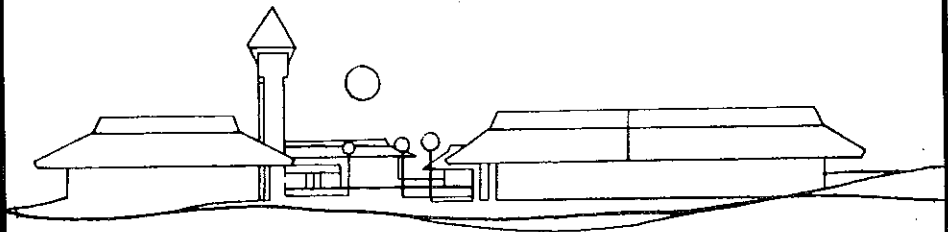


# FULTON-MONTGOMERY COMMUNITY COLLEGE

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



"BECOME A PART OF OUR SUCCESS STORY"

1981-1983

*Fulton-Montgomery Community College is an equal opportunity, affirmative action institution.*

# ACADEMIC PROGRAMS

Fulton-Montgomery Community College's programs include: Liberal Arts, Career, One Year plus One Year, and Certificate. These programs are listed here along with the Higher Education General Information Survey (HEGIS) classification and the State University of New York Application Processing Center's (APC) codes.

FULTON-MONTGOMERY COMMUNITY COLLEGE		HEGIS	APC
		0765	77
LIBERAL ARTS	DEGREE	HEGIS	APC
Humanities including: Visual Arts, Theater Arts	A.A.	4903	201
Social Science including: American Studies, Behavioral Science	A.A.	4903	212
Mathematics	A.S.	4901	221
Sciences including: Health Education, Physical Education	A.S.	4901	220
Engineering Science	A.S.	0901	530
Individual Studies	A.O.S. (pending approval)		
CAREER	DEGREE	HEGIS	APC
Accounting	A.A.S.	5002	630
Automotive Technology	A.A.S.	5306	525
Business Administration including: Retailing, General Finance, Management	A.A.S.	5004	632
Business Data Processing	A.A.S.	5101	636
Construction Technology	A.A.S.	5317	540
Criminal Justice	A.A.S.	5505	640
Electrical Technology	A.A.S.	5310	555
Food Services Administration	A.A.S.	5404	570
Natural Resources Conservation	A.A.S.	5499	617

Nursing	A.A.S.	5208	622
Secretarial Science Including: Medical, Legal, Word Processing	A.A.S.	5005	625
Visual Communications Technology	A.A.S.	5012	677
Individual Studies	A.O.S. ( <del>pending approval</del> )		

688

ONE YEAR PLUS ONE YEAR	DEGREE	HEGIS	APC
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FULTON-MONTGOMERY COMMUNITY COLLEGE  
& CANTON AGRICULTURAL AND TECHNICAL COLLEGE

Agricultural Engineering	A.A.S.	5315	512
Agronomy	A.A.S.	5402	513
Animal Husbandry	A.A.S.	5402	515
Dairy & Food Science	A.A.S.	5402	517
General Agriculture	A.A.S.	5402	510
Industrial Technology	A.A.S.	5312	583
Mortuary Science	A.A.S.	5599	599
Science Laboratory Technology (Biology)	A.A.S.	5407	584
Science Laboratory Technology (Chemistry)	A.A.S.	5407	584

FULTON-MONTGOMERY COMMUNITY COLLEGE  
& COBLESKILL COMMUNITY AND TECHNICAL COLLEGE

Floriculture	A.A.S.	5402	643
Food Service Administration	A.A.S.	5010	570
Science Laboratory Technology (Allied Health)	A.A.S.	5407	584
Science Laboratory Technology (Chemistry)	A.A.S.	5407	584

Science Laboratory Technology (Environmental Health)	A.A.S.	5407	584
Medical Laboratory Technology (Histotechnology)	A.A.S.	5205	584

FULTON-MONTGOMERY COMMUNITY COLLEGE  
& HUDSON VALLEY COMMUNITY COLLEGE

Environmental Health	A.A.S.	5407	624
Transportation	A.A.S.	0510	638

FULTON-MONTGOMERY COMMUNITY COLLEGE  
& THE COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY

Forest Technology	A.A.S.	5403	620
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CERTIFICATE PROGRAMS (One Year)	DEGREE	HEGIS	APC
Automotive Mechanics	Certificate		<del>pending approval</del> <sup>926</sup>
Clerk-Typist Including: Word Processing	Certificate	5005	935
Criminal Justice	Certificate	5505	947
General Education	Certificate	4999	985
Individual Studies	Certificate		<del>pending approval</del>
Secretarial Studies	Certificate	5005	<sup>987</sup> 927

62

# LIBERAL ARTS SCIENCES

## Humanities and Social Services [A.A.] APC-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. Examples of such study are given on this page.

### FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
Social Science Elective*	3	Social Science Elective*	3
Foreign Language	3	Foreign Language	3
Mathematics or Science	3- 4	Mathematics or Science	3- 4
Elective*	3- 4	Elective*	3- 4
Physical Education	1	Physical Education	1
	<hr/>		<hr/>
	16-18		16-18

### SECOND YEAR

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

Students who wish to concentrate in one of the following areas should take the courses identified below:

*American Studies*

- \* SS 283, 284, 282, 264, 383
- \*\* EN 233, 234

*Visual Arts*

- AR 100, 150, 200, 210, 220, and 275

*Theater*

- TH 101, 102, 105, 201, 202
- EN 243, 245

*Behavioral Science*

\*SS 281, 291, and one (1) political science elective should be taken the first year of study. Additionally, three (3) other courses chosen from the fields of psychology, sociology or political science should be completed. Mathematics elective should include MA 160

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.

# Mathematics and Science [A.S.] APC-221

62

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

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
*Social Science Elective	3	*Social Science Elective	3
Foreign Language	3	Foreign Language	3
Mathematics	3- 4	Mathematics	3- 4
Science	3- 4	Science	3- 4
Physical Education	1	Physical Education	1
	<hr/>		<hr/>
	16-18		16-18

## SECOND YEAR

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

Students may concentrate in areas such as Biology, General Science, Geology Mathematics, Pre-Med, or Physics. Sample concentrations are shown below:

### Biology

BI 171, 172, 173  
CH 173, CH 174  
MA 157\*\*, MA 158, MA 160

### Physics

PH 171, 172, 271  
ES 236  
MA 157\*\*, 158, 257, 258

### Mathematics

MA 157\*\*, 158, 257, 258, 259

### Pre-Med

BI 171, 173, 181, 182  
CH 173, 174  
MA 157\*\*, 158  
PH 171, 172

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

\*\*Prerequisite courses available.

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.

# Engineering Science [A.S.] APC-530

70 hrs

The Engineering Science Program closely parallels the first two years of the four-year college and university programs 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 this program. A strong background in high school mathematics and physics is recommended for entrance to this program.

## FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
PH 171 Physics	4	PH 172 Physics	4
MA 157 Calculus	4	MA 158 Calculus	4
CH 173 Chemistry	4	CH 174 Chemistry or Elective***	3- 4
*DP 120 Computer Programming (FORTRAN)	3	*SC 130 Science-Technology— Society or Elective***	3- 4
EN 125 Freshman English	3	EN 126 Freshman English	3
	18		17-19

## SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
ES 235 Mechanics: Statics	3	ES 236 Mechanics: Dynamics	3
**MD 171 Engineering Graphics or Elective***	3-4	ES 281 Electric and Electronic Circuits	3
MA 257 Calculus	4	MA 258 Differential Equations	4
PH 271 Physics	4	MA 259 Linear Algebra or Elective***	3- 4
**Social Science Elective	3	**Social Science Elective	3
Physical Education	1	Physical Education	1
	18-19		17-18

\*May be postponed till the second year.

\*\*May be taken during the first year.

\*\*\*The student is advised to select the electives based on the field of engineering he is planning to major and to conform to the requirements of the engineering college he is planning to transfer. Those planning to major in chemical, environmental or bioengineering are strongly advised to take CH 174 Chemistry. Those planning to major in bioengineering are advised to take BI 171 Modern Biology and BI 173 Zoology. Those planning to major in mining engineering are advised to take GL 171 Physical Geology and GL 172 Historical Geology. DP 132 Computer Science is a desirable elective for all engineering majors.

Seventy 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 and at least 4 electives, in addition to 2 physical education courses.

# Physical Education Concentration [A.S.]

## APC-220

63

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

### SECOND YEAR

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

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.



# Health Education Concentration [A.S.]

APC-220

64

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

## SECOND YEAR

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

62

## Accounting [A.A.S.]

APC-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>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
BU 101 Principles of Business	3	SS Social Science Elective	3
BU 103 Mathematics of Business		*Mathematics Elective	3-4
Finance	3	BU 122 Principles of Accounting	3
BU 121 Principles of Accounting	3	EC 180 Intro. to Economics	3
*Elective	3	Physical Education	1
	<hr/>		<hr/>
	15		16-17

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BU 221 Intermediate Accounting	3	BU 222 Intermediate Accounting	3
BU 254 Management and The Law		BU 224 Cost Accounting	3
or		Liberal Arts Elective	3
BU 171 Business Law	3	*Electives	6
DP 110 Intro. to Data Processing	3		<hr/>
SC Science Elective	3-4		15
Physical Education	1		
*Elective	3		
	<hr/>		
	16-17		

A total of 62 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. Other suggested electives: BU 130, BU 133, BU 134, BU 173, BU 225, DP 121, MA 154.

WJ

## Business Administration [A.A.S.] APC-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>		<i>Second Semester</i>	
BU 101 Principles of Business	3	EN 126 Freshman English	3
BU 103 Math. of Bus. Finance	3	BU 122 Principles of Accounting	3
BU 121 Principles of Accounting	3	Social Science Elective	3
EN 125 Freshman English	3	Mathematics Elective	3
**Elective	3- 4	Elective	3
	15-16	Physical Education	1
			16

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
Science Elective	3	Liberal Arts Elective	3
BU* Course Option	6	BU* Course Option	6
**Elective	3-4	**Electives	6
EC 180 Intro to Economics	3		
Physical Education	1		15
	16-17		

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

#### *Retailing*

BU 140 Salesmanship  
 BU 141 Marketing  
 BU 170 Advertising  
 BU 171 Business Law  
 BU 243 Retail Management

#### *Management*

BU 151 Personnel Management  
 BU 152 Production Management  
 BU 254 Management & Law  
 BU 261 Managerial Accounting  
 BU 179 Business Organizations

#### *General Finance*

BU 160 Introduction to Finance  
 BU 164 Credit Administration  
 BU 171 Business Law  
 BU 262 Introduction to Investments

#### *Recommended Electives*

BU 130            BU 173  
 BU 133            BU 250  
 BU 134            DP 110  
 BU 165

DP 110 Introduction to Data Processing

\*\*Sixty-two 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.

Students planning to transfer should select their liberal arts and sciences to meet the requirement of the four-year Institutions which they plan to attend.

# Business Data Processing [A.A.S.]

62

## APC-636

Program prerequisite: H.S. Algebra, MA 147, concurrent Algebra enrollment, or permission of instructor.

### FIRST YEAR

#### First Semester

EN 125 Freshman English	3
DP 110 Intro to D.P.	3
DP 122 Programming RPG	3
BU 101 Principles of Business	3
Mathematics Elective	3-4
Physical Education	1
<hr/>	
	16-17

#### Second Semester

EN 126 Freshman English	3
<del>Social Science Elective</del> BU 121	3
DP 113 Programming Assembler	3
DP 121 Programming COBOL	3
Liberal Arts Elective	3-4
Physical Education	1
<hr/>	
	16-17

### SECOND YEAR

#### First Semester

BU 122 Accounting	3
DP 133 Programming Adv. COBOL	3
SC Science Elective	3-4
Liberal Arts Elective	3
Elective	3
<hr/>	
	15-16

#### Second Semester

Data Process. Elective	3-4
DP 135 Systems Anal. & Des.	3
Social Science Elective	3
Electives	6
<hr/>	
	15-16

#### Recommended Electives

BU 130	BU 224
BU 133	EC 180
BU 134	DP 120
BU 173	DP 123
BU 221	DP 130*
	MA 157

*9 hrs  
with perm*

\*With permission of instructor.

