

A continuation of MA 157. Topics include the Fundamental Theorem; differentiation and integration of logarithmic, exponential, inverse trigonometric, and hyperbolic functions; areas; volumes; integration techniques; approximations; improper integrals; conic section; parametric equations; polar equations; arc length; applications.

Prerequisite: MA 157. Hours of class per week: 4.

MA 160 Statistics 3 s.h.

A course designed to give a foundation in statistics for students in Business, Social Science, Education, Humanities, or Data Processing who are planning to transfer to a four year program. Topics include descriptive statistics; counting principles and probability; binomial, hypergeometric, and normal distributions; hypothesis testing using the normal curve; linear regression; correlation; analysis of variance; chi-square tests.

Prerequisite: Intermediate Algebra, MA 151, Math 11, Course 3 or permission of the instructor. Hours of class per week: 3.

MA 161 Mathematics for Electrical Technology I F 4 s.h.

This course develops fundamental mathematical skills needed for students of the Electrical Technology curriculum. Topics studied include basic arithmetic skills and calculator usage; algebraic manipulation; ratio; proportions; quadratics; logarithmic and exponential functions, right triangle trigonometry. Application of these topics to the field of electricity is stressed throughout this course (Fall Semester only).

Prerequisite: High School Algebra (1 year) or MA 147 and concurrent registration in EL 125, or permission of instructor. Hours of class per week: 4.

MA 162 Mathematics for Electrical Technology II S 4 s.h.

A continuation of MA 161. Topics include applied trigonometry, sine waves; vectors; phasers; computer number systems; Boolean algebra; mathematics of polyphase systems; an introduction to differential and integral calculus.

Prerequisite: MA 161 or permission of instructor, and concurrent registration in EL 126. Hours of class per week: 4.

MA 250 Survey of Mathematics II S 3 s.h.

A sequel to Survey of Mathematics I this course includes topics selected from the following: geometries; relations, functions and graphs; axiomatics and proof; introductory probability; measurement and mensuration; history of mathematics; number theory and finite systems.

Prerequisite: Elementary Algebra or MA 147, and MA 150, or permission of instructor. Hours of class per week: 3.

MA 254 Abstract Algebra F 3 s.h.

Recommended for Mathematics and Science majors. Topics include sets, mappings, morphisms, groups, rings, integral domains, and fields.

Prerequisite: MA 157. Hours of class per week: 3.

MA 257 Analytic Geometry and Calculus III 4 s.h.

A continuation of MA 158. Topics include infinite series; Taylor polynomials; tests for convergence/divergence; vector geometry; cylindrical and spherical coordinate systems; vector differentiation

and integration; tangent and normal vectors; multivariate differentiation and integration in several coordinate systems; line integrals; applications including lines, planes, areas, volumes, mass, and moments.

Prerequisite: MA 158. *Hours of class per week:* 4.

MA 258 Differential Equations S 4 s.h.

Topics include definitions and properties of differential equations; differential equations of first degree and order; applications, Bernoulli's equation, linear independence; general solutions to homogeneous and nonhomogeneous equations; differential operators; auxiliary equations; the Laplace transfer and its inverse; systems of equations.

Prerequisite: MA 257. *Hours of class per week:* 4.

MA 259 Linear Algebra S 3 s.h.

This course is designed for second-year mathematics or science students. Topics covered: systems of linear equations, vector spaces, linear dependence, bases, dimension, linear transformations, matrices, determinants, eigenvectors.

Prerequisite: MA 158. *Hours of class per week:* 3.

SOCIAL SCIENCES

History

SS 183 Modern Western Civilization I F s.h.

An introductory course in Western Civilization beginning around the tenth century. The course examines the major social, political, and economic ideas, and their contributions to the western heritage.

Hours of class per week: 3.

SS 184 Modern Western Civilization II S 3 s.h.

Follows the same basic plan as SS 183 and is a continuation of that course to the present. The course enables the student to identify contributions made to the western heritage, changing patterns of power in the western world, and their implications for the future.

Hours of class per week: 3.

SS 186 Black American History F 3 s.h.

A study of the historical background of Africans in America and their contributions and impact upon America. Emphasis shall be upon the last 100 years and the recent civil rights and Black Power movement.

Hours of class per week: 3.

SS 187 Origins of the American Revolution 3 s.h.

An in-depth study into the political, economic, and social-cultural background of British America that caused the War for Independence.

Hours of class per week: 3.

SS 283 Survey of American History I F 3 s.h.

A survey of the political, social, and intellectual development of the United States from the Colonial period to Reconstruction.

Hours of class per week: 3.

SS 284 Survey of American History II S 3 s.h.

A continuation of SS 283 from Reconstruction to the present. Emphasis is placed on the changing character of the American society and its role in international affairs.

Hours of class per week: 3.

SS 285 The Soviet Union S 3 s.h.

A study is made of the social, political, and economic conditions in Czarist Russia prior to the 1917 Revolution to establish a common background. Emphasis is placed on a study of the Soviet Union since the Bolshevik Revolution with examination of Marxism, the Soviet

government, the Communist Party, and the Soviet Union in international affairs.

Prerequisite: 3 hours of Social Sciences. *Hours of class per week:* 3.

SS 287 America Since 1945 3 s.h.

An interdisciplinary study of the U.S. since 1945 using sociology, historical, and political science data to examine major changes and trends.

The course will focus on four major aspects of this period: 1) cultural—changes in norms, values, and personal behavior; 2) social—changes in the nature and functions of social institutions; 3) political—trends and changes as reflected in the presidential elections; 4) international—patterns in American social relations.

Hours of class per week: 3.

SS 293 Diplomatic History of the United States Before 1900 S 3 s.h.

This course will examine the relations of the United States with foreign nations from the American Revolution until the Spanish American War.

Hours of class per week: 3.

SS 295 Diplomatic History of the United States Since 1900 3 s.h.

A continuation of SS 293. American foreign relations from the turn-of-the-century to the present will be studied.

Hours of class per week: 3.

SS 296 Israel: Biblical Period to 1948 F 3 s.h.

Major historical, political, social, and military developments from the time of Abraham to the emergence of the Modern State of Israel in 1948. Areas of concentration will include: Biblical Period, resistance against Greece and Rome; Life in the Diaspora; Rise of Jewish Nationalism; Growth of the Yishuv; Balfour Declaration and the British Mandate; Arab-Jewish Confrontation; Holocaust; Palestine in WW II; War of Independence; Mass Immigration.

Hours of class per week: 3.

Political Science

SS 191 Comparative Democratic Systems F 3 s.h.

A comparative analysis of political ideologies, institutions, processes and policy problems of governments and politics in selected democratic political systems. The analysis will focus on the political systems of Great Britain, France, Italy, and West Germany.

Hours of class per week: 3.

SS 192 Comparative Communist Systems S 3 s.h.

An analysis of the political institutions and practices in Communist party states. Besides examining some general patterns of Communist political systems, this course will take a close look at the ruling patterns of the U.S.S.R., The People's Republic of China, and some selected Eastern European countries.

Hours of class per week: 3.

SS 278 International Politics S 3 s.h.

The dynamics of national power—the state system, nationalism, and imperialism; the quest for a cooperative international society—diplomacy, international law and organizations; foreign policies of the great powers today, with particular reference to East-West relations.

Hours of class per week: 3.

SS 282 American Political System F 3 s.h.

The objective of this course is to describe, analyze, and explain the American Political System as it actually works. The approach will be primarily behavioral and not institutional. The fundamental question of this course will be "Who Gets What, When, How, in

American politics?"

Hours of class per week: 3.

SS 383 Policies and Politics of States and Communities 3 s.h.

An analysis of the processes, structures and public policies of state and local governments. The course will examine the constitutional framework under which subnational governments operate; the extent to which governments should participate in resolving social problems, and the ideological debates concerning the level of government most appropriate for making and implementing domestic policies. After analyzing the constitutional, political, and ideological factors contributing to the making of policy, the course will examine several specific policies: Welfare, drugs, civil rights, education, and economic.

Hours of class per week: 3.

SS 385 Community Power Structure S 4 s.h.

An examination of conflicting theories concerning the power structure and decision-making apparatus in community politics, along with the study of related empirical data. Also, an analysis of democratic theories in view of recent empirical findings. The student will become directly involved in an empirical investigation.