A total of 62 semester hours are required to complete the program, made up of the following:

Data Processing:	21 semester hours (including DP 110, DP 113, DP 121, DP 122 (DP 133, DP 135))
Physical Education:	2 semester hours
Liberal Arts:	20-21 semester hours (including EN 125, EN 126, 3-4 semester hours in Mathematics, 3-4 semester hours in Science, and 3 semester hours in Social Science)
Business:	12 semester hours (including BU 101, BU 121, BU 122)
General Electives:	7 semester hours.

# Secretarial Science [A.A.S.] APC-625

62

The Secretarial Science Program provides the necessary foundation for positions as secretaries, stenographers, and receptionists in traditional office and offices with word processing in business, government, and industry.

## FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BU 133 Beginning Typewriting* and/or		BU 132 Shorthand	5
BU 134 Intermediate Typewriting	3	BU 137 Bus. Communications	3
BU 131 Shorthand or		BU 130 Electronic Calculator Applications	2
BU 138 Shorthand Skills**	2- 5	Social Science Elective	3
EN 125 Freshman English	3	Liberal Arts Elective	3
Mathematics or Science***	3- 4	BU 129 Transcription Machines	1
Physical Education	1		17
	15-18		

## SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BU 231 Shorthand and Transcription****	4	BU 232 Shorthand and Transcription	4
BU 235 Administrative Support Procedures	3	BU 236 Administrative Support Procedures	3
Liberal Arts or Concentration****	3- 4	BU 234 Advanced Typewriting****	3
Liberal Arts Elective	3	Liberal Arts or Concentration****	3- 4
Physical Education	1	Liberal Arts Elective	3
	14-15		16-17

\*Depending on preparation.

\*\*If a student takes BU 138, an additional 3 semester hours should be scheduled to meet graduation requirements.

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

\*\*\*\*Secretarial Science majors who wish to concentrate in one of the following areas, should take the courses identified below:

<i>Medical Secretary</i>	<i>Legal Secretary</i>
Medical-Related Elective	BU 171 Business Law
Medical-Related Elective	BU 234 Advanced Typewriting
BU 231 Shorthand & Transcription	Legal Typing Module
—Medical Module	

An additional concentration in Word Processing is described on the following page.

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

# Word Processing Specialist Concentration [A.A.S.] APC-625

62

The Word Processing Specialist Concentration Program provides the necessary foundation for positions in offices with word processing in business, government, and industry. The following is a suggested sequence of courses:

## FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BU 133 Beginning Typewriting* or		BU 134 Intermediate Typewriting or	
BU 134 Intermediate Typewriting	3	Elective	3
DP 110 Introduction to Data		English Elective	3
Processing	3	GA 104 Typography	3
EN 125 Freshman English	3	Social Science Elective	3
**GA 101 Graphic Arts 1	3	Elective	3
Liberal Arts Elective	3	Physical Education	1
Physical Education	1		
	<hr/>		<hr/>
	16		16

## SECOND YEAR

<i>Third Semester</i>		<i>Fourth Semester</i>	
BU 235 Support Procedures	3	BU 236 Adm. Support Procedures	3
BU 234 Advanced Typewriting or		BU 239 Introduction to Word	
Elective***	3	Processing	3
BU 229 Machine Transcription	3	BU 259 Word Processing Management	
BU 179 Business Organizations	3	or Business Elective	3
HD 221 Human Relations & Group		Mathematics or Science	3- 4
Dynamics	3	Liberal Arts Elective	3
	<hr/>		<hr/>
	15		15-16

\*Depending upon preparation.

\*\*Laboratories meet at BOCES. Students make own transportation arrangements.

\*\*\*BU 234 required of students not typing at least 35 net words per minute at the end of BU 134.

A minimum of 20 semester hours or Liberal Arts and Science courses in addition to 2 semester hours of Physical Education is required for graduation.

### Suggested Electives:

AR 150 Basic Design	EN 257 Creative Writing
BU 103 Math of Business Finance	GA 103 Graphic Arts II
BU 130 Electronic Calculator Applications	GA 107 Production Management
BU 137 Business Communications	HD 100 Studies of the Person
BU 151 Personnel Management	HU 254 Logic and Argument
BU 250 Management Decision Making	SS 291 General Psychology
EN 127 Technical English	EC 183 Consumer Economics
EN 132 Speech	BU 131 Shorthand

# TECHNOLOGIES

## Automotive Technology [A.A.S.]

62

### APC-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	3
EN 125 Freshman English	3
Physical Education	1

16-17

##### *Second Semester*

**AT 123 Internal Combustion Engine Support Systems	3
**AT 124 Automotive Electrical Systems	3
Mathematics or Elective*	3-4
SC 162 Introduction to Physics	3
EN 126 Freshman English	3

OR

EN 127 Technical English	
Physical Education	1

16-17

#### SECOND YEAR

##### *First Semester*

**AT 225 Automotive Chassis Systems	3
**AT 226 Power Trains—Design Features and Analysis	3
Electives	6
Social Science Elective	3

15

##### *Second Semester*

**AT 227 Electronic Engine & Chassis Analysis	3
**AT 228 Consumer Relations & Services	3
Social Science Elective	3
Electives	6

15

\*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 62 semester hours required for graduation, including two hours of physical education.

\*\*Course meets at BOCES. Students make own transportation arrangements.

# Construction Technology [A.A.S.]

## APC-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

<i>First Semester</i>		<i>Second Semester</i>	
**CT 121 Introduction to Building Trades and Construction Materials	3	**CT 123 Light Frame Construction II	3
**CT122 Light Frame Construction I	3	**CT 124 Blueprint Reading	3
✓SC 161 Introduction to Physics	3	✓Elective	3
✓EN 125 Freshman English	3	✓EN 126 Freshman English	
✓Mathematics*	3-4	or	
✓Physical Education	1	✓EN 127 Technical English	3
		✓Mathematics or Elective*	3-4
		✓Physical Education	1
	16-17		
			16-17

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
**CT 225 Masonry, Concrete and Steel Construction	3	**CT 228 Estimating	3
**CT 226 Plumbing & Climate Control	3	**CT 229 Electrical Wiring	3
Elective	3	**CT 230 Principals of Soils	1
MD 171 Engineering Graphics	3	Social Science Elective	3
Social Science Elective	3	SU 101 Surveying I	3
		MD 180 Architectural Drafting	3
	15		
			16

An Alternate Energy Concentration may be elected by construction technology majors. A proficiency in at least 9th grade Algebra is required to elect this concentration.

The following electives should be taken:

Alternate Energy I, Alternate Energy II, Introduction to Physics II, Technical Mathematics II.

\*Math placement depending upon preparation, competence at level of MA142 or higher required.

Minimum of 63 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.

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



# Criminal Justice [A.A.S.]

WJ

## APC-540

This program is designed to prepare students for careers with federal, state, county and local law 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. The Criminal Justice (CJ) courses are only offered in the evening and summer through Continuing Education.

**STUDENTS PLEASE NOTE:** Many criminal justice agencies require applicants to meet qualifying entrance requirements. Students pursuing careers in these agencies should be aware of conditions that may disqualify applicants for employment, based on health, physical conditions, or character.

### FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
CJ 106 Introduction to Criminal Justice	3	CJ 104 Criminal Law II	3
Elective or Science (SC 130 suggested)	3- 4	CJ 105 Fundamentals of Criminal Investigation	3
SS 291 Introduction to Sociology	3	Mathematics (MA 160 suggested)	3- 4
CJ 103 Criminal Law I	3	SS 291 General Psychology	3
Physical Education	1	Physical Education	1
	<hr/>		<hr/>
	16-17		16-17

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
CJ 112 Introduction to Police Organization & Management	3	HU 258 Ethics	3
DP 110 Introduction to Data Processing	3	CJ 107 Police Community Relations	3
EN 122 Speech	3	CJ 111 Introduction to Public Administration	3
CJ 100 Criminology	3	Social Science Elective	3
Elective or Science (SC 130 suggested)	3- 4	Elective	3
	<hr/>		<hr/>
	15-16		15

Minimum of 62 semester hours required for graduation, including two hours of physical education and a minimum of 3 hours of science.

# Electrical Technology [A.A.S.]

63

## APC-555

This program is designed for those students who plan to seek employment after two years at Fulton-Montgomery Community College as laboratory technicians, electrical draftsmen, engineering assistants and service technicians. An interest in electricity and electronics and a degree of manual dexterity are assets. Students in this program are expected to provide their own small hand tools used in electrical and electronics courses. It is also highly recommended that students have their own electronic calculators with scientific notation capability.

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	3
EL 125 Electricity I	4
MA 161 Mathematics for Electrical Technology	4
SC 161 Introduction to Physics	3
Physical Education	1
	<hr/>
	15

#### *Second Semester*

EN 126 Freshman English	
or	
EN 127 Technical English	3
EL 126 Electricity II	4
EL 127 Instrumentation	2
MA 162 Mathematics for Electrical Technology	4
SC 162 Introduction to Physics	3
Physical Education	1
	<hr/>
	17

### SECOND YEAR

#### *First Semester*

EL 229 Electronics I	5
EL 231 Electrical Machines	3
EL 232 Computer Logic & Switching Circuits	3
MD 176 Electrical Graphics	2
Social Science Elective	3
	<hr/>
	16

#### *Second Semester*

EL 230 Electronics II	5
EL 235 Industrial Electronics	3
EL 236 Intro. to Microcomputers	4
Social Science Elective	3
	<hr/>
	15

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 DP 120.

Minimum of 63 hours required for graduation including 2 hours of physical education.

# Food Service Administration [A.A.S.]

62

## APC-570

The Food Service Administration curriculum is designed to develop students with the technical competence and preparation for supervisory trainee positions in the food processing and restaurant industries. 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

<i>First Semester</i>		<i>Second Semester</i>	
FS 121 Intro. to Food Service	3	**FS 123 Food Purchasing	3
**FS 122 Food Selection and Preparation	3	**FS 124 Quantity Food Selection & Preparation	3
HE 121 Nutrition	3	HE 125 Advanced Nutrition	3
EN 125 Freshman English	3	EN 126 Freshman English	
SC 141 Intro. to Biology	3	or	
Physical Education	1	EN 127 Technical English	3
		BU 103 Business Math	3
	16	Physical Education	1
			16

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
**FS 224 Hospitality Management	3	**FS 227 Food Service Organization & Management	3
**FS 225 Food & Beverage Cost Control	3	**FS 228 Catering Seminar	3
BU 121 Principles of Accounting	3	*Electives	6
Social Science Elective	3	Social Science Elective	3
*Elective	3		15
	15		

Suggested electives: BU 101, BU 122, BU 171  
HD 150, FS 126  
MA 150  
SC 131, SC 172

Minimum of 62 semester hours required for graduation, including two hours of physical education.

\*SC 131 and SC 170 recommended.

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

# Natural Resources Conservation [A.A.S.]

## APC-617

64

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 is also designed to develop the flexibility to allow students to transfer to schools offering baccalaureate degrees in the area of conservation.

The SUNY College of Environmental Science and Forestry, and the SUNY College at Plattsburgh provide upper division transfer programs in Environmental and Resource Management. Students planning to transfer to these institutions must consult with their Instructor or see a Counselor before they begin their Natural Resources program 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	3
Mathematics or Elective*	3- 4
SC 141 Introductory Biology	
or	
BI 171 Modern Biology	3- 4
Physical Education	1

16-18

#### Second Semester

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

18

### SECOND YEAR

#### First Semester

**NR 223 Forest Management I	3
SC 143 Earth Science I	3
SU 101 Surveying	3
SC 170 Intro. Chemistry	3
MA 144 Mathematics	3

15

#### Second Semester

**NR 224 Forest Management II	3
Elective	3
BI 172 Plant Biology	4
**NR 126 Principles of Soils & Water	3
Social Science Elective	3

16

\*Math placement depending upon preparation, but must include MA 142 & MA 144 level, or higher.

Suggested electives: PE 231, HE 136, SC 144, SC 172, GL 171, NR 125, NR 230.

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

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

# Nursing [A.A.S.]

## APC-622

64

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 position in five major clinical areas: Medical, Surgical, Maternity, Pediatric, and Psychiatric Nursing.

Prerequisites: High School Biology, 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 application is listed in the College calendar.

### FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BI 181 Anatomy & Physiology	4	EN 125 Freshman English	3
SS 291 General Psychology	3	BI 182 Anatomy & Physiology	4
**NU 105 Nursing Science	7	SS 297 Developmental Psychology	3
Physical Education	1	**NU 106 Nursing Science II	7
	<hr/>	Physical Education	<hr/>
	15		18

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BI 282 Microbiology	4	**NU 206 Nursing Science IV	9
**NU 205 Nursing Science III	9	SS 281 Sociology	3
EN 126 Freshman English	3	Elective	3- 4
	<hr/>		<hr/>
	16		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 for wear in laboratory periods. Courses meet at sites other than the main campus. Students make their own transportation arrangements.

67

# Visual Communications Technology [A.A.S.]

## APC-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 plate-making, 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 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

<i>First Semester</i>		<i>Second Semester</i>	
**GA 101 Graphic Arts I	3	**GA 103 Graphic Arts II	3
ER 101 Principles of Photography	3	GA 104 Typography	3
EN 125 Freshman English	3	EN 126 Freshman English	
BU 133 Beginning Typewriting	3	or	
AR 150 Basic Design	3	EN 127 Technical English	3
Physical Education	1	Mathematics*	3- 4
		Elective	3
		Physical Education	1
	<hr/>		<hr/>
	16		16-17

### SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
GA 105 Layout & Printing Design	3	**GA 107 Production Management	3
**GA 106 Graphics Arts Production	3	ER 102 Advanced Photography	3
SC 170 Intro. Chemistry	3	Elective	3
Elective	3	SC 162 Physics	3
Social Science Elective	3	Social Science Elective	3
	<hr/>		<hr/>
	15		15

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

Suggested electives: BU170, DP 110, DP 121, GA 108, ER 150, ER 151, AR 200.

Minimum of 62 semester hours required for graduation, including 2 hours of physical education.

\*\*Laboratories meet at BOCES. Students make own transportation arrangements.



# INDIVIDUAL STUDIES PROGRAMS\* [A.O.S.] Associate in Occupational Studies

The Individual Studies Programs can be of three types:

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

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 mentors.

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 Associate 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 the additional specialization provided by the one-year certificate and two-year degree programs.

\*Subject to SUNY approval; for further information contact the Admissions Office.

# ONE-PLUS-ONE DEGREE PROGRAMS

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

*with Canton:*

Agricultural Engineering  
Agronomy  
Agronomy (Horticulture Option)  
Animal Husbandry  
Dairy and Food Science  
General Agriculture  
Industrial Technology  
Mortuary Science  
Science Laboratory Technology  
(Biology Option)  
(Chemistry Option)

*with Cobleskill:*

Floriculture  
Food Service Administration  
Science Laboratory Technology  
(Allied Health Option)  
(Chemistry Option)  
(Environmental Health Option)  
(Histotechnology Option)

*with Hudson Valley:*

Environmental Technology  
Transportation

*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 Forestry, or Hudson Valley for the final year of the program and the award of the Associate degree. Details about applications, records, etc. are available from the Fulton-Montgomery Admissions or Registrar's Offices.



# Agricultural Engineering [A.A.S.]

## APC-512

### FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
SC 161 Introduction to Physics	3	EN 127 Technical English	3
Mathematics*	3- 4	SC 162 Introduction to Physics	3
Social Science Elective	3	BU 140 Salesmanship or	
Physical Education	1	BU 141 Marketing	3
Elective	1- 3	Social Science Elective	3
	<hr/>	Elective	<hr/>
	14-17		3- 4
			15-16

### SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10101 Soil Science	3	10119 Agricultural Machinery	4
10109 Animal Science	3	Elective**	1- 4
10117 Agricultural		Elective**	1- 4
Engineering I	4	Elective**	1- 4
10120 Introduction to Welding	2	Elective**	1- 4
10121 Agricultural Tractors			<hr/>
& Engines	4		17-18
10126 Farm Techniques	1		
	<hr/>		
	17		

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

\*\*Select from the following:

10107 Land Management	4
10118 Horticulture Equipment & Building Maintenance (Offered in odd-numbered years)	3
10122 Agriculture Engineering Problems	1
10123 Tractor Power Trains (Offered in odd-numbered years)	2
10124 Electrical Systems (Offered in even-numbered years)	3
10125 Hydraulic Systems (Offered in even-numbered years)	3
10128 Farm Management	4

GRADUATION REQUIREMENTS: 18 semester hours of Agriculture Engineering courses; 6 hours of English, 1 hour of physical education, 6 hours of mathematics or science, 6 hours of social science. Total semester hours: Minimum of 62.

# Agronomy [A.A.S.]

APC-513

## FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
Social Science Elective	3	EN 127 Technical English	3
BI 171 Modern Biology or		BI 172 Plant Biology	4
SC 141 Intro. Biology	3- 4	BU 140 Salesmanship or	
SC 170 Introduction to Chemistry	3	BU 141 Marketing	3
Mathematics*	3	Social Science Elective	3
Physical Education	1	Mathematics or Elective	(3)
		(Optional — Not Required	
		For Transfer)	
	<u>16-17</u>		<u>13-(16)</u>

## SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10101 Soil Science	3	10106 Agronomy Research	1- 2
10104 Fertilizers & Ag Chemistry	3	10107 Land Management &	
10109 Animal Science	3	Conservation	3
10126 Farm Techniques	1	10119 Ag. Machinery	4
Elective**	3- 4	10128 Farm Management	4
Elective**	3- 4	10209 Microbiology	4
	<u>16-18</u>		<u>16-17</u>

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

\*\*Select from the following:

10102 Horticulture	3
10105 Field Crop Production	4
10117 Ag. Engineering I	4
10212 Field Biology & Ecology	3

GRADUATION REQUIREMENTS: 18 semester hours of Agronomy courses. Total semester hours: Minimum of 62.

# Agronomy [A.A.S.] Horticulture Option APC-513

## FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
Social Science Elective	3	EN 127 Technical English	3
BI 171 Modern Biology or		Social Science Elective	3
SC 141 Intro. Biology	3- 4	BI 172 Plant Biology	4
SC 170 Intro. Chemistry	3	Mathematics or Elective*	1- 3
Mathematics*	3	BU 140 Salesmanship or	
Physical Education	1	BU 141 Marketing	3
	16-17		16-16

## SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10101 Soil Science	3	10108 Vegetable &	
10102 Introduction to Horticulture	3	Fruit Production	3
10104 Fertilizers & Ag. Chemistry	3	10118 Horticulture Equipment	
20301 Business Organization		& Maintenance (Offered in	
and Management	3	odd-numbered years)	3
Elective**	4	Elective***	1- 4
	16	Elective***	1- 4
		Elective***	1- 4
		Elective*** (Optional)	1- 4
			16-18

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

\*\*Select from the following:

10105 Field Crop Production	4
10117 Ag. Engineering I	4

\*\*\*Select from the following:

10106 Agronomy Research	1- 2
10107 Land Management &	
Conservation	3
10119 Ag. Machinery	4
10128 Farm Management	4
10209 Microbiology	4

**GRADUATION REQUIREMENTS:** 18 semester hours of Agronomy courses. Total semester hours: 62.

# Animal Husbandry [A.A.S.]

## APC-515

### FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
BI 171 Modern Biology or		EN 127 Technical English	3
SC 141 Introduction to Biology	3- 4	BU 140 Salesmanship or	
SC 170 Introduction to Chemistry	3	BU 141 Marketing	3
Social Science Elective	3	Social Science Elective	3
Mathematics*	3	Mathematics or Elective*	3- 4
Physical Education	1	Elective	3
	16-17		15-16

### SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester—Electives(5)</i>	
10101 Soil Science	3	Elective***	1- 4
10109 Animal Science	3	Elective***	1- 4
10126 Farm Techniques	1	Elective***	1- 4
Elective**	3- 4	Elective***	1- 4
Elective**	3- 4	Elective***	1- 4
Elective**	3- 4		
	16-19		14-18

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

\*\*Select from the following:

10105 Field Crop Production	4
10111 Animal Health & Diseases	3
10112 Horse Husbandry	3
10113 Dairy Cattle Management	4
10117 Ag. Engineering I	4
10121 Ag. Tractors & Engineering	4
10301 Dairy & Food Science I	3

\*\*\*Select from the following:

10014 Animal Husbandry Problems	1- 2
10110 Feeds & Nutrition	4
10115 Animal Breeding	3
10116 Livestock Production	3
10119 Ag. Machinery	4
10128 Farm Management	4
10217 Animal Anatomy & Physiology	3

GRADUATION REQUIREMENTS: 18 semester hours of Animal Husbandry and Anatomy & Physiology, 6 hours of English, 1 hour of Physical Education, 6 hours of Mathematics/Science, 6 hours of Social Science, 18 hours of Allied Agricultural subjects. Total semester hours: 62.

# Dairy & Food Science [A.A.S.]

## APC-517

### FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
BI 171 Modern Biology or		EN 127 Technical English	3
SC 141 Introduction to		BI 282 Microbiology*	4
Biology	3- 4	CH 174 Fundamentals of	
CH 173 Fundamentals of		Chemistry	4
Chemistry	4	Social Science Elective	3
Social Science Elective	3	Physical Education	1
Mathematics**	3- 4		<hr/>
			15
	<hr/>		
	16-18		

### SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10201 Principals of		10211 Environmental	
Environmental Health*	3	Microbiology*	3
10210 Dairy and Food		10302 Dairy & Food Science II*	3
Microbiology	4	10303 Food Production Evaluation	2
10220 Careers	1	10305 Water Supplies &	
10301 Dairy & Food Science I*	3	Sewage Treatment*	3
10304 State License for		10306 Elements of Food Sanitation*	4
Milk Analysis	3		<hr/>
Elective***	3		15
	<hr/>		
	17		

\*Major courses — must have successful completion.

\*\*Mathematics placement dependent upon preparation; competence at level MA 151 or higher required.

\*\*\*Select from the following:

10212 Field Biology & Ecology	3
10109 Animal Science	3
10213 Freshwater Biology	3

GRADUATION REQUIREMENTS: 6 semester hours of English, 1 hour of Physical Education, 6 hours of Mathematics/Science, 6 hours of Social Science. Total Semester hours: Minimum of 61.

# General Agriculture [A.A.S.]

## APC-510

### FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
SC 170 Introduction to Chemistry	3	EN 127 Technical English	3
BI 171 Modern Biology or		BI 172 Plant Biology**	4
SC 141 Introduction to Biology	3- 4	BU 140 Salesmanship or	
Social Science Elective	3	BU 141 Marketing	3
Mathematics*	3	Social Science Elective	3
Physical Education	1	Mathematics or Elective	
		(Optional—Not Required	
		For Transfer)	(3)
	16-17		
			13-(16)

### SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10101 Soil Science	3	10128 Farm Management	4
10109 Animal Science	3	Elective****	3- 4
10126 Farm Techniques	1	Elective****	3- 4
Elective***	3- 4	Elective****	3- 4
Elective***	4	Elective****	4
Elective***	4		
			17-18
	18-19		

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

\*\*3 semester hours of transfer credit accepted at Canton.