Prerequisite: 3 credit hours of Political Science or Sociology.
Hours of class per week: 4.

Psychology

SS 291 General Psychology 3 s.h.

The basic orientation in the psychology of human behavior includes a wide range of topics within the following major areas of study: biological, psychodynamic, cognitive, behavioral, and humanistic.

Hours of class per week: 3.

SS 292 Abnormal Psychology 3 s.h.

A consideration of the historical background of abnormal psychology, scope of abnormal disorders, definitions, descriptions, causation, development, and treatment approaches for major abnormalities of behavior.

Prerequisite: SS 291. Hours of class per week: 3.

SS 297 Developmental Psychology 3 s.h.

A systematic examination of the patterns of development and behavior changes which occur during each of the principal stages of life, i.e., childhood, adolescence, adulthood, and old age. Attention is given to cultural and social, as well as genetic forces affecting human development.

Prerequisite: SS 291 or permission of the instructor. Hours of class per week: 3.

SS 384 Personality Theories S 3 s.h.

A study of personality as a theoretical construct which includes an organized system of structures and processes. Major models and how they are derived are used to pursue basic concepts of personality.

Prerequisite: SS 291 and SS 297 or permission of the instructor. Hours of class per week: 3.

Sociology

SS 180 Contemporary Issues and Problems F 3 s.h.

This course will examine the major issues of concern to the American nation, and/or the world generally, at the time the course is offered. The issues and problems will include some that have troubled societies over a long period of time, such as poverty, mass education, racial tensions, power and privilege, family dislocation, as well as issues that may be just emerging. The course, in addition to offering a survey of the problems, will provide theoretical and/or conceptual frameworks to help the student understand the issues

and problems at a greater depth.

Hours of class per week: 3.

SS 181 The Sociology of the Post Affluent Society 3 s.h.

This course shall examine the literature regarding contemporary crises in agriculture, limits to growth, rising unemployment, rising prices, scarcity of non-renewable resources, pollution and other issues. This examination will include the question of whether we really are beginning a new, post industrial, post affluent society. This course will then examine the theoretical literature which explores various alternatives for future social life.

Hours of class per week: 3.

SS 264 Minority Groups in America S 3 s.h.

Study of the role, the accomplishments, and the problems different ethnic, religious and minority groups have had in America.

Hours of class per week: 3.

SS 281 Introduction to Sociology 3 s.h.

An introductory course designed to acquaint the student with the study of sociology as one of the sciences that deals with man in his relationships with the members of his society and the world in which he lives. The methods and objectives of sociological research, the varying patterns of social organization, and the study of society in relation to individual and group behavior are major areas of study.

Hours of class per week: 3.

SS 289 History and Sociology of Sport in America F 3 s.h.

Review of sociological study of sport, discussion of how sport is viewed in America, individual involvement in sport, winning and losing, youth and athletics in American society, the Black athlete, women in athletics; Title IX—The Coach—The Athlete—an understanding of motivation—professional sports: an overview and more.

Hours of class per week: 3.

SS 294 The Family: A Cross Cultural Approach F 3 s.h.

Course identifies various family structures that characterize various contemporary societies, as well as family types that have characterized certain historical eras, including ancient Hebrew, Roman, Anglo-Saxon, and Modern Western families. Through the comparative approach, the strengths and weaknesses of contemporary patterns will be analyzed.

Prerequisite: SS 281 or permission of the instructor. Hours of class per week: 3.

SS 382 Political Sociology F 3 s.h.

This course will develop the application of sociological theory to the study of political systems, the process of adult and child political socialization, theories of assimilation and acculturation. Systems analysis as a method of explanation will be utilized.

Hours of class per week: 3.

SS 387 Social Psychology S 3 s.h.

Human social behavior. A scientific attempt to understand and explain how the thought, feeling, and behavior of individuals are influenced by the actual, imagined, or implied presence of others.

The study of people—loving, hating, working, helping, trusting, fighting, communicating.

Prerequisite: 3 credit hours of Sociology or Psychology. Hours of class per week: 3.

SS 386 Deviant Behavior F 3 s.h.

Course attempts to identify the conditions under which certain acts, characteristics, persons, situations or events are labeled as socially deviant. It is assumed that certain patterns of perceptions, definition, and minimal consensus have to occur in a social group before deviance becomes a social reality. The intent, therefore, is to identify and define these patterns. It is the further intent of the course to illustrate that the production of deviance also reveals the

nature of the social construction of reality. The course is offered generally from the theoretical perspective of social interactionism.

Prerequisite: SS 281 or permission of the instructor. Hours of class per week: 3.

HUMAN SERVICES*

HS 110 Introduction to Human Services F 3 s.h.

This course will provide an introduction for the entry-level generalist in the human services. It will provide students with an overview of the field of human services, as well as the range of available community resources.

Hours of class per week: 3.

HS 211 Problems of Substance Use Disorders F 3 s.h.

This course will introduce students to the multidimensional problems related to chemical dependence as well as to their treatment modalities. Included will be pharmacological, psychological, behavioral, societal, and legal aspects of chemical dependence.

Prerequisite: SS 291. Hours of class per week: 3.

HS 231 Introduction to Gerontology 3 s.h.

Provides a broad base of knowledge on the subject of human aging including the biological, psychological, and social aspects of the aging process. The course will focus on the integration of knowledge about aging and helping skills that enhance the quality of life experience by the older person. Resources and services available for the older person in the local area will be identified and analyzed.

Prerequisite: Concurrent enrollment in SS 297. Hours of class per week: 3.

HS 251 Introduction to Developmental Disabilities S 3 s.h.

The course provides an introduction to the nature and assessment of developmental disabilities and the skills necessary for working with them. A study of the psychological needs and adjustments required by those with physical, mental, and emotional handicaps is included. Resources and services available for the developmentally disabled in our area will be identified and analyzed.

Prerequisite: HS 110 and concurrent registration in SS 297. Hours of class per week: 3.

HS 291-2 Human Service Skills F,S 1 s.h. each

These courses provide the interns opportunity to reflect on their human service field experiences and integrate the insights they have gained in their internships. Discussion and analysis of field work experiences will be an integral part of this course. Combined with internships, these courses develop helping skills, including sensitivity, empathy, attending, questioning, confrontation, and problem solving. Examination and evaluation of client assessment, goal setting, case planning, and case management. Skill development in observing, listening, interviewing, recording, and reporting.

Prerequisite: Concurrent enrollment in HS 298-9. Hours of class per week: 1.

HS 298-9 Human Services Internship F,S 3 s.h. each

Human Services Internship is designed to provide work and learning experiences in the field of human services. Individualized field experiences will be developed with community human service agencies.

Prerequisite: HS 110 and approval of HS program coordinator or the Dean. Hours of class per week: to be arranged.

*Human Services courses are not credited toward Social Science

requirements, but may be used for elective credit.

HONORS COURSE, SECTION, AND OPTION

ID 291 Honors Seminar S 3 s.h.

An interdisciplinary seminar involving extensive review of the literature and in-depth examination of global, national, and local relevance of the issues under consideration. Emphasis is on the general background reading, preparation, and discussions of the topic in philosophical, historical, social, technological, or scientific terms. By this approach, students will gain insight into the multidisciplinary nature of the topic under study. This format allows close communication and interaction between a small group of students and an experienced group of faculty.

Prerequisite: Sophomore status in the Honors Program OR Completion of at least 30 s.h. of Liberal Arts and Science with a grade point average of 3.2 AND approval from the Dean of Liberal Arts and Sciences.

Hours of class per week: 3.

Honors Section:

An Honors Section of a course provides an enhanced educational experience that goes beyond the usual course treatment. The Honors Section enriches rather than accelerates the learning process. This is made possible by having the selected group of students, all highly motivated and academically prepared to undertake the intellectual challenges offered by the Honors Section of the course. Honors Section of a course will be indicated on the student's transcript by adding "Honors" after the title of the course.

Prerequisite: Admittance to the Honors Program or approval from the instructor and the Dean of Liberal Arts and Sciences.

Honors Option:

An Honors Option is an extra element added to a course to challenge the student to go beyond course requirements and explore some aspect of the course in greater depth or breadth. It might be a research project, a critical essay, or an investigation of allied material not dealt with in the course. The approach and content of the Honors Option matters less than the salience of the intellectual demands placed upon the student. Successful completion of a course with Honors Option will be noted in the student's transcript by adding "Honors" after the title of the course.