\*\*\*Select from the following:

10105 Field Crop Production	4
10111 Animal Health & Diseases	3
10113 Dairy Cattle Management	4
10117 Ag. Engineering I	4
10121 Ag. Tractors & Engineering	4

\*\*\*\*Select from the following:

10107 Land Management & Conservation	3
10110 Feeds & Nutrition	4
10115 Animal Breeding	3
10116 Livestock Production	3
10118 Ag. Machinery	4

GRADUATION REQUIREMENTS: 35 semester hours of Agricultural electives, 6 hours of English, 1 hour of Physical Education, 6 hours of Mathematics/Science, 6 hours of Social Science. Total semester hours: Minimum of 62.

# Industrial Technology [A.A.S.]

## APC-583

### FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshmen English	3	EN 126 Freshmen English	
SC 161 Introduction to Physics	3	or	
EL 125 Electricity	4	EN 127 Technical English	3
MA 161 Technical Mathematics	4	SC 162 Introduction to Physics	3
MD 171 Engineering Graphics	3	EL 126 Electricity	4
		MA 162 Technical Mathematics	4
	17	Physical Education	1
			15

### SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
30615 Statics & Strength of Materials	5	30421 Electronics	4
30604 Manufacturing Processes	4	30621 Digital Control Systems	4
Technical Electives*	8	Social Science Elective	3
	17	Technical Electives	5- 6
			16-17

\*Technical Electives include a variety of Technical courses including Work Simplification and Measurement, Quality Control, Architectural Drafting, Product Management, Refrigeration I, Solar Energy, Manufacturing Processes II, Engineering Drawing II and others.

GRADUATION REQUIREMENTS: Total semester hours — 64.

# Mortuary Science [A.A.S.]

APC-599

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 132 Speech	3
BU 101 Principals of Business	3	BU 103 Mathematics of	
BU 171 Business Law	3	Business Finance	3
Social Science Elective**	3	BU 121 Accounting I	3
BI 181 Anatomy & Physiology	4	BU 137 Business Communication	3
		Social Science Elective**	3
		Physical Education	1
	16		
			16

## SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10501 Introduction to Funeral		10504 Clinical Theory, Practice	
Service	3	& Sanitation II	4
10502 Funeral Service	3	10506 Senior Seminar II	3
10503 Clinical Theory, Practice		10508 Restorative Art	4
& Sanitation I	4	10509 Mortuary Hygiene &	
10505 Senior Seminar I	3	Sanitary Service	3
		Social Science Elective	3
	13		
			17

## SUMMER

\*Clinical Practices  
10507 Clinical Practicum

\*After completion of second semester at Canton, student required to work 5 weeks in funeral home.

\*\*Recommended: SS 281, SS 291

GRADUATION REQUIREMENTS: Successful completion of all listed courses.  
Total semester hours: 65.



# Science Laboratory Technology [A.A.S.] Biology Option APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
BI 171 Modern Biology*	4	BI 172 Plant Biology* or	
CH 173 Fundamentals of		BI 173 Animal Biology*	4
Chemistry*	4	BI 282 Microbiology*	4
Mathematics* **	3- 4	CH 174 Fundamentals of	
Physical Education	4	Chemistry*	4
		Mathematics or Elective**	3- 4
	<hr/> 15-16		<hr/> 18-19

## SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
40109 Quantitative Analysis	4	Social Science	3
Social Science	3	Elective***	1- 4
Elective***	1- 4	Elective***	1- 4
Elective***	1- 4	Elective****	1- 4
Elective***	1- 4	Elective****	1- 4
	<hr/> 14-18		<hr/> 14-18

\*Major Courses — must have successful completion.

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

\*\*\*Select from the following:

10201 Principles of Environmental Health	3
10210 Dairy & Food Microbiology	4
10212 Field Biology & Ecology	3
10213 Introduction to Freshwater Biology	3
10220 Careers	1

\*\*\*\*Select from the following:

10107 Land Management & Conservation	3
10207 Human Anatomy & Physiology	4
10211 Environmental Microbiology	3
10214 Basic Microtechniques	2
Advanced Microtechniques	1
10216 Basic Lab Skills	1
10305 Water Supplies & Sewage Treatment	3
40110 Instrumental Analysis	3
40111 Biochemistry	3
40615 Statistics	3

GRADUATION REQUIREMENTS: At least 64 semester hours, including 6 semester hours English; 1 hour Physical Education; 3 hours Math; 6 hours Social Science.

# Science Laboratory Technology [A.A.S.] Chemistry Option APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
Social Science Elective	3	Social Science Elective	3
BI 171 Modern Biology	4	BI 172 Plant Biology or	
CH 173 Fundamentals of		BI 173 Plant Biology	4
Chemistry*	4	CH 174 Fundamentals of	
Mathematics* **	3- 4	Chemistry*	4
	17-18	Mathematics or Elective*	3- 4
			17-18

## SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
40107 Organic Chemistry I*	4	40111 Biochemistry*	3
40109 Quantitative Analysis*	4	40108 Organic Chemistry II*	4
40803 College Physics I	4	40110 Instrumental Analysis	3
10220 Careers	1	40804 College Physics II	4
Elective***	3- 4	Elective	3
	16-17		17

\*Major courses — must have successful completion.

\*\*Mathematics placement dependent upon preparation; competence at level MA 154 or higher required.

\*\*\*Select from the following:

40615 Statistics	3
10209 Microbiology	4
20505 Computer Programming	
FORTRAN	3

GRADUATION REQUIREMENTS: 65 semester hours minimum — to include 6 semester hours of English, 6 hours of Mathematics/Science, 6 hours of Social Science, 1 hour of Physical Education.

# Floriculture [A.A.S.]

APC-643

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

### *First Semester*

EN 125 Freshman English	3
Social Science Elective	3
BI 171 Modern Biology	4
Electives	6
Physical Education	1
	<hr/>
	17

### *Second Semester*

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

## SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

### *First Semester*

OH 111 Floral Design I	3
OH 131 Floriculture	3
OH 113 Plant Science Laboratory	
Techniques	1
OH 141 Nursery Management I	3
OH 181 Plant Pathology	3
OH 200-210 Plant Science	
Occupational Experiences	1
OH 251 Greenhouse Management	3
	<hr/>
	17

### *Second Semester*

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

GRADUATION REQUIREMENTS: Total Semester hours—68.

# Food Service Administration [A.A.S.]

## APC-570

### FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English or	
Social Science Elective	3	EN 127 Technical English	3
BI 171 Modern Biology or		Social Science Elective	3
SC 141 Introduction to Biology	3- 4	BI 282 Microbiology	4
BU 103 Business Mathematics	3	Electives	6
Liberal Arts Elective	3	Physical Education	1
Physical Education	1		<hr style="width: 100%;"/>
	16-17		17

### SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
FA 111 Foods I	3	FA 112 Foods II	3
FA 122 Nutrition I	3	FA 132 Quantity Foods I	3
FA 242 Food Service Equipment	3	FA 145 Food Purchasing and	
FA 247 Menu Planning and		Cost Control	3
Food Merchandising	3	FA 255 Management Organization	
Electives	5	and Supervision	4
	<hr style="width: 100%;"/>	Elective	3
	17		<hr style="width: 100%;"/>
			16

GRADUATION REQUIREMENTS: Total semester hours—66.

# Science Laboratory Technology [A.A.S.] Allied Health Option APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 127 Technical English or	
CH 173 Fund. of Chemistry I	4	EN 126 Freshman English	3
BI 171 Modern Biology	4	CH 174 Fund. of Chem. II	4
Mathematics*	3- 4	BI 173 Animal Biology	4
Physical Education	1	Mathematics or Elective*	3- 4
	<hr/>	BI 282 Microbiology	4
	15-16		<hr/>
			18-19

## SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
Social Science Elective	3	BI 260 Adv. Bio. Tech. or	
Specialization Electives	6	CH 224 Instr. Anal. or	
Electives	5	CH 226 Radiation Science	3
MA 105 Fund. and Graph.	2	BI 118 Human Physiology	3
	<hr/>	Social Science Elective	3
	16	Specialization Electives	4
		Electives	3
		Physical Education	1
			<hr/>
			17

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

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

# Science Laboratory Technology [A.A.S.] Chemistry Concentration APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 127 Technical English or	
CH 173 Chemistry	4	EN 126 Freshman English	3
Mathematics*	3- 4	CH 174 Chemistry	4
Social Science Elective	3	Mathematics*	3- 4
Elective	2- 3	Social Science Elective	3
Physical Education	1	Elective	3
	16-18	Physical Education	1
			17-18

## SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
CH 231 Organic Chemistry I	4	CH 232 Organic Chemistry	4
CH 221 Quantitative Analysis	3	CH 224 Instr. Analysis	3
MA 105 Comp. and		Specialized Science Electives**	5- 6
Graph. Tech.	2	Electives	5
Specialized Science Electives**	6- 7		17-18
	15-16		

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

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

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

# Science Laboratory Technology [A.A.S.] Environmental Health Concentration APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 127 Technical English or	
CH 173 Fundamentals of		EN 126 Freshman English	3
Chemistry I	4	CH 174 Fund. of Chem. II	4
BI 171 Modern Biology	4	BI 173 Animal Biology	4
Mathematics*	3- 4	BI 282 Microbiology	4
Physical Education	1	Mathematics*	3- 4
	<hr/>		<hr/>
	15-16		18-19

## SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EH 102 Environmental Health II	2	EH 101 Environmental Health I	2
EH 207 Milk and Food Sanitation	3	Social Science Elective	3
PH 111 Physics I	4	Specialization Elective	5
Specialization Elective	3	Electives	5- 7
MA 105 Fund. and Graph.	2	Physical Education	1
Social Science Elective	3		<hr/>
	<hr/>		16-18
	17		

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

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

# Medical Laboratory Technology [A.A.S.] Histotechnology Concentration APC-584

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 127 Technical English or	
CH 173 Fundamentals of Chemistry I	4	EN 126 Freshman English	3
BI 171 Modern Biology	4	CH 174 Fund. of Chemistry II	4
Mathematics Elective*	3- 4	BI 173 Animal Biology	4
Physical Education	1	Mathematics Elective	3- 4
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>	Electives**	3
	15-16	Physical Education	1
			<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
			18-19

## SECOND YEAR — S.U.N.Y. COBLESKILL

<i>First Semester</i>		<i>Second Semester</i>	
BI 251 Histology	3	BY 118 Human Physiology	3
BY 291 Anatomy	3	BY 258 Microtechniques	3
MA 105 Comp. & Graph.	2	BY 255 Animal Pathology	2
Social Science Elective	3	Social Science Elective	3
BI 113 Med. Orient.	1	Electives	5
Electives	5		<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>		16
	17		

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

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

\*\*May be Microbiology.

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



# Environmental Health [A.A.S.]

## APC-624

### FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

*First Semester*

EN 125 Freshman English	3
CH 173 Fundamentals of Chemistry	4
BI 171 Modern Biology	4
Mathematics Elective	3- 4
Physical Education	1
	<hr/>
	15-16

*Second Semester*

EN 126 Freshman English	3
CH 174 Fundamentals of Chemistry	4
BI 282 Microbiology	4
Mathematics Elective	3- 4
Social Science Elective	3
Physical Education	1
	<hr/>
	18-19

### SECOND YEAR — HUDSON VALLEY COMMUNITY COLLEGE

*First Semester*

1806 Environmental Seminar I	1
1802 Environmental Quality	4
1811 Water Purification	4
3012 Ecology	4
6440 Physics	4
	<hr/>
	17

*Second Semester*

1807 Environmental Seminar II	1
1010 Engineering Drawing I	1
1813 Waste Water Treatment	4
1820 Air Pollution Control	4
1830 Limnology	4
Social Science Elective	3
	<hr/>
	17

GRADUATION REQUIREMENTS: Total semester hours—67-69.

# Transportation [A.A.S.]

APC-638

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
BU 121 Accounting	3	BU 122 Accounting	3
BU 103 Business Math	3	BU 173 Business Statistics	3
EC 180 Economics	3	DP 110 Introduction to Data Processing	3
EN 125 Freshman English	3	EN 126 Freshman English	3
Mathematics or Science	3- 4	Mathematics or Science	3- 4
Physical Education	1	Physical Education	1
	<hr/>		<hr/>
	16-17		16-17

## SECOND YEAR — HUDSON VALLEY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
4810 Principles of Transportation	3	2550 Economic Geography	3
4813 Fund. of Traffic and Trans. Mgt.	3	4814 Advanced Transportation Management	3
4820 Railroad Operations and Management	3	4824 Airline and Water Transportation Mgt.	3
4823 Motor Carrier Operations and Management	3	4830 Transportation Law and Regulation	3
Business Law	3	Business Communications	3
4450 Typewriting I	1		
	<hr/>		<hr/>
	16		15

GRADUATION REQUIREMENTS: Total semester hours 63-65.

# Forest Technology [A.A.S.]

APC-620

## FIRST YEAR — FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
BI 171 Modern Biology		BI 172 Plant Biology	
or		or	
SC 141 Intro. Biology	3- 4	BI 173 Animal Biology	
Mathematics*	3- 4	or	
EC 180 Intro. to Economics	3	SC 142 Intro. Biology	3- 4
Elective	3	Mathematics*	3- 4
	<hr/>	Electives	<hr/>
	15-17		6
			<hr/>
			15-17

## SECOND YEAR — RANGER SCHOOL, WANAKENA CAMPUS

Courses in area of specialization.

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

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.

# CERTIFICATE PROGRAMS

## General Education APC-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.

<i>First Semester</i>		<i>Second Semester</i>	
EN 124 Basic English*	3	English Elective	3
MA 147 Algebra or		Exploratory Electives—	
MA 150 Survey of Mathematics	3- 4	Technical, Vocational,	
HD 150 Reading and Learning		Liberal Arts	9-12
Skills	3		
HD 100 Studies of the Person	3		12-15
Physical Education	1		
Exploratory Elective—Technical,			
Vocational, Liberal Arts	2- 4		
	<hr/>		
	15-18		

\*Students may take more advanced courses with approval.

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

## Individual Studies

See page 54 for further information.

## Automotive Mechanics

One-year and shorter specialized training programs are under development. For further information, contact the Admissions Office.

# Clerk-Typist

## APC-935

This program leads to a certificate as a clerk-typist or word processing operator at the end of one year. It prepares students for positions as clerk-typists, word processing operators, receptionists, and general office workers in business, industry, and government. Most courses in this program can be used to meet the requirements for an Associate in Applied Science degree.

### First Semester

*BU 134 Intermediate Typewriting	3
BU 235 Administrative Support Procedures	3
Concentration Core	6- 9
	<hr/>
	12-15

### Second Semester

BU 137 Business Communications	3
BU 236 Administrative Support Procedures	3
Core Concentration	6-12
	<hr/>
	12-18

### Traditional Concentration:

BU 129 Transcription Machines	1
BU 130 Electronic Calculator Applications II	2
BU Elective	3- 6
**BU 234 Advanced Typewriting Elective	3
	3- 6

### Word Processing Operator Concentration

BU 229 Machine Transcription	3
DP 110 Intro. Data Processing	3
BU Elective (Optional)	3
BU 234 Advanced Typing or Elective	3
BU 239 Intro Word Processing	3
GA 104 Typography	3
Elective (Optional)	3

\*A student must have completed BU 133 or equivalent.

\*\*BU 234 is required of students not typing at least 35 net words per minute at the end of BU 134.

GRADUATION REQUIREMENTS: A minimum of 24 hours (27 hours if a student is required to complete BU 133 in preparation for BU 134) is required for the Word Processing Operator Concentration/Clerk-Typist Certificate. The courses listed must be passed with satisfactory grades. Typewriting must be passed with a minimum grade of C.

# Secretarial Studies

## APC-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 Secretarial Science degree program.

### *First Semester*

*BU 134 Intermediate Typewriting	3
BU 137 Business Communications	3
BU 231 Shorthand & Transcription	4
BU 235 Adm. Support Procedures	3
**Business Elective	3
	<hr/>
	16

### *Second Semester*

BU 130 Electronic Calculator	
Applications	2
BU 232 Shorthand & Transcription	4
BU 234 Advanced Typewriting	3
BU 236 Adm. Support Procedures	3
BU 129 Transcription Machines	1
Elective (optional)	3
	<hr/>
	13-16

\*Must have completed BU 133 or equivalent

\*\*May be taken either semester.

GRADUATION REQUIREMENTS: A minimum of 29 hours must be completed for the Secretarial Studies Certificate.

# Criminal Justice

## APC-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. The Criminal Justice (CJ) courses are only offered in the evening and summer through Continuing Education. Below is a suggested sequence of the courses required for this certificate.

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
Mathematics (Strongly Suggested)		CJ 104 Criminal Law II	3
MA 160 Statistics	3-4	CJ 105 Principles of Criminal Investigation	3
CJ 103 Criminal Law I	3	CJ 107 Police-Comm. Relations or	
CJ 106 Introduction to Law Enforcement & Criminal Justice	3	CJ 108 Introduction to Juvenile Delinquency	3
CJ 112 Introduction to Police Organization & Management	3	SS 281 Introduction to Sociology	3
SS 291 General Psychology	3		<u>15</u>
	<u>18-19</u>		

**GRADUATION REQUIREMENTS:** Completion of the courses listed. Total semester hours—33.

# COURSE DESCRIPTIONS

GENERAL NOTE: The courses described in this catalog will be offered at least once in the next two academic years. 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.

**IS 299 Independent Study** **1-3 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 three 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 the particular area of study they have proposed to investigate.

*Hours: to be arranged.*

**CE 010 Driver Education** **1 s.h.\***

Course is designed to follow the New York State guidelines for Driver Education; is State approved; includes State-mandated three-hour pre-licensing course, necessary before a driver's license may be applied for and approved (if blue card is not earned).

*Hours per week: 4-6.*

\*Not applicable to any degree or certificate program.

## BUSINESS Accounting

**BU 121 Accounting** **3 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, receivables, inventories, and plant assets; preparation of financial statements. Emphasis is on sole proprietorship.

*Hours of class per week: 3.*

**BU 122 Accounting** **3 s.h.**

A continuation of BU 121. Accounting for partnerships and corporations; control systems for departments; manufacturing; analysis of statements and data.

*Prerequisite: BU 121. Hours of class per week: 3.*

**BU 221 Intermediate Accounting** **3 s.h.**

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

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

**BU 222 Intermediate Accounting** **3 s.h.**

A continuation of the studies in BU 221, including analysis of liabilities, stockholders equity, land, buildings, and equipment.

*Prerequisite: BU 221. Hours of class per week: 3.*



**BU 224 Cost Accounting****3 s.h.**

Accounting for direct labor, materials, and factory overhead with emphasis on job order costing. Process cost system, standard cost principles and procedures, budgets and direct decision making.

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

**BU 225 Income Tax Accounting****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.

*Prerequisite: BU 121 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 functional areas of the business concern such as planning, organizing, directing, activating, and controlling; provides a framework upon which the student may choose a career core for future study and training. Case studies, as well as computerized and manual business games, 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 computations. Instruction in financial problems of bank discount, interest, taxes, insurance, depreciation, trade and cash discounts. Analysis of financial statements.

*Hours of class per week: 3.*

**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 Personnel Management****3 s.h.**

An introduction to fundamentals of constructive personnel practices and techniques of human resources management. Emphasis is placed on screening and selection, wage and salary administration, training and management development as well as personnel policies and personnel's expanding role in dealing with an ever changing work force.

*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****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.

*Hours of class per week: 3.*

*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 prospective and current small business owners with the 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****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 175 Business Statistics****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 Business Organizations****3 s.h.**

Course structured to introduce the student to relationships between management personnel and the organizations for which they work. Emphasis placed on tracing management activities, showing how these become organizational practice and policy, and how practice and policy interface.

*Hours of class per week: 3.*

**BU 199 Career Preparation****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 skill development, evaluation of employment opportunities, exploration of personal career objectives and job search methods. This course will be offered pending faculty approval.

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

**BU 229 Seminar in Accounting****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 243 Retail Management****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 & BU 143. Hours of class per week: 3.*

**BU 250 Management Decision Making****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 one other Management Option course. Hours of class per week: 3.*

**BU 254 Management and the Law****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 123 Personal Typewriting****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, student will be required to learn vertical and horizontal centering format. Also, student will be required to select three other topics from the text to meet their personal needs. (This course will satisfy the Visual Communications typing requirement if proofreader's marks, right justification, and word division are the topics selected.)

*Hours of class per week: 2.*

**BU 129 Transcription Machines****1 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. This course is designed to provide the student with an introduction to the knowledge and skill needed to operate a transcribing machine and to transcribe from a recorded voice the most common forms of business communications accurately and efficiently. Both the belt and cassette transcribers are available. Not open to students who have credit for BU 229.

*Prerequisites: BU 134 or Concurrent Enrollment. Hours of class per week: 1.*

**BU 130 Electronic Calculator Applications****2 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Course develops proficiency in the use of the electronic printing calculator. Emphasis on correct operating techniques and special mathematical problems relating to business are stressed.

*Prerequisites: Knowledge of basic arithmetic fundamentals determined from a pretest. Hours of class per week: 2.*

**BU 131 Shorthand I****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 132 Shorthand II****5 s.h.**

Review of basic shorthand principles. Emphasis on skill in reading and writing Gregg shorthand at progressively higher rates of speed. Drills for spelling and punctuation. Introduction to proper transcription techniques. Transcription of letters at the typewriter.

*Prerequisite: BU 131, BU 138 or equivalent. Hours of class per week: 5.*

**BU 133 Introductory Typing I****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 Typing II****3 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Typing 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: BU 133 or its equivalent; pretest optional. Class hours: 3 to 4 class hours per week to be arranged.*

**BU 137 Business Communications****3 s.h.**

Development of a thorough knowledge of correct spelling, punctuation, capitalization, sentence structure, and word choice. Emphasis on the structure of the business letter and the composition of various types of business communications.

*Hours of class per week: 3.*

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

**BU 138 Shorthand Skills****2 s.h.**

Review of the basic principles of Gregg shorthand including brief forms and phrasing. Development of higher rates of speed commensurate with previous background. Review of transcription techniques. Transcription of letters at the typewriter.

*Prerequisite: Successful completion of at least one year of high school shorthand or equivalent. Hours of class per week: 2.*

**BU ~~220~~ 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 government, 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.

*Prerequisites: EN 125, BU 134 or concurrent enrollment or permission of instructor. Hours of class per week: 3.*

**BU 231 Shorthand and Transcription I****4 s.h.**

Emphasis on increasing speed and accuracy in taking dictation of new material and transcribing on the typewriter. Improvement in transcription techniques including a review of spelling, grammar, and proofreading. Emphasis on producing mailable material.

*Prerequisite: BU 132 or equivalent. Hours of class per week: 6.*

**BU 232 Shorthand and Transcription II****4 s.h.**

Continued emphasis on increasing speed and accuracy in taking dictation and in improving transcription skills. Production of mailable materials is stressed.

*Prerequisite: BU 231. Hours of class per week: 6.*



**BU 214 Advanced Typing III****3 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. Typing III continues the development of speed, accuracy, and proofreading; special emphasis on production work which includes masters, stencils, news releases, Governmental letters and forms, financial statements, legal documents, medical and technical reports, and special style letters and stationery. Production tests and timed writings are used in grading. Civil Service exam is offered on campus in early spring.