Prerequisite: Admittance to the Honors Program and approval from the instructor and the Dean for Liberal Arts and Sciences.

TECHNOLOGIES

Air Science* **

AV 101 Air Science I (Private Pilot) F

This course is designed to provide the student with authoritative

aeronautical knowledge to pass successfully the required written examination given by the Federal Aviation Agency. Subjects covered in this course include: theory of flight, aerodynamics, airplane operation and performance, navigation, flight computer, communications, publications, regulations, instrument flying and emergency procedures.

Prerequisites: Concurrent flight experience or permission of instructor.

AV 102 Air Science II (Instrument) S

This course instructs the student in all phases required in preparation for the Federal Aviation written examination for the Instrument Rating. Instrument flying techniques and procedures, in conjunction with modern ILS, VOR, ADF, and radar facilities are stressed.

Prerequisites: AV 101, and related flight experience, and Private Pilot Rating or permission of instructor.

AV 201 Air Science III (Commercial Pilot) F

This course provides the student with the aeronautical knowledge and experience necessary to pass the Commercial Pilot written examination given by the Federal Aviation Agency. Professional attitude and performance excellence are magnified during this course. Subjects covered in this course in detail are: basic aerodynamics, navigation, aircraft operation and performance, flight physiology, flight safety and emergency procedures, regulations, and communications.

Prerequisites: AV 102, and related flight experience, and Private Pilot and Instrument Ratings or permission of instructor.

AV 202 Air Science IV (Flight Instructor) S

This course provides the student with the knowledge required to pass the tests for the Flight Instructor's Written Examination. This course is devoted to fundamentals of teaching and effective techniques, the analysis of flight maneuvers, and an in-depth study of the principles of instrument flight instruction.

Prerequisites: AV 201, and related flight experience, and Commercial Pilot and Instrument Ratings or permission of instructor.

*Air Science majors may be developed as an option in the A.O.S. degree Individual Studies.

**The cost of flight experience (off-campus) is not included in the estimated costs listed in this catalog. Flight costs are established by the flight school and are paid directly to the flight school.

Automotive Technology* **

AT 121 Introduction to Automotive Function F 3 s.h.

A basic course dealing with the construction, principles of operation, and identification of chassis units and support components. Consideration will be given to tool identification, shop safety, methods of operation, special tools, automotive terminology, publications, and basic welding (arc and oxyacetylene).

Hours of class per week: 2. Hours of lab per week: 2.

AT 122 Theory of Internal Combustion Engines F 3 s.h.

Investigates the basic principles of internal combustion engines, cycles, engine types, construction, and services. Compression condition, noise identification, and internal engine condition analysis will be studied through lab experience with elementary diagnostics instruments.

Hours of class per week: 2. Hours of lab per week: 2.

AT 123 Internal Combustion Engine Support Systems S 3 s.h.

Study of the lubrication, cooling, carburation, and emission systems of the internal combustion engine. Experience will be gained in the laboratory with test equipment and the infra-red unit.

Prerequisite: AT 121, AT 122, SC 161 or permission of instructor. *Hours of class per week: 2. Hours of lab per week: 2.*

AT 124 Automotive Electrical Systems F 3 s.h.

Application of the principles of electricity to the design, operation, service and repair of automotive electrical starting, lighting, generating and ignition systems.

Prerequisite: AT 121, AT 122, completion or concurrent registration in SC 162, or permission of instructor. *Hours of class per week: 2. Hours of lab per week: 2.*

AT 225 Automotive Chassis Systems F 3 s.h.

A more advanced study of steering and suspension designs, including rear suspension, front-end geometry, tire design features and service, and standard and power disc and drum brake systems.

Prerequisite: AT 121, SC 162, or permission of instructor. *Hours of class per week: 2. Hours of lab per week: 2.*

AT 226 Power Trains—Design Features and Analysis S 3 s.h.

Investigation of the automotive power train. Topics considered include clutches, standard transmission design, automatic transmission designs, drive lines, conventional and limited slip differentials, and axle and wheel bearing requirements. Laboratory experience with special transmission tools, measuring devices, and special pressing equipment is included.

Prerequisite: AT 121, SC 162, completion of or concurrent registration in AT 225, or permission of instructor. *Hours of class per week: 2. Hours of lab per week: 2.*

AT 227 Electronic Engine and Chassis Analysis S 3 s.h.

Trouble-shooting through the use of the Sun 947 Engine Tester. The topics of scope pattern interpretation and dynamometer application and function will be studied.

Prerequisite: AT 123, AT 124, SC 162, AT 225, AT 226, or permission of instructor. *Hours of class per week: 2. Hours of lab per week: 2.*

AT 228 Consumer Relations and Services S 3 s.h.

A course dealing with the concepts of wholesale and retail operation as they relate to service manager-customer relations, factory representation-dealer relations, and inspection and service for customer comforts. The experience will include inspection of accessories units, air conditioning system analysis, and field observation of service operation and factory representation function.

Hours of class per week: 3.

*Auto tech. courses may meet at sites other than main campus. Students make transportation arrangements.

**Students require special clothing or equipment, in addition to texts. Instructor will furnish details.

Construction Technology * **

CT 121 Introduction to Building Trades and Construction Materials F 3 s.h.

A basic course in construction materials and methods. Study of timber, steel, masonry, concrete, and other materials used in construction. Construction methods are studied to acquaint the student with field practices.

Hours of class per week: 3.

CT 122 Light Frame Construction I F 3 s.h.

A study of construction materials, practices, equipment and terminology relating specifically to light frame construction. Includes forming and building codes for general structural components from foundations through rough framing.

Prerequisite: Concurrent registration in CT 121. *Hours of class per week: 2. Hours of lab per week: 3.*

CT 123 Light Frame Construction II **S 3 s.h.**

Emphasis in this course is roof covering, exterior trim, insulation, exterior siding, interior trim, flooring, and layout of porches and garages. Lab experiences must be successfully completed.

Prerequisites: CT 121, CT 122. *Hours of class per week:* 2. *Hours of lab per week:* 3.

CT 124 Blueprint Reading **S 3 s.h.**

Course places emphasis on working drawings, blueprints, and the symbols, notations, and scaling that accompany blueprint information. The student will also learn the variation, the purpose of structure, the architectural progress set forth in blueprints; finally learn to obtain trade information by accurately reading and thoroughly understanding a set of blueprints.

Hours of class per week: 3.

CT 131 Introduction to Cabinetmaking **3 s.h.**

A basic course in cabinetmaking materials and methods. A study of the evolution of cabinetmaking, wood and other materials, use of tools, and safety procedures will be included. Career opportunities will be presented. Field trips will be arranged.

Hours of class per week: 3.

CT 132 Cabinetmaking I **3 s.h.**

A basic course in cabinetmaking materials and methods of construction. Emphasis is on safety, proper use of hand and handpower tools, layout, estimation, materials, assembling and finishing. The student will be provided with the necessary information in the classroom to guide the completion of one or more cabinetmaking projects in the lab.

Prerequisites: CT 131 or permission of instructor. *Hours of class per week:* 2. *Hours of lab per week:* 3.

CT 225 Masonry, Concrete and Steel Construction **F 3 s.h.**

A study of construction, materials, practices, equipment and terminology relating specifically to non-wood structural components in light frame and light commercial construction. General structural components include foundations, unit masonry construction, reinforcing steel, and applicable building costs.

Prerequisite: CT 121. *Hours of class per week:* 2. *Hours of lab per week:* 3.

CT 226 Plumbing and Climate Control **F 3 s.h.**

A basic course in plumbing and climate control, including use of tools, basic lead working, steam and hot water heating, water distribution, venting drainage, and general installation, maintenance, and repair.

Prerequisite: CT 121, CT 122, CT 124. *Hours of class per week:* 2. *Hours of lab per week:* 3.

CT 228 Construction Estimating **S 3 s.h.**

A study of the elements of cost of construction. Includes analysis of procedures in recording quantity take off, labor factors and overhead; use of check lists, cost records, summaries and working drawings; bidding practices of the construction industry; sub contracts; critical path method.