*Class hours: 3 to 4 class hours per week to be arranged.*

**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.

*Prerequisites: Enrollment in BU 133 or equivalent. BU 235 is not a prerequisite for BU 236.*

**BU 238 Word Processing****3 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. The course is designed for the student who desires to learn the systems approach to office communications referred to as Word Processing. Word Processing stresses the production of printed communications at top speed with the greatest accuracy, least effort, and lowest cost. In addition, the course introduces specialized employee skills in the management of procedures, equipment, and personnel as it pertains to the modern office. The proper use of the automatic electronic memory typewriter is taught.

*Prerequisites: BU 134 [35 NWPM], BU 235. Hours of class per week: 3.*

**BU 259 Word Processing Management****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.

*Hours of class per week: 3.*

# 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 183 Consumer Economics**

**3 s.h.**

Designed so students become informed in the areas of buying, money management, and consumer issues for a more personally fulfilling life; and learn to recognize and understand how the marketing system functions, the rights and responsibilities of consumers, and how to seek redress.

*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**

**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 nonprint (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**

**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.*

**ER 112 Learning Experience in Educational Resources****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 system, i.e.: circulation, reference services, technical processing. There will be a preparatory session on introduction to library services.

*Prerequisite: ER-110.*

## Photography

**ER 101 Principles of Photography****3 s.h.**

The study of the history of photography, 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****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****3 s.h.**

Course description: Emphasis on techniques and practices of advanced photography used in commercial fields. Balance of color, lighting and composition in the 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. [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. Student 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 AND PHYSICAL EDUCATION

## 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 Stmnastics and Physical Fitness***       | PE 127 Cross-Country Ski Touring**                     |
| 112 Introduction to Archery, Tennis, Paddleball | 128 Dance (Modern & Jazz)                              |
| 113 Field Archery & Hunting**                   | 129 Equestrian Skills (Beginning)**                    |
| 114 Canoeing**                                  | 130 Seminar for Veterans*** (Permission of Instructor) |
| 116 Golf & Racket Activities**                  | 132 Equestrian Skills (Advanced)**                     |
| 117 Volleyball* & Paddleball                    | 141 Beginning Swimming                                 |
| 119 Racket Activities                           | 142 Intermediate Swimming                              |
| 120 Tennis & Aquatics                           | 143 Lifesaving*                                        |
| 122 Tennis & Bowling**                          | 144 Skin & Snorkel Diving                              |
| 123 Bowling & Aquatics                          | 145 Water Sports                                       |
| 125 Skiing (Beginning)**                        | 149 Water Safety Instructors*                          |
| 126 Skiing (Advanced)**                         |                                                        |

\*Prerequisites: see instructor.

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

\*\*\*Course may be repeated once for additional credit.

## 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 161 Tumbling & Gymnastics (men) | PE 166 Softball & Fitness            |
| 162 Tumbling & Gymnastics (women)  | 168 Dance — Folk and Square          |
| 165 Soccer & Wrestling             | 241 General Aquatics for P.E. Majors |

## HE 121 Nutrition

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

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 137 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 the 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****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 236 First Aid Instructor****1 s.h.**

A course designed for the training of First Aid instructors. Standards for the course are set forth by the American National Red Cross.

*Hours of class per week: 1.*

**PE 031 Intramural Activities****1 s.h.\***

Students required to participate satisfactorily in two sports activities to complete course requirements. Schedule of activities is available from the Counseling Center (C-209), or from the Physical Education faculty. Although part of the Physical Education Program, this course may *not* be used to satisfy the graduation requirements in Physical Education. Course may be repeated once for additional credit providing students change activities.

*Hours of class per week: 1.*

\*Not credited toward the Associate Degree.

**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****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****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 his 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****1 s.h.**

A preliminary lead-up course to 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 145 Water Sports****1 s.h.**

A course for the aquatic minded. Students who register for this course can anticipate learning and playing water basketball, water polo and water volleyball. Since each of these sports is played in shallow and deep water, all participants should be able to swim. Upon completion of the course students can anticipate considerable improvement in their overall physical fitness.

*Hours of class per week: 2.*

**PE 149 Water Safety Instructors****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 201 Introduction to Health, Physical Education and Recreation****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\***

**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\***

**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**

**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 244 Scuba—Vehicle to Undersea Discovery**

**3 s.h.**

An all encompassing course on self-contained breathing apparatus (Scuba) to include: The physics of diving, medical hazards of diving, compressed gasses, equipment, aquatic environments, skill of diving, safety and first aid, dangerous marine life, U.S. Navy decompression tables, planning a dive, etc.

*Hours of class per week: 3.*

**PE 251 Lifetime Sports\***

**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\***

**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\***

**2 s.h.**

Philosophy and instructional techniques in two of the lifetime sports. Activities include volleyball and archery.

*Hours of class per week: 2.*

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

# 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.

*Hours of class per week: 3.*

## HD 130 Supervised Community Service\*

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 Communication, Listening, Confrontation, Male-Female Relationships, Marriage, Family Relationships, Group Dynamics, Leadership and 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.*

# 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 requirements.

*Hours of class per week: 3.*

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

**EN 125 Freshman English****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****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****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****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 225 British Literature I****3 s.h.**

A survey of British literature from the Middle Ages to the beginning of the 19th century. Readings will include selections from *Beowulf*, Chaucer, and Mallory in the Middle Ages; Spenser, Shakespeare, Donne, and Milton in the 16th and 17th centuries; Dryden, Swift, Pope, and Johnson in 18th. Topics to be discussed: lyric and narrative poetry, satire, development of drama, and the novel. Course work includes critical papers and group presentations.

*Prerequisite: EN 125. Hours of class per week: 3.*

**EN 231 Masterpieces of World Literature****3 s.h.**

The course surveys world literature from the Greek and Roman classics up to, but not including 20th Century materials. Outside readings are required to supplement the materials treated in the course. 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****3 s.h.**

The course surveys world literature beginning with a study of Melville and other representative authors. Outside readings are required to supplement the materials treated in this course.

*Prerequisite: EN 125 [EN 126 desirable]. Hours of class per week: 3.*

**EN 233 American Literature****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****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****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 236 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 theatrical principles. The combination will provide concepts 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.*

**EN 237 Introductory Readings in Modern Literature****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****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 associated with naturalism, realism, stream-of-consciousness, and other schools will be considered.

*Prerequisite: EN 125-126 desirable. Hours of class per week: 3.*

**EN 241 Great Themes of Literature****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****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****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, melodrama, farce, and various hybrids.

*Prerequisite: EN 125 [EN 126 desirable]. Hours of class per week: 3.*

**EN 257 Creative Writing****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.*

**EN 334 Mythology****3 s.h.**

This course focuses on a comparative study of Greek, Roman, Egyptian, Babylonian, Indian, Eastern and Medieval Mythologies. Origins of myths and their literary influence throughout the ages will be analyzed.

*Prerequisite: EN 125. Hours of class per week: 3.*

## Theater

**TH 101 Theater History****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****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****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 201 Introduction to Theater Production****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****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****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****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****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****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 147-148 Elementary German****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 247-248 Intermediate German****3 s.h. each semester**

A review of grammar combined with the reading of selected works of contemporary German authors. Oral expression as well as composition is stressed.

*Prerequisite: FL 148. Hours of class per week: 3.*

**FL 149-150 Elementary Polish****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.*

## Art

**AR 100 Studio Art****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****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****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 120 20th Century American Art****3 s.h.**

A survey of American art, painting, sculpture and architecture from 1900 to present.

*Hours of class per week: 3.*

**AR 130 Art America****3 s.h.**

This telecourse, with a narrative and pictorial essay format, traces the history of the fine arts in the United States from colonial times to the present. The primary focus is on painting, architecture, and photography, with supplementary material on printmaking and crafts. Although organized chronologically, the telecourse emphasizes themes and key concepts in the development of a fine arts tradition in America. In addition to viewing the telecast, the student will attend a series of seminars and complete written evaluations.

*Hours of class per week: To be arranged.*

**AR 131 Humanities Through The Arts****3 s.h.**

Survey of seven art forms: film, drama, music, literature, painting, sculpture, architecture. Each form is examined from four perspectives: historical, elements of the art, form and meaning, criticism and evaluation. To be taught via 30 half-hour PBS television programs. In addition to viewing the telecasts the student shall attend a series of seminars and complete written evaluations. This course will be offered pending faculty approval.

**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 200 Printmaking I****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****3 s.h.**

An exploration to expand awareness of fundamental drawing as a means of visual thinking and communication. A variety of media and techniques as well as basic concepts, such as, perspective, composition, line, form, etc. will be stressed. Emphasis will also be placed on the education of the student's eye and creative potential.

*Hours of class per week: 4.*

**AR 220 Painting I****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 275 Pottery****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.*

## Philosophy and Language

**HU 100 Seminar in Humanities****2-4 s.h.**

Course designed to present an overall view of the Humanities, especially the performing and plastic arts, including theater, art, and dance. The course includes observation of performances and displays in a sequence which allows students to view the similarities among art forms and shows how art forms evolve. Evaluation of experiences and observations will reinforce learning.

*Hours: minimum of 30 contact hours per year for two semester hours of credit, 60 contact hours in two years for maximum of four semester hours credit.*

**HU 251 Introduction to Philosophy****3 s.h.**

An introduction to philosophical problems and selected philosophers of the ancient period; Socrates, Plato, Aristotle. Emphasis is placed on the rise of a scientific tradition in ancient philosophy vs. mythological treatment of cosmological issues prior to the Presocratics. 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****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.

*Prerequisites: Sophomore standing or completion of 6 hours of English. Hours of class per week: 3.*

**HU 258 Ethics****3 s.h.**

Traditional ethics leaves a great many moral questions unsettled. The ethicist tries to resolve these with a consistent set of principles. A fourth of the course paves the way for later analysis by practical inquiry into the meaning of “right,” “conscience,” Happiness, ultimate goods, the apparent relativity of moral codes, the feasibility of egoistic or altruistic conduct and many other observational matters. With this background, the arguments and counter-arguments of leading schools are presented—such as Stoic, act utilitarian, Kantian, Russian, rule utilitarian. The last fourth of the course is devoted to theories of justice.

*Prerequisites: Sophomore standing, or a previous course in Philosophy, or permission of the instructor.*

*Hours of class per week: 3.*

**HU 267 Modern Philosophers****3 s.h.**

An introduction to philosophers and philosophic problems from Descartes to the contemporary period. Emphasis 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 Religion****3 s.h.**

A survey course 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.*

# SCIENCES

## Biology

### SC 141 Introductory Biology

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 experiences are differentiated. Laboratory sections include investigations which emphasize either Allied Health, Natural Resources or traditional experiences. Observation, interpretation, 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

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.

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

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

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.*

**BI 173 Animal Biology****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 174 Psychobiology****4 s.h.**

The purpose of this introductory course is to explore the interface between biology and psychology and to attempt to understand animal and human behavior as natural extensions of established biological principles. Human and animal behavior will be viewed in the light of (1) the functioning of self-regulating systems in general, (2) the anatomy and physiology of nervous systems, and (3) comparative studies and the evolutionary history of behavior.

The laboratory will include dissections, physiological studies, brain-wave studies, conditioning experiments, and behavior analysis.

*Hours of class per week: 3. Hours of lab per week: 3.*

**BI 175 Sociobiology****3 s.h.**

A study of the biological basis for social behavior in animals and humans. The course will involve a careful reading of the book *Sociobiology* by Edward Wilson, as well as the criticisms of that book which have been published by the "Sociobiology Study Group".

*Prerequisite: SC 141 or BI 171 or permission of instructor. Hours of class per week: 3.*

**BI 176 Ecology****3 s.h.**

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 177 Field Biology****4 s.h.**

An intensive field program stressing terrestrial and aquatic ecology. The course will outline the interrelationships between the biotic community and its physical environment through the use of extensive field work. Sampling techniques and analysis of data will be used in the development of a major research paper showing various relationships within and between the diverse eco-systems. Where pertinent, the effects of pollution on this relationship will be identified. Participants should be in good physical condition.

*Prerequisites: H.S. Biology, 10th Year Math desirable. Hours of class per week: 3. Hours of Lab per week: 3.*

**BI 181-182 Anatomy and Physiology****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, 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 dimensional analysis and computers; basic principles in chemistry, such as atomic theory, chemical bonding, states of matter, and chemical reactions; organic chemistry and chemistry of life; forms of energy, thermochemistry, thermodynamics, fossil fuel, nuclear power, and others; agricultural chemistry and chemicals in food and additives; environmental chemistry of air, water, and soil; specialized chemicals in consumer products and industry.

*Hours of class per week: 2. Hours of lab per week: 3.*

**CH 173-174 Fundamentals of Chemistry****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****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 moments of inertia and mass moments 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****3 s.h.**

Course designed for sophomore engineering, mathematics, and physics majors. Presents the principles of dynamics of particles 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—172 and MA 157—158. Hours of class per week: 3.*

**ES 281 Electric and Electronic Circuits****3 s.h.**

A course on the analysis of linear and nonlinear circuits, designed for engineering and physics majors. Topics covered are: Ohm's law, Kirchhoff's laws, principle of superposition, mesh analysis, nodal 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, phasor, impedance, series and parallel resonant circuits; characteristics of diodes, triodes and transistors; complex frequency, transfer functions, poles and zeros.

*Prerequisites: PH 172 and concurrent registration in MA 258. Hours of class per week: 3.*

## Geology

**GL 171 Physical Geology****4 s.h.**

The first geology course for the potential geology or related science major. Topics include basic mineralogy and crystallography, rocks, weathering and soil formation, erosion, glaciation, basic geomorphology, maps, surface and ground water, introduction to geologic structures and related topics. Field work, laboratory work and independent study or research is incorporated into the course.

*Hours of class per week: 3. Hours of lab per week: 3.*

**GL 172 Historical Geology****4 s.h.**

The second basic geology course for the potential geology or related science major. Topics include the earth's origin and place in the planetary system, historical geology (especially of North America), paleontology, evolution, stratigraphy and geologic correlation, petroleum geology and others. The unique sedimentary and fossil record revealed in the Mohawk Valley and adjacent Catskill Mt. region will be explored in depth. Field trips, laboratory work and independent study or research is included in the course.

*Prerequisite: GL 171, SC 143, or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.*

**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

**SC 161-162 Introduction to Physics****3 s.h. each semester**

A hands-on approach to physics in which the classroom lectures and discussions are developed from laboratory investigations of the following topics:

1. Measurement, errors, mechanical equilibrium.
2. Simple harmonic motion and graphical analysis of a spring-mass system, and a simple pendulum.
3. Chemical, thermal, and electrical properties of matter, with emphasis on the history and meaning of the periodic table of the elements.

*Prerequisites: SC 121 or equivalent — see instructor. Hours of class per week: 2. Hours of lab per week: 3.*

**PH 171-172 Physics****4 s.h. each semester**

A comprehensive course stressing the basic concepts, principles, and laws of physics, designed for science, mathematics, and engineering 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. Laboratory work is well integrated with lecture part of the course. Major emphasis is placed on developing the analytical ability of the student.

*Prerequisites: Completion of or concurrent registration in MA 151 or MA 161 or an equivalent college mathematics course. Hours of class per week: 3. Hours of lab per week: 3.*

**PH 271 Physics****4 s.h.**

Course designed for sophomore science, engineering, and mathematics majors. Topics covered are: Maxwell's equations and electromagnetic waves; special theory of relativity; dual nature of matter and electromagnetic radiation; basic interactions between matter and radiation—photoelectric effect, Compton effect, pair production and annihilation; X-Rays; electron diffraction, deBroglie waves; uncertainty principle; Bohr model of the atom, Pauli exclusion principle, and the periodic table; nuclear structure; radioactivity, nuclear fission and fusion reactions, beneficial and harmful effects of radiation. An independent laboratory project, in the field of student interest, is required. The laboratory project could be in any one or combinations of the following areas: vacuum tubes, semiconductor devices, photoelectric effect and devices, electron dynamics, atomic structure, nuclear decay, electromagnetic waves.

*Prerequisites: PH 171-172 and MA 157-158. Hours of class per week: 4.*

# Introductory Sciences

## SC 121 Basic Skills for Science and Technology

3 s.h.

An introductory skills course containing three major areas of preparation needed for success in the study of all science and technology courses.

1. Recognizing physical variables and simplifying their numerical relationships by using power of ten notation, approximation, and slide rule accuracy.
2. Simplifying the search for hidden relationships among variables by using simple proportion, ratio, conversion factors, and algebraic equations.
3. How the presentation of data in the form of straight-line graphs has resulted in a problem solving technique that has allowed man to understand and control more of his environment in the past hundred years than in all previous history.

*Prerequisites: 9th grade algebra or equivalent. Hours of class per week: 3.*

## SC 130 Science, Technology, and Society

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

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 converters are studied. Environmental problems created by our increasing 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 145 The Universe of Man

3 s.h.

An introductory course designed to give an overview of science, emphasizing the evolutionary nature of matter. The subject of "matter" will be discussed from its subatomic-particle state to the creation of the universe on the supramacro level; from the atom to the creation of life on the submicroscopic level; and finally through the evolutionary process to modern man and beyond. The course will integrate the disciplines of physics, chemistry, and biology and with an overall philosophical viewpoint stress the unity of living and non-living nature of the universe. Lectures and discussions will be reinforced with class demonstrations and field trips.

*Hours of class per week: 2. Hours of lab per week: 3.*

**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 Hounteng's gathering groups. Emphasis is continually on the interaction of Homo Sapiens with the total environment.

*Prerequisite: none. Hours of class per week: 2. Hours of lab and recitation per week: 2.*

**SC 160 Science and Its Imitators****3 s.h.**

Critical examination and evaluation of movements and idea systems which claim scientific validity. Suitable topics for investigation include Astrology, ESP, "Pyramid Power", Bermuda Triangle, UFO's, "Worlds in Collision", "Chariots of the Gods", among others.

*Hours of class per week: 3.*

## MATHEMATICS

**MA 121 Logic and Sets [Modular]****1 s.h.**

A course for science and non-science majors alike, which emphasizes the developmental techniques of reasoning. Topics include statements; basic connectives; truth tables; valid arguments; and introductory set theory.

*Hours of class per week: 4.*

**MA 141 Basic Technical Mathematics****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 of 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, triangles, right-triangle trigonometry, law of sines and cosines, surveying applications, and dimensional analysis. Not credited toward the A.S. or A.A. degree mathematics requirements.

*Prerequisite: MA 141 or its equivalent or permission of instructor. Hours of class per week: 4.*

**MA 144 Topics in Statistics****3 s.h.**

An introduction to statistics with a major emphasis on descriptive statistics and computational techniques. Descriptive topics include measures of central tendency and dispersion for grouped and ungrouped data; fractiles; frequency polygons and histograms. Statistical techniques introduced include the normal curve; Central Limit Theorem; hypothesis testing; t-distribution; chi-square and correlation; non-parametric tests. Not credited toward the A.S. degree in Math/Science or Engineering Science.

*Prerequisite: MA 142, MA 150, or equivalent. Not open to students who have credit for Math 11 or its equivalent. Hours of class per week: 3.*

**MA 147 Algebra**

4 s.h.

A modern approach to introductory algebra! This course is designed to prepare students who have an insufficient mathematics background to pursue college work. 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 or Math 11. Not credited toward the A.S. degree in Math/Science or Engineering Science.

*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 121, MA 152, MA 154, MA 159; or 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. Hours of class per week: 4.*

**MA 152 Topics from Finite Mathematics**

3 s.h.

A survey of finite mathematics, for students with 3 or more years of high school math or the equivalent. Topics include symbolic logic, valid arguments and proof; introductory set theory; numeration systems, base arithmetic and modular systems; elementary matrix algebra; and linear programming.

*Prerequisite: Intermediate Algebra, MA 151, Math 11, or permission of instructor. Hours of class per week: 3.*

**MA 154 Precalculus 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, 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: inequalities, introductory analytic geometry, functions, limits, continuity, the derivative, differentiation of algebraic functions, applications of the derivative, antidifferentiation.

*Prerequisite: MA 154 or 3½ 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 2****4 s.h.**

A continuation of MA 157. Topics include antidifferentiation; the definite integral; applications; analytic geometry; trigonometric, logarithmic and exponential functions.

*Prerequisite: MA 157. Hours of class per week: 4.*

**MA 159 Mathematics of Finance****3 s.h.**

A course designed to show students applications of mathematics in the world of finance. Topics include depreciation; simple interest; simple discount; compound interest; equations of value; partial payments; ordinary annuities; bonds; annuities due, amortization of debts; the mortality table; life insurance.

*Prerequisite: Intermediate Algebra, MA 151, Math 11, or permission of instructor. Hours of class per week: 3.*

**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, or permission of the instructor. Hours of class per week: 3.*

**MA 161 Mathematics for Electrical Technology****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****4 s.h.**

A continuation of MA 161. Topics include applied trigonometry, sine waves; vectors; phasors; 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 163 Practical Calculus****4 s.h.**

A one-semester course for students in Business or the Social Sciences who need an ability to solve problems using the calculus. Topics include coordinate geometry, functions, limits, derivatives, antiderivatives, and the definite integral.

*Prerequisite: Intermediate Algebra, MA 151, or equivalent. Credit will not be given toward the A.S. degrees in Math/Science or Engineering Science. Hours of class per week: 4.*

**MA 250 Survey of Mathematics II****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 the instructor. Hours of class per week: 3.*

**MA 254 Abstract Algebra****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. [Fall Semester Only]*

**MA 257 Analytic Geometry and Calculus III****4 s.h.**

A continuation of MA 158. Topics include methods of integration; polar coordinates; conic sections; hyperbolics; indeterminate forms, infinite series; Taylor's Series with Remainder; introductory calculus of several variables, partial differentiation and multiple integration; applications.

*Prerequisite: MA 158. Hours of class per week: 4.*

**MA 258 Differential Equations****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. [Spring Semester Only]*

**MA 259 Linear Algebra****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. [Spring Semester Only.]*

**IS 299 Independent Study**

The mathematics faculty offers independent study in advanced topics in mathematics. For details see the Associate Dean for Liberal Arts & Science.

## **SOCIAL SCIENCES**

### **History**

**SS 183 Modern Western Civilizations****3 s.h.**

An introductory course in Western Civilizations 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 Civilizations****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****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 indepth 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** **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** **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** **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 293 Diplomatic History of the United States Before 1900** **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 What I Have Always Wanted To Know About America  
But Was Afraid To Ask** **3 s.h.**

A research oriented course which will examine small or large questions concerning America. Students selecting major questions would undertake one study, and students selecting minor questions would undertake several studies. All research studies will be presented to the class as oral reports. Also a written bibliography and outline will be required.

*Hours of class per week: 3.*

**SS 296 Israel: 1948 to the Present** **3 s.h.**

Major, historical, political, social, and military developments from the emergence of the State of Israel to the present will include: the aftermath of the Holocaust; British policy in Palestine and United Nations resolutions; the War of Independence; Mass immigration; Sinai campaign to Yom Kippur War; political isolations; prospects for peace and the extent to which the political and economic history of the world is, in part, determined by the existence of this nation.

*Hours of class per week: 3.*

## Political Science

**SS 191 Comparative Democratic Systems** **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****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 elected Eastern European countries.