Prerequisite: CT 121, CT 122, CT 124. *Hours of class per week:* 3.

CT 229 Electrical Wiring **S 3 s.h.**

A course dealing with installation of wiring, including armored cable, wiremold, and romex; installation of wiring boxes, light fixtures, rigid metal conduit and electrical metallic tubing and connectors, and wiring such systems.

Suggested elective: EL 125 or permission of instructor. *Hours of class per week:* 2. *Hours of lab per week:* 3.

CT 230 Principles of Soils **S 1 s.h.**

Study of the principles of erosion control, surface drainage and subsurface drainage; considers soil genesis, composition, classifica-

tion, physical and chemical characteristics in relation to soil moisture, fertility and management. Encompasses all problems related to construction.

Hours of class per semester: 10. *Hours of lab per semester:* 10.

CT 236 Alternate Energy I **4 s.h.**

Introduction to alternate energy availability and use, stressing readily available materials and methods of refitting existing structures for proper collection, storage and distribution of available energy.

Hours of class per week: 3. *Hours of lab per week:* 3.

CT 237 Alternate Energy II **4 s.h.**

Solar retrofitting for active and passive systems. Continuation of principles and techniques of previous course, CT 236, with more depth and applications in active and passive systems, as applied to new structures and retrofits.

Prerequisite: Alternate Energy I (CT 236). *Hours of class per week:* 3. *Hours of lab per week:* 3.

*Const. tech. course may meet at sites other than main campus. Students make transportation arrangements.

**Students require special clothing or equipment, in addition to texts. Instructor will furnish details.

Surveying

SU 101 Surveying I* **3 s.h.**

Surveying I is an elementary course in surveying. It includes fundamentals of plane surveying and emphasizes the use and care of leveling instruments. Linear measurements and theory and practice of leveling are studied in coordinated lecture and field work.

Prerequisite: MA 142 or permission of instructor. *Hours of class per week:* 2. *Hours of lab per week:* 2.

*Course often meets at sites other than main campus. Students make transportation arrangements.

Computer Technology

TC 229 Electronics for Computer Technology **4 s.h.**

This course is a combination of the topics covered in EL 229 and EL 230. All topics necessary for a fundamental background in electronics are covered. Topics include: solid state theory, device characteristics of a diode, clippers, clampers, rectifiers—half wave and full wave, power supply configurations, filtering, regulation, device characteristics of the transistor, base bias, voltage divider bias, other biasing circuits, small signal AC amplifiers, power amplifiers, the transistor as a switch, FETs, FET circuits, Op amps, and feedback.

Prerequisites: EL 125, EL 126. *Hours of class per week:* 3. *Hours of lab per week:* 3.

TC 237 Advanced Microcomputers **4 s.h.**

Advanced Microcomputers is a continuation of EL 236 emphasizing advanced digital, programming, and microprocessor concepts. Topics include: State machine design, digital circuit simulation, multi-precision math algorithms, computer memory structures, computer interrupt structures, direct memory access (DMA), and a 16/32 bit microprocessor survey.

Prerequisites: EL 125, EL 126. *Hours of class per week:* 3. *Hours of lab per week:* 3.

TC 238 Computer Peripherals Data Communications **3 s.h.**

This course deals with the communication and interfacing standards and devices used to assemble modern computer systems. Two hours of lecture and a 3 hour lab. Topics include: interfacing

standards, bus standards, UARTs, communications protocols and networking concepts, modems, network topology, terminals, printers, floppy disk hard disk storage, other mass storage technologies, and error correction.

Prerequisites: EL 232, EL 236. *Hours of class per week:* 2. *Hours of lab per week:* 3.

Collaborative Career Learning (COCAL)

CL 199 Professional Career Preparation 1 s.h.

Students will be presented with material to provide a better understanding of the American Economic/Employment system and their role as employees. Evaluation of employment opportunities and exploration of personal career objectives will be included. Stress will be on employee--employer, employee--employee, and employer--customer relations. Job search, interviewing and resume writing will be discussed to assist students in preparing for the job market.

Prerequisite: Enrollment in Collaborative Career Learning program. *Hours of class per week:* 1.

CL 191-192 Collaborative Career Learning I & II 8+8 s.h.

These courses provide a structured approach to specialized individual career orientation, training, and development. Competency objectives are identified as a basis for learning. Local business and industry sites are utilized as classroom/laboratories. A college program coordinator monitors and evaluates students with industry personnel. Areas of career study will be limited to those areas not offered by the college in traditional curricula.

Prerequisite: Enrollment in Collaborative Career Learning Program.

Co-requisite: Six to nine credits of on-campus study related to career area. *Hours of class per week:* 12 at business & industry site.

Criminal Justice

CJ 103 Criminal Law I F 3 s.h.

A survey of the history and philosophy of criminal law; the scope, purpose, definition and classification of modern criminal law; offenses against the person, property offenses; and a discussion of the relationship between the Constitutional rights of the individual and the protection of society.

Hours of class per week: 3.

CJ 104 Criminal Law II S 3 s.h.

Comprehensive analysis of the rules of evidence and criminal procedural law; judicial notice, presumption, real and circumstantial evidence, burden of proof, provide of court and jury, documentary evidence, hearsay, confessions and admissions; laws of arrest, search and seizure.

Prerequisite: CJ 103. *Hours of class per week:* 3.

CJ 105 Principles of Criminal Investigation S 3 s.h.

An analysis of the nature and purpose of criminal investigation. Discussion will include various methods of investigation, the interview, and the interrogation of witnesses and suspects, collection and preservation of evidence, use of informants, techniques of surveillance and special investigation techniques; methods used in police science laboratory, ballistics, documents, serology, photography, and related forensic services.

Hours of class per week: 3.

CJ 106 Introduction to Law Enforcement and Criminal Justice F 3 s.h.

A survey of the historical and philosophical development of law enforcement; an analysis of the court system; the criminal justice process; Constitutional limitations placed upon the criminal justice system, emphasis given to the interrelationship between these agencies and future trends in law enforcement.

Hours of class per week: 3.

CJ 107 Police-Community Relations S 3 s.h.

Survey of the numerous and complex factors involved in the area of human rights. Topics covered: Controlling racial prejudice in the community; the role of police as professionals; and examination of prejudice and discrimination and their effects and implications for police in a changing and interacting society. The history and development of civil rights and liberties is surveyed.

Hours of class per week: 3.

CJ 108 Introduction to Juvenile Delinquency S 3 s.h.

Consideration of the methods and philosophy of the juvenile court system, police programs for the prevention and control of juvenile delinquency and the role of various social work agencies in the care and treatment of juveniles. Special attention will be given to police techniques utilized in handling juveniles with special emphasis on the utilization of existing community resources. The course will examine prevailing professional philosophy, existing law, public policy, and knowledge of current delinquent behavior theories.

Hours of class per week: 3.

CJ 109 Criminology F 3 s.h.

A survey of the nature and scope of prevalent forms of criminology. This course will consider the major theories of criminal conduct drawn from psychological, social and cultural modes of explanation. A discussion of various classifications and topologies and the role of crime statistics will be included, as well as the relevancy of these factors for understanding, prevention, control and prediction.

Hours of class per week: 3.

CJ 111 Introduction to Public Administration S 3 s.h.

A study of the theory, basic principles of public administration in the United States including discussions related to the development, organization, functions, and problems of national, state, and local administration.

Hours of class per week: 3.

CJ 112 Introduction to Police Organization & Management F 3 s.h.

The principles of administration and management in their application to law enforcement agencies. A study of police organizational structure, responsibilities, and inter-relationships; an analysis of staff-line relationships and functions within the context of a police environment. Analysis of the functions of specialized units within police organizations, including police planning and research, patrol operations, internal affairs, and public relations. Principles of personnel management and supervision; police labor relations; consideration of alternative and comparative models of law enforcement organizations; the elements of organized crime and impact on police operations and management.

Hours of class per week: 3.

CJ 113 Private Sector Issues 3 s.h.

This course is designed to familiarize the student with the legal and historical aspects of private sector police. Special attention will be given to the differences between public and private sector police. Principles and practices related to internal loss prevention will be covered. The legal and ethical responsibilities of private sector police in relation to issues of safety and health are also covered.

Hours of class per week: 3.

CJ 118 Hazard Mitigation and Emergency Management

3 s.h.

This course approaches the problems of Hazard Mitigation and Emergency Management from both a historical and a technical perspective. Students are given a broad conceptual knowledge of hazard types and causes as well as practical, technical information which is used by public service personnel involved in the management of hazardous situations. The course will cover hazards mitigation and emergency management of situations such as: storms, floods, earthquakes, fires, droughts, famine, epidemics, nuclear-chemical accidents, transportation and fixed facility hazardous materials incidents, strikes, civil unrest, toxic waste problems, serial crimes, and other hazards and emergency situations.

Hours of class per week: 3.

CJ 121 Introduction to Corrections

S 3 s.h.

This course is designed to expose the student to the history of, and the theories behind, various types of correctional programs. The corrections field is comprised of many areas. The continuum of correctional services will be explored from probation to community corrections to institutional facilities, both the function of the facility and the inmate subculture, through parole. Further, the course will address basic philosophical issues in corrections and focus on the relationship between system goals and the needs of society.

Hours of class per week: 3.

Electricity and Electronics

EL 125 Electricity I

F 4 s.h.

Pilot course in the Electrical Technology curriculum. Investigates the fundamental concepts of voltage, current, and power as applied to both DC and AC (single phase) circuits. The nature of resistance, inductance, and capacitance are studied. Fundamental circuit analysis is developed by the application of the basic laws and theorems to functional electrical circuits. Applicable electrical instruments are used in the laboratory. Practical application is stressed. The use of computers to solve circuit problems is also introduced.

Prerequisites: High school algebra, enrollment in MA 161 or MA 157. Hours of class per week: 3. Hours of lab per week: 2. Hours of recitation per week: 1.

EL 126 Electricity II

S 4 s.h.

A continuation of EL 125 where the transient response and the AC response to linear circuits are developed. The operational principles and electrical characteristics of devices are also studied. Time constants, reactance, impedance, and resonance are studied with an emphasis on the practical application of these concepts to electronic circuits. The ideal transformer is introduced. The parameters of active electronic devices are studied. Computer solutions are taught and used throughout the course.

Prerequisites: EL 125 and either MA 161 or MA 157; Co-requisites: MA 162 or MA 158. Hours of class per week: 3. Hours of lab per week: 2. Hours of recitation per week: 1.

EL 127 Instrumentation

S 2 s.h.

Students in this course will be introduced to a more detailed study of the test instruments used in all fields of electronics. Specific emphasis is placed on the utility of the oscilloscope, electronic meters, signal generators, and component testing instruments. A generalized study of the internal circuitry of these devices is also conducted. Measurement error, both human and mechanical, is studied. The student is also introduced to standards, transducers, frequency counters, chart recorders and computer aided measurements.

Prerequisite: EL 125, enrollment in EL 126. Hours of class per week: 1. Hours of lab per week: 2.

EL 229 Electronics I

F 5 s.h.

This course introduces the student to theory, design and application of circuits used in the electronics field. Specific areas of study will include: diodes, rectifiers, filters, regulators, transistor characteristics, h-parameters, transistor bias, small and large signal amplifiers.

Prerequisites: EL 126, EL 127. Hours of class per week: 4. Hours of lab per week: 3.

EL 230 Electronics II

S 5 s.h.

This course will delve deeper into the material developed in EL 229 as well as investigate additional circuit concepts. The high and low frequency response of amplifiers is studied using Bode diagrams. Other topics include: feedback, oscillators, switching circuits, op amps, and the field effect transistor. In addition, waveform analysis using the frequency domain is introduced as well as communications topics such as modulation, mixing and AM reception.

Prerequisite: EL 229. Hours of class per week: 4. Hours of lab per week: 3.

EL 231 Electric Machines

F 3 s.h.

EL 231 is concerned with construction and operational characteristics and testing procedures of rotating machinery including both AC and DC motors and generators, as well as the transformer. Also of primary concern is the basic principles of operation of associated circuitry, including speed controllers and starting devices, for these machines as well as power ratings on this type of equipment. Both single phase and polyphase machinery is studied as related to their efficiencies and utility.

Prerequisites: EL 125, EL 126. Hours of class per week: 2. Hours of lab per week: 3.

EL 232 Digital Electronics

F 3 s.h.

This course introduces Boolean logic and the devices necessary to produce digital computing circuitry. Fundamentals are covered such as AND, OR, NOT, NAND, and NOR logic through more complex devices such as flip-flops, one-shots, RAM and ROM. Digital circuits studied include: counters and shift registers. Analytical techniques are used to design efficient combinational and sequential circuits. Strong emphasis is placed on design skills. Students will be required to purchase their own set of TTL integrated circuits.

Prerequisite: EL 125 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.

EL 234 Telecommunications

3 s.h.

This course introduces the theory governing electronic communication elements and discusses the various systems used to accomplish communication tasks. Theories covered include: radio wave propagation, antennas, transmission lines, fiber optics, and modulation techniques. Systems studied include: satellite communications, CATV, conventional radio, television, and microwave transmission/reception, telephone systems, and data communications.

Prerequisites: EL 229. Hours of class per week: 3.

EL 235 Industrial Electronics and Robotics

S 3 s.h.

Students in this course will study the theory and operation of semi-conductor devices and systems used in industrial controls including fundamentals and applications of robotics. The student will become familiar with and be able to troubleshoot and repair controls containing semiconductor devices such as: SCRs, photoelectric devices, timing circuits, UJTs, speed controls for DC motors, and controls for AC motors and lighting systems. The course will include sensing mechanisms, programming, interfacing and other industrial applications of robotic units. These items will be assembled and tested for performance in lab.

Prerequisite: EL 229. Hours of class per week: 2. Hours of lab per week: 3.

EL 236 Introduction to Microcomputers

S 4 s.h.

This course provides an understanding of microprocessor computer architecture. The students will learn the details of a current state-of-the-art microprocessor system. Topics include microproces-

sor system organization, registers, memory, addressing, machine language programming, interrupts and interfacing. Students will be required to design and build a term project such as a memory interface and a microprocessor controlled industrial application circuit.

Prerequisite: EL 232 or equivalent. Hours of class per week: 3. Hours of lab per week: 3.

Food Service Administration* **

FS 121 Introduction to Food Service and Sanitation F 3 s.h.

An introduction in modern commercial food service techniques emphasizing marketing, storage, management, and preparation of foods. The critical responsibility of presenting nutritious food to the public and maintenance of sanitation will be emphasized.

Hours of class per week: 3.

FS 122 Food Preparation I F 3 s.h.

An introduction into the fundamental skills required for proper food selection, preparation, and storage. The relationship between proper preparation and storage and nutritional value will be emphasized. This course will utilize lecture, demonstration, and laboratory work.

Hours of class per week: 2. Hours of lab per week: 3.

FS 123 Food Purchasing S 3 s.h.

Techniques for quality food purchasing for profit and nonprofit services. Specifications and standards of quality, grades, methods of purchase are emphasized for each category of food. A study is made of modern food processing and the purchasing of convenience foods.

Prerequisites: HE 121, FS 121. Hours of class per week: 3.

FS 124 Food Preparation II S 3 s.h.

The course is designed to emphasize the unique requirements related to producing quantity food in a palatable fashion. Emphasis will be placed on such problems as bulk food production, menu making, cost evaluation, sanitation, and safety as they apply to quantity food production.

Prerequisite: FS 122. Hours of class per week: 2. Hours of lab per week: 3.

FS 126 Dietary Therapy S 3 s.h.

The course develops a relationship between health needs and specialized diets. Emphasis is placed on relating specific nutritional requirements for a variety of special dietetic needs.

Prerequisites: HE 125, SC 170, or permission of instructor. Hours of class/lab per week: 3.

FS 130 Quantity Food Internship S 3/6 s.h.

This course is the practical application of skills learned in Food Service Classes. It involves an arranged schedule of work either in the College's Food Service Lab or at an off-campus quantity food operation. It is designed to offer the students direct involvement in an "on-the-job" situation.

Prerequisites: FS 121, FS 122, FS 224, FS 225. Hours of Class: One hour discussion, 10-12 or 15-20 hours on the job.

Note: Work experience may be substituted for internship requirement—consult instructor.

FS 224 Hospitality Management F 3 s.h.