*Hours of class per week: 3.*

**SS 278 International Politics****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; for 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****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 Subnational Government and Politics****3 s.h.**

An analysis of the multitude of governmental institutions and political practices at the subnational level. The emphasis of the course will be on intergovernmental relations and on the practical consideration of the ways subnational governments—state, county, local—daily affect the activities of the average citizen. Attention will be paid not only to welfare, educational and taxing policies, but also to the growing problems of the metropolitan areas such as social unrest, environmental problems, financial crises, alienation, and the quality of life. The relationship between political institutions and practices and policy outputs will also be examined.

*Prerequisite: SS 282 or permission of the instructor. Hours of class per week: 3.*

**SS 385 Community Power Structure****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: 3. Hours of lab per week: 2.*

## Psychology

**SS 291 General Psychology****3 s.h.**

A basic orientation in the psychology of human behavior is provided. A study of the aims and inter-relationships of heredity and environment as determiners of behavior as well as an investigation of learning, motivation, and the nature of emotion.

*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\*****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.*

*\*Course being offered through Continuing Education.*

## Sociology

**SS 180 Contemporary Issues and Problems****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 264 Minority Groups in America****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 277 Political Economy****3 s.h.**

This course probes the political dimensions of production, work, exchange, and consumption from a radical perspective. In examining inflation, unemployment, inequality, the urban decay, environmental control, the structure of work life, the course challenges the conventional explanations of these topics. Particular attention will be paid to the inability of the national government to deal with the crisis of the modern economy.

*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 294 The Family: A Cross Cultural Approach****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.

*Hours of class per week: 3.*

**SS 382 Political Sociology****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 386 Deviant Behavior****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.

*Hours of class per week: 3.*

## **TECHNOLOGIES**

### **Automotive Technology\* \*\***

**AT 121 Introduction to Automotive Function****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****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 diagnostic instruments.

*Hours of class per week: 2. Hours of lab per week: 2.*

\* 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.

**AT 123 Internal Combustion Engine Support Systems** 3 s.h.  
Study of the lubrication, cooling, carburetion, 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** 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** 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** 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.  
*Prerequisites: 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** 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** 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.*

# Construction Technology\* \*\*

**CT 121 Introduction to Building Trades and Construction Materials** 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** 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** 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** 3 s.h.  
Course places emphasis on working drawings, blueprints, and the symbols, notations, and scaling that accompanies blueprint information. The student will also learn the variations, 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 225 Masonry, Concrete and Steel Construction** 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** 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.  
*Hours of class per week: 2. Hours of lab per week: 3.*

\*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.

**CT 228 Construction Estimating****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****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****1 s.h.**

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. Encompasses all problems related to construction.

*Hours of class per week: 1.*

**CT 236 Alternate Energy I****4 s.h.**

Introduction to alternate energy availability and use, stressing readily available materials and methods open to homeowners. Will include methods of estimating heating needs 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.*

## 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.

## Criminal Justice

**CJ 103 Criminal Law I****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.*

3 s.h.

#### **CJ 104 Criminal Law I**

Comprehensive analysis of the rules of evidence and criminal procedural law; judicial notice, presumption, real and circumstantial evidence, burden of proof, province 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.

3 s.h.

#### **CJ 105 Principles of Criminal Investigation**

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.

3 s.h.

#### **CJ 106 Introduction to Law Enforcement and Criminal Justice**

A survey of the historical and philosophical development of law enforcement; and 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.

3 s.h.

#### **CJ 107 Police-Community Relations**

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.

3 s.h.

#### **CJ 108 Introduction to Juvenile Delinquency**

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.

3 s.h.

#### **CJ 109 Criminology**

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 typologies 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.

3 s.h.

#### **CJ 110 Traffic Enforcement Administration**

Examination of the United States Transportation system emphasizing effective, safe operation, organization for traffic control, accident investigation and analysis, communications aspects of highway traffic administration, public support organizations, traffic safety survey.

Hours of class per week: 3.

**CJ 111 Introduction to Public Administration****3 s.h.**

A study of the theory, basic principles and practices 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****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.*

## Electricity and Electronics

**EL 125 Electricity I****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.

*Prerequisites: High school algebra, enrollment in MA 161. Hours of class per week: 3. Hours of lab per week: 3.*

**EL 126 Electricity II****4 s.h.**

A continuation of EL 125 where the transient response and the a.c. 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. The practical application of these concepts to electronic circuits is emphasized. The ideal transformer is introduced. The characteristics of the vacuum tube are surveyed. The parameters of solid state devices and semiconductors such as the FET, diac, triac, thyristor, and SCR are studied.

*Prerequisites: EL 125 and MA 161; Co-requisite: MA 162. Hours of class per week: 3. Hours of lab per week: 3.*

**EL 127 Instrumentation****2 s.h.**

During this course the basic description related to the instrument used in the electronics field is developed. Specific emphasis is placed on the utility of the oscilloscope, electronic voltmeters, signal generators, and component testing instruments. A generalized study of the internal circuitry of these devices is conducted.

*Prerequisite: EL 125, enrollment in EL 126. Hours of class per week: 1. Hours of lab per week: 2.*

**EL 229 Electronics I** **5 s.h.**

This course introduces the student to electronics through the study of basic electronic circuits used in the electronics field. Specific circuits investigated include the rectifiers, filters, and regulators, amplifying circuits using both vacuum tubes and/or transistor circuits including their parameters and design limitations. Graphical and analytical analysis of these circuits and methods of coupling are also studied. Principles and application of feedback are introduced as applied to common devices.

*Prerequisite: EL 126, EL 127. Hours of class per week: 4. Hours of lab per week: 3.*

**EL 230 Electronics II** **5 s.h.**

EL 230 is a continuation of EL 229. During this course the operation of special purpose amplifiers and oscillators is introduced. An investigation of high-frequency amplifiers and oscillators and basic computing circuitry is also developed. Application of these devices to communication electronics is explored through the investigation and application of AM and FM communication technique.

*Prerequisite: EL 229. Hours of class per week: 4. Hours of lab per week: 3.*

**EL 231 Electric Machines** **3 s.h.**

EL 231 is concerned with the construction and operational characteristics of rotating machinery including both AC and DC motors and generators as well as the transformer. Primary concern is directed at the basic principles of operation of associated circuitry including speed control and ratings of these devices. Both single phase and polyphase machinery is studied as related to applicable testing procedures and efficiencies and utility.

*Prerequisite: EL 125, EL 126. Hours of class per week: 2. Hours of lab per week: 3.*

**EL 232 Computer Logic and Switching Circuits** **3 s.h.**

During this course the fundamental concepts of digital computing circuitry is studied with emphasis on solid state functional units, blocks, and subsystems. Arithmetic, switching, and logic circuits required in many technological applications are studied. The circuits required to perform the functions of memory, storage, input and output are also studied. Experiments cover the investigation of basic logic building blocks emphasizing the use of modern test equipment.

*Prerequisite: EL 125 or permission of instructor. Hours of class per week: 2. Hours of lab per week: 3.*

**EL 235 Industrial Electronics** **3 s.h.**

Theory and operation of semi-conductor devices and systems used in industrial controls in industry. The student will become familiar with and able to troubleshoot and repair controls containing semiconductor devices such as: SCR's photoelectric devices, timing circuits, UJT's, speed controls for DC motors, and controls for AC motors and lighting systems. 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** **4 s.h.**

The student will cover the theory and operation of Operational Amplifiers and their application to industrial controls and instrumentation. In lab these devices will be assembled into control systems and tested for performance and experience gained in schematic reading and troubleshooting. Also, in this course the student



will be introduced to the Microprocessor as a tool for controlling industrial processes. In this area the student will be introduced to the CPU, associated software and hardware, such as instruction sets, registers, input-output devices, codes, memories, interfacing, etc. The lab will consist of experiments on the Micro-Mini where the previously named items can be seen and tested.

*Prerequisite: EL 232 or equivalent. Hours of class per week: 3. Hours of lab per week: 3.*

**EL 237 Home Technician** **3 s.h.**

A core of knowledge that everyone should have about the upkeep and improvement of a home, divided into four major areas:

- I wiring
- II plumbing and heating
- III building and remodeling
- IV appliances

Only one major area will be taught each time it is offered.

*Hours of class per week: 3.*

## **Food Service Administration\* \*\***

**FS 121 Introduction to Food Service** **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 will be emphasized.

*Hours of class per week: 3.*

**FS 122 Food Selection and Preparation** **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** **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 Quantity Food Selection and Preparation** **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.*

\*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.

**FS 126 Dietary Therapy****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.

*Prerequisite: HE 125, SC 170, or permission of instructor. Hours of class/lab per week: 3.*

**FS 224 Hospitality Management****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****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 227 Food Service Organization and Management****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 Catering Seminar****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.*

## Graphic Arts\* \*\*

**MD 171 Engineering Graphics****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 176 Electrical Graphics****2 s.h.**

This electrical graphics course is concerned with basic drafting techniques with

\*Photography courses — see EDUCATIONAL RESOURCES.

\*\*Courses may meet at sites other than main campus. Students make transportation arrangements.

the Electronics Technician in mind. The important thing for the technician is to be able to communicate with the draftsman, the machinist, or the assembler as well as the engineer. Therefore, he/she must know the basics of orthographic projection, geometrics, cross section, dimensioning, axonometric projections, and sketching. Covers, schematics and wiring diagrams, printed circuit board layout, component layout, specifications and graphs are to be incorporated in a complete set of plans and specifications for a small project in conjunction with the Elect Tech faculty.  
*Hours of class per week: 1. Hours of lab per week: 3.*

**MD 180 Architectural Drawing** **3 s.h.**

Architectural drawing as related to functional planning of residence buildings, working drawings, including plans, elevations, section, details, notes, and specifications.

*Hours of class per week: 2. Hours of lab per week: 2.*

**GA 101 Graphic Arts I** **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, plate 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 Graphic Arts II** **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 Typography** **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. Hours of class per week: 2. Hours of lab per week: 2.*

**GA 105 Graphic Arts Layout and Printing Design** **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** **3 s.h.**

Use of laboratory equipment and techniques related to production problems in a controlled environment in various areas of visual communications.

*Hours of class per week: 2. Hours of lab per week: 2.*

**GA 107 Production Management** **3 s.h.**

Development of efficient methods from layout to finished product. Study of work schedules, materials, personnel and equipment, utilizing good management principles.

*Hours of class per week: 2. Hours of lab per week: 2.*

# Natural Resources Conservation\* \*\*

## NR 121 Fisheries and Wildlife Management I

3 s.h.

Introduction to the ecologic principles required for the maintenance and management of wildlife and fisheries resources. Habitat evaluation, game and fish management techniques, and wildlife inventories will be emphasized.

*Hours of class per week: 2. Hours of lab per week: 3.*

## NR 122 Fisheries and Wildlife Management II

3 s.h.

Utilization of required techniques in hydrographic mapping, limnologic sampling, and chemical equilibrium required for the maintenance of balanced fish and wildlife populations. Wildlife censusing, collection and research techniques, life histories, environmental requirements and habitats, nutritional requirements and infectious diseases of fish and wildlife will be stressed.

*Prerequisite: NR 121. Hours of class per week: 2. Hours of lab per week: 3.*

## NR 126 Principles of Soils and Water

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

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

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 230 Research Seminar in Conservation and Outdoor Recreation

3 s.h.

Seminar based on reading, research, and/or field work related to conservation and recreation.

*Prerequisite: Permission of instructor. Hours to be arranged.*

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\*\*Students require special clothing or safety equipment, in addition to texts. Instructor will furnish details.

# Nursing\* \*\*

## NU 105 Nursing Science I

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.*

## NU 106 Nursing Science II

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 III

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 new-born 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

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.*

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\*\*Students require special clothing or equipment, in addition to texts. Instructor will furnish details.