This course is designed to emphasize the unique requirements of hospitality management such as: textile and housekeeping procedures and laws, "Front-of-House" hospitality standards for dining room supervision, banquet and hotel/motel operations. In addition, cleaning supplies, specifications and standards, equipment specifications and design. "Front Desk" techniques and public relations will be covered.

Prerequisite: FS 121, FS 123 recommended. Hours of class per week: 3.

FS 225 Food and Beverage Cost Control F 3 s.h.

Pre-cost, pre-control methods relative to the menu, production, control, purchasing, receiving, inventory control, and profit and nonprofit food service systems.

Prerequisite: FS 123. Hours of class per week: 3.

FS 226 Fundamentals of Baking and Pastry 3 s.h.

Baking fundamentals, approach to making breads, cakes, puff and French pastry, and fancy desserts.

Prerequisites: FS 122, or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.

FS 227 Food Service Organization and Management S 3 s.h.

Course designed to give food service majors the basic understanding necessary to organize a food service operation. Emphasis will be placed on budgetary management, cost equivalence, and employee management.

Prerequisite: FS 123. Hours of class per week: 3.

FS 228 Food Services S 3 s.h.

Course furnishes a work experience based upon all previous courses taken in Food Service Administration. Students will rotate in management and/or work positions. They will be responsible for the complete operation from the planning stage through the final serving stage. Emphasis will be on planning the function, purchasing, cost control, menu planning, layout, service, and management of personnel. In addition to classes, a total of 30 hours must be contributed by the student to satisfy this requirement.

Prerequisites: HE 121, 125, FS 121-126. Hours to be arranged.

*Courses may meet at sites other than main campus. Students make own transportation arrangements.

**Students require special clothing and equipment, in addition to text books.

Graphic Arts * **

MD 171 Engineering Graphics F 3 s.h.

The course covers drafting work in lettering, use of drawing instruments including the drafting machine and parallel straight edge, geometrics, orthographic projection, cross sections, axonometric projection, intersections and sketching.

Hours of class per week: 2. Hours of lab per week: 2.

MD 174 Computer Aided Drafting S 3 s.h.

This course will teach the basics of computer aided drafting as applied to engineering type drawings. Topics will include geometric shapes, scaling, polar and delta positioning, editing, arcs and fillets, grids and snap, dimensioning, translating, rotation and mirroring, three dimensional drawing, and wireframe drawings.

Hours of class per week: 3. Hours of lab per week: 3.

MD 176 Electrical Graphics F 3 s.h.

This electrical graphics course is concerned with basic drafting techniques with the Electronics Technician in mind. The course will introduce the basics of orthographic and isometric projections, cross sections, dimensioning, and sketching. The student is then introduced to the electronic schematic diagram and to the development of finished circuits using printed circuit and point to point wiring diagrams. Other topics will include block and logic diagrams, chassis drawings, graphs and charts, residential and industrial wiring diagrams, and computer aided design. A circuit design project is required in this course.

Hours of class each week: 1. Hours of lab per week: 3.

MD 180 Architectural Drawing S 3 s.h.

Architectural drawing as related to functional planning of residence buildings, working drawings, including plans, elevations, section, details, notes, and specifications.

Prerequisite: MD 171. Hours of class per week: 2. Hours of lab per week: 2.

GA 101 Introduction to Graphic Communications Technology **F 3 s.h.**

Introduction and orientation to graphic arts, to include the history of printing, basic principles and applications of offset printing, copy preparation, photography, stripping, opaquing, plant making, bindery, finishing procedures, and the operation of advanced types of presses.

Hours of class per week: 2. Hours of lab per week: 3.

GA 103 Advanced Graphic Communications Technology **S 3 s.h.**

Advanced techniques and applications in copy preparation, camera work, stripping and plate making, press work and bindery operations. Characteristics of various types of paper and ink. Maintenance of equipment is emphasized.

Prerequisite: GA 101. Hours of class per week: 2. Hours of lab per week: 3.

GA 104 Composition & Desktop Publishing Systems **S 3 s.h.**

Function of type, type identification, point size, and photocomposition. Copyfitting, proofreading, type composition variations will be emphasized, coupled with practical applications.

Prerequisite: GA 101 or Enrollment in Word Processing Certificate program. Hours of class per week: 2. Hours of lab per week: 2.

GA 105 Graphic Arts Layout and Design **F 3 s.h.**

Planning and design principles used in the preparation of advertising copy for reproduction. Use of various methods, materials, and equipment in graphics for advertising and printing. Use of photographic reproductions and enlargements in projects.

Hours of class per week: 2. Hours of lab per week: 2.

GA 106 Graphic Arts Production **F 3 s.h.**

Use of laboratory equipment and techniques related to production problems in a controlled environment in various areas of visual communications.

Prerequisite: GA 101-103. Hours of class per week: 2. Hours of lab per week: 2.

GA 107 Production Management **F 3 s.h.**

Development of efficient methods from layout to finished product. Study of work schedules, materials, personnel and equipment, utilizing good management principles.

Prerequisite: GA 101. Hours of class per week: 2. Hours of lab per week: 2.

GA 121 Basic Offset Press Principles and Practices **3 s.h.**

Introduction to safe practical set-up and operation of offset duplicators and supplies. The course features theory, practice and hands-on duplicator operation, emphasizing: Offset lithography, product knowledge, introduction to inks, paper, additive plates, subtractive plates, electrostatic masters, offset moisture systems, fountain solutions, Ph balance, and printing blankets. Students will learn standards needed to produce quality black and white line and halftone copy. Safety, problem solving and basic maintenance is emphasized.

Hours of class per week: 2. Hours of lab per week: 2.

GA 122 Advanced Offset Press Techniques **3 s.h.**

This course is designed to increase understanding and knowledge of the offset color reproduction process. Introduction to the theory, principles and practices of two and four color reproduction is emphasized. The course is structured to provide students the opportunity to safely operate duplication equipment in a multi-color sequence. The course will focus on: Form roll and related pressures, ink tack, rubber base inks, oil based ink, coated and uncoated papers,

trouble-shooting techniques, wet trap, densitometry and identification and standards needed to produce quality color reproductions. Safety and basic press maintenance is emphasized.

Prerequisite: GA 121. Hours of class per week: 2. Hours of lab per week: 2.

*Photography courses—see EDUCATIONAL RESOURCES

**Courses may meet at sites other than main campus. Students make transportation arrangements.

Leather Technology

LT 101-102 Introduction to Leather Technology I, II **F-S 3 s.h. each semester**

An introductory course designed to acquaint the student with the history of the Leather Industry and some of the general principles involved in the manufacture of leather from raw stock to finished goods. The important leather manufacturing processes are covered. Emphasis is on the important factors that govern which course a leather will take through a mill to produce a predetermined desirable or aesthetically acceptable product and the physical and chemical changes that occur, depending on the product's end use or customer's specification. The course will include several field trips to local manufacturing plants.

Hours of class per week: 3.

LT 130 Leather Internship **3/6 s.h.**

This course consists of practical application of skills learned in leather technology classes. An arranged schedule of work experience in area industry is required.

Prerequisites: LT 221 and LT 222. Hours of class per week: 10-12/15-20 hours on the job per week per 3 credits.

LT 221 Principles of Leather Technology (Pre-tanning) **3 s.h.**

A basic course dealing with leather manufacturing, topics include a study of leather, evaluation of hides and skins and chemical processes related to pretanning. Practical applications will be stressed.

Hours of class per week: 3.

LT 222 Leather Tanning and Coloring **3 s.h.**

A study of leather and coloring processes. Topics include vegetable tanning, chrome and other materials tanning, resins syntans, and aldehyde tonnages, dyes and their properties, theory of dye fixation; color designation matching and measurement, and dyeing methods.

Prerequisites: LT 101, LT 102. Hours of class per week: 3.

LT 223 Leather Finishing **3 s.h.**

A study of leather processes. Topics include requirements of leather finish coating technology, leather finishing methods, additives and monomers, and methods of application. Practical techniques will be stressed.

Prerequisites: LT 101, LT 102 or equivalent or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.

LT 224 Leather Analysis & Testing **3 s.h.**

A study of leather analysis and testing processes. Topics include physical properties of leather, measurements used for control of processes, solution concentration, tannery floats and feeds, shrinkage meters, and Ph measures. Practical applications will be stressed.

Prerequisites: LT 101, LT 102, or equivalent or permission of instructor. Hours of class per week: 2. Hours of lab per week: 2.

LT 230 Tannery Management **3 s.h.**

A study of unique requirements of managing tannery operations. Development of efficient methods from acquisition of raw materials

to production of the finished product will be stressed. Economic factors will be covered.

Prerequisites: LT 221. *Hours of class per week:* 3.

Machine Processes*

MP 101 Machine Processes I 3 s.h.

The construction, purpose and operation of lathes, drill presses, sawing and milling machines will be studied. Included are the theory of cutting angles, tool and cutter selection, cutting speeds, feeds, and coolants, industrial safety, use of bench and layout tools, measuring instruments, gauges and the accepted machine shop practices used in industry and service repair shops.

Hours of class per week: 2. *Hours of lab per week:* 2.

Natural Resources Conservation* **

NR 121 Fisheries and Wildlife Management I F 3 s.h.

Introduction to the principles of fisheries and wildlife management. An understanding of the practice of wildlife management in a contemporary context, but with sufficient review of past efforts to clarify present directions. A knowledge of the plants and animals indigenous to Eastern United States with respect to their management and identification will be stressed.

Hours of class per week: 2. *Hours of lab per week:* 3.

NR 122 Fisheries and Wildlife Management II S 3 s.h.

Utilization and an understanding of both the theoretical and operational aspects of the varied techniques used in the management of both fisheries and wildlife. Topical areas will include population estimation, analysis and manipulation of cover water and food for both fisheries and wildlife, wildlife collection techniques, species management techniques, telemetry.

Prerequisites: NR 121. *Hours of class per week:* 2. *Hours of lab per week:* 3.

NR 126 Principles of Soils and Water S 3 s.h.

A study of the principles of erosion control, surface drainage and subsurface drainage; considers soil genesis, composition, classification, physical and chemical characteristics in relation to soil moisture, fertility and management.

Hours of class per week: 2. *Hours of lab per week:* 2.

NR 223 Forest Management I F 3 s.h.

The practices and principles involved in managing woodlands for timber, recreation, wildlife, and soil conservation values. Includes species identification and characteristics, tree development and growth, cutting practices, harvesting and marketing, reforestation, planting management and protection.

Prerequisite: NR 122. *Hours of class per week:* 2. *Hours of lab per week:* 3.

NR 224 Forest Management II S 3 s.h.

Major topics will include tree physiology, major forest products, nursery techniques, planting, maintenance of individual trees—ornamental and Christmas trees, forest protection—fire, insects and disease, forest influences upon the environment, harvesting techniques from the standing tree to the mill. Proper use and maintenance of related tools will be emphasized.

Prerequisite: NR 223. *Hours of class per week:* 2. *Hours of lab per week:* 3.

NR 231 Practical Skills in Conservation and Outdoor Recreation 4 s.h.

This is a basic level practical skills course in which students will work on individual or group projects assigned by the instructor. Projects will involve actual field experience and will be selected to give students a high degree of introductory skills in work normally

conducted in Natural Resources. Where possible the student shall work with Conservation agencies and active field specialists.

Hours of class per week: 2. *Hours of lab per week:* TBA.

NR 232 Basic Research in Conservation and Outdoor Recreation 4 s.h.

In this research seminar students will work with the instructor in selecting a topic of research. The topic will be selected to give the student a strong introduction to methods and techniques of research. The student will pursue a line of field work along with studying subject related textbooks and literature. The student will document activities and will prepare a class presentation.

Prerequisites: NR 231 or equivalent and permission of instructor. *Hours of class per week:* TBA. *Hours of lab per week:* TBA.

NR 233 Advanced Research in Conservation and Recreation 4 s.h.

The student electing to take this course will submit for approval a detailed plan on researching a topic in Natural Resources planning or management. Upon being granted permission to pursue this topic, the student will involve himself in both advanced field work and literature search. The student will submit both a comprehensive research paper and the results of his field studies for review by the instructor.

Prerequisites: NR 232 and permission of instructor. *Hours of class per week:* TBA. *Hours of lab per week:* TBA.

*Courses may meet at sites other than main campus. Students make transportation arrangements. Weekend field trips may be required.

**Students require special clothing or safety equipment, in addition to texts. Instructor will furnish details.

Nursing* **

NU 105 Nursing Science I F 7 s.h.

Course introduces concepts, skills, and procedures common to nursing care of all patients, regardless of age, disability, or location. Emphasis is placed upon acquiring a body of knowledge that will permit individualization of nursing care, based upon a sound, scientific rationale. The nursing process, the role of the nurse, communication theory, provision for meeting basic physical needs, nutrition, pharmacology, and the special needs of the aged are included. Practice in basic skills is provided in the College laboratory, and through selected patient care assignments at Montgomery and Fulton County Infirmaries.

Prerequisite: Completion of or concurrent registration in BI 181. *Hours of class per week:* 5. *Hours of lab per week:* 6.

NR 106 Nursing Science II S 7 s.h.

Course focuses on the commonalities of care of persons confined to acute care hospitals. It includes the care of the patient undergoing diagnosis, the care of the surgical patient, care of patients with fluid, electrolyte, and acid base disturbances, the care of patients with mobility problems, the care of the patient with cancer, and infection control. Clinical experiences include the care of both adults and children. Observational experiences are provided in the operating room, recovery room, and specialty areas of the hospital where patients are cared for by other than nursing personnel.

Prerequisite: NU 105, completion of or concurrent registration in BI 182 and SS 297. *Hours of class per week:* 4. *Hours of lab per week:* 9.

NU 205 Nursing Science II F 9 s.h.

Course divided into three major units. Each instructor assumes complete responsibility for classroom and clinical instruction in a specialty area. Each unit is complete in itself. Units may be completed in any sequence. Based on faculty assessment of their learning

needs, students may be asked to follow a particular sequence. Units are: Psychiatric—Mental Health, with clinical assignment to a psychiatric care facility; Reproductive Cycle, with assignments to maternity and newborn units of community hospitals; and Medical-Surgical, with assignments to specialty units of community hospitals.

Prerequisites: NU 106, completion of, or concurrent registration in, BI 282. *Hours of class per week:* 5. *Hours of lab per week:* 12.

NU 206 Nursing Science IV **S 9 s.h.**

Course stresses complex health needs of children and adults. Principles, concepts, and skills considered in previous courses are further developed and expanded. A weekly, one-hour seminar is included, devoted to the study of issues in nursing, nursing education, and health care delivery.

Prerequisite: NU 205. *Hours of class per week:* Lecture 5, Seminar 1, Total 6. *Hours of lab per week:* 9. In addition, a 4-week preceptorship is required.

*Courses may meet at sites other than main campus. Students make transportation arrangements. Weekend field trips may be required.

**Students require special clothing or safety equipment, in addition to texts. Instructor will furnish details.

Textile Technology

TT 101-102 Introduction to Textile Technology I, II **F-S 3 s.h. each semester**

An introductory course designed to acquaint the student with the history of the Textile Industry and some of the general principles involved in the manufacture of textiles from raw stock to finished goods. Emphasis is on the important factors that govern which course a fiber will take through a mill to produce a predetermined desirable or aesthetically acceptable product and the physical and chemical changes that occur, depending on the product's end use or customer's specification. Part I will cover characteristics and manufacture of natural and manmade fibers, yarns and fabrics, spinning, knitting and weaving; fiber, yarn, and fabric production—including processes, equipment, and technologies involved. Part II will cover dyeing (coloring) of various fibers, yarns, and fabrics discussed in Part I. Natural and synthetic dyes, basic dyeing mechanisms, dye selection, classification and chemistry of dyes and various methods of dyeing, processes, and equipment will be introduced. The courses will include several field trips to local manufacturing plants.

Hours of class per week: 3.

TT 130 Textile Internship **3/6 s.h.**

This course consists of practical application of skills learned in textile technology classes. An arranged schedule of work experience in area industry is required.

Prerequisites: TT 202, TT 204. *Hours of class per week:* 10-12/15-20 hours on the job per week per 3 credits.

TT 201 Advanced Textile Technology I **3 s.h.**

This course covers the various ASTM and AATCC test methods used in quality control; use of computers in textile dyeing automation and color matching; environmental considerations and regulations; energy and economics; mill management and supervision.

Hours of class per week: 3.

TT 202 Textile Dyeing **3 s.h.**

This course is designed for further study of the principles of dyeing fiber stock, yarns, and piece goods; the theory of color; introduction to color-matching; laboratory or "pot" dyeing methods; and dyestuffs and their classification.

Prerequisites: TT 101, TT 102. *Hours of class per week:* 3.

TT 203 Advanced Textile Dyeing **3 s.h.**

A practical course in advanced dyeing theory and techniques. The course includes the principles and methods of fiber preparation,

scouring, bleaching and dyeing and the important fibers and current technologies. Dyeing of cotton, polyester, nylon, acrylics, wool, silk will be studied. Selection of the proper dyestuffs, their properties and economical application and various dyeing methods and equipment including non-aqueous systems will also be studied, including stripping, continuous dyeing, dye equipment and quality control. Class time will be allotted to promote a hands-on dyeing experience.

Prerequisite: TT 202. *Hours of class per week:* 3.

TT 204 Textile Finishing **3 s.h.**

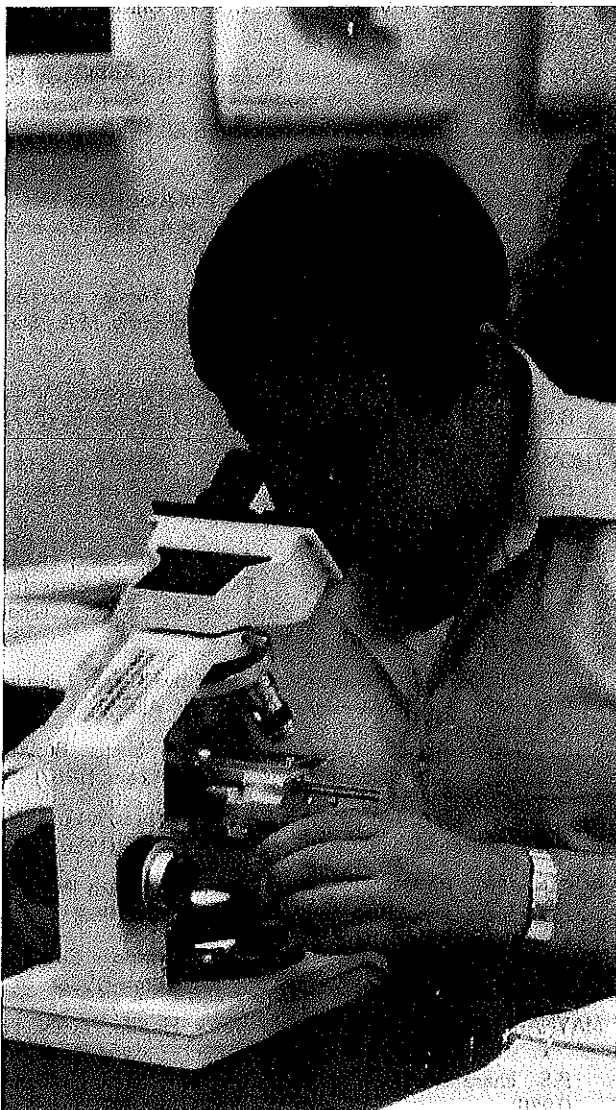
This course provides an introduction to physical and chemical finishing techniques that impart the special and desirable end-use characteristics to fabric.

Hours of class per week: 3.

TT 205 Advanced Textile Finishing **3 s.h.**

This course covers the important mechanical and chemical finishing techniques currently used in textile finishing. It will include most of the physical finishing, such as slitting, combing, carding, napping, embossing, and drying techniques as well as the chemical and wet finishing techniques, such as sizing, resin treatments, water repellents, fire retardants, softeners, soil release, polymeric finishes. The principles and properties imparted on fabric to change or improve its characteristics for desirable or marketable effects will be studied.

Prerequisites: TT 204. *Hours of class per week:* 3.



INDEX

Academic Advisement	20	Environmental Technology	55
Academic Programs	60	Facilities	2
Accounting	41	Faculty	90
Academic Support Services	20	Federal Programs	16
Accreditation	1	Fees	5
Administration Building	1	Financial Aid	7
Admissions	3	Floriculture	54
Advanced Placement	4	Food Service	22
Advisement	4	Food Service Administration	46
Advisory Committees	94	Foreign Languages	72
Air Science	81	Forest Technology	56
Alumni Association	24	Full-Time Matriculation	4
Application	4	Fulton-Montgomery Athletic Association	23
Art	34	General Studies	28
Athletics	23	Geology	77
Attrition-Retention	25	Graphic Arts	86
Automotive Mechanics	57	Greetings from the President	iii
Automotive Technology	44	Health Education	40
Biological Technology	93	History	79
Biology	37	History of Fulton-Montgomery Community College	1
Board of Trustees, F.M.C.C.	94	Histotechnology Concentration	55
Board of Trustees, SUNY	98	Honors Option	81
Bookstore	22	Honors Program	28
Budget (Typical Student)	7	Honors Section	81
Business Administration	41	Honors Seminar	81
Calendar 1989-1990	96	Housing	22
Calendar 1990-1991	97	Human Development	70
Campus Tours	24	Human Services	34, 57
Certification	22	Humanities	31
Certificate Programs	57	Independent Study	62
Chemical Technology	54	Individual Studies	50
Chemistry	76	Industrial Technology	52
Classroom Building	1	Intercollegiate Athletics	23
Clubs	23	International Student Program	3
Collaborative Career Learning	50	Internship	62
Communications	75	Introductory Sciences	77
Community Relations	24	Journalism	75
Computer Science	36	Language and Philosophy	74
Construction Technology	44	Learning Disabled Students, Services	3
Continuing Education	23	Leather Technology	47
Counseling	21	Liberal Arts	28
Course and Curriculum Changes	21	Library	1
Course Descriptions	62	Loans	14
Course Load	21	Local Programs	20
Crafts Management	35	Mass Communication	75
Criminal Justice	45, 58	Mathematics	37
Day Care Center	21	Matriculation	4
Data Processing	42	Medical Information Processing	58
Dean's List	25	Medical Laboratory Technology	55
Directed Study	62	Milk and Food Quality Control	52
Discipline	25	Mission of Fulton-Montgomery Community College	1
Early Admissions	3	Modern Foreign Language	72
Economics	67	Mortuary Science	53
Education	57	Music	73
Educational Resources	68	Natural Resources Conservation	47
Educational Opportunity Program	3	New York State Education Law	98
Educational Resources Center	1	Non-Credit Courses	23
Electrical Technology	46	Notice of Admission	4
Electronics	46	Nursing Admissions	3
Engineering Science	39	Nursing Program	48
English	71		
Environmental Health	55		

Office Technology: Administrative	42, 58	Science Laboratory Technology	52
Office Technology: Word/Information Processing.....	43, 59	Sciences	75
Open Admissions	3	Secretarial Science.....	66
One-Plus-One Associate Degrees	52	Social Sciences	79
Overseas Study Programs	3	Sociology	80
		Speakers' Bureau.....	24
PACE.....	21	State Programs	7
Parking	22	Student Government Association	23
Part-Time Matriculation	4	Student Records	22
Peer Tutoring	20	Student Services	20
Peer Tutoring Services	20	Student Union.....	1
Philosophy and Language	74	Students Without High School Diploma	3
Photography.....	68	Summer Sessions.....	24
Physical Education	40	Surveying	83
Physical Education Building	1		
Physics	77	Textile Technology	49
Placement Counselor	21	Theatre	72
Political Science	79	Transcripts	22
Pre-Med Concentration	38	Transfer	21
Pre-Registration	4	Transfer Admission	4
Professional Pilot	51	Transfer Counseling	21
Psychology	80	Transportation	22
Public Relations	75	Tuition	5
Quantity Food Production	58	Visual Communications Technology	49
Refund Policy	5	Visual Fine Arts.....	34
Registrar.....	22	Voc-Tec Center (BOCES).....	1
Regulations.....	25		
Resident Requirements	4	Winter Session	24
		Withdrawal from College	22
Scholarships	20	Word Processing	43, 59
		Work/Study Program.....	17