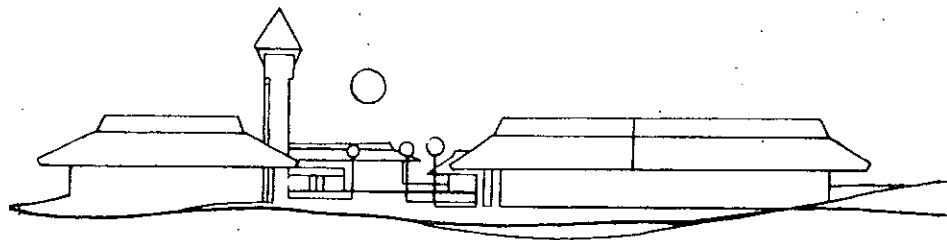


FULTON-MONTGOMERY COMMUNITY COLLEGE

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"
1983-1985

*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.

		HEGIS	APC
FULTON-MONTGOMERY COMMUNITY COLLEGE		0765	77
LIBERAL ARTS	DEGREE	HEGIS	APC
General Studies	A.A.	4901	250
Humanities including Theater Arts	A.A.	4903	201
Visual Arts	A.A.	5012	664
Social Science including: American Studies, Behavioral Science	A.A.	4903	212
Computer Science - Business	A.S.	5101	532
Computer Science - Mathematics & Science	A.S.	5101	532
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.	5699	688
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	A.A.S.	5005	625
including: Medical, Legal			
Textile Technology/Leather Technology	A.A.S. (pending approval)		
Word Processing	A.A.S.	5005	694
Visual Communications Technology	A.A.S.	5012	677
Individual Studies	A.O.S.	5699	688
Individual Studies (Professional Pilot)	A.O.S.	5699	688

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

Animal Husbandry	A.A.S.	5402	515
Milk & Food Quality Control	A.A.S.	5402	517
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

Biological Technology	A.A.S.	5407	584
Chemical Technology	A.A.S.	5305	535
Floriculture	A.A.S.	5402	643
Public Health Technology (Environmental Health)	A.A.S.	5408	624
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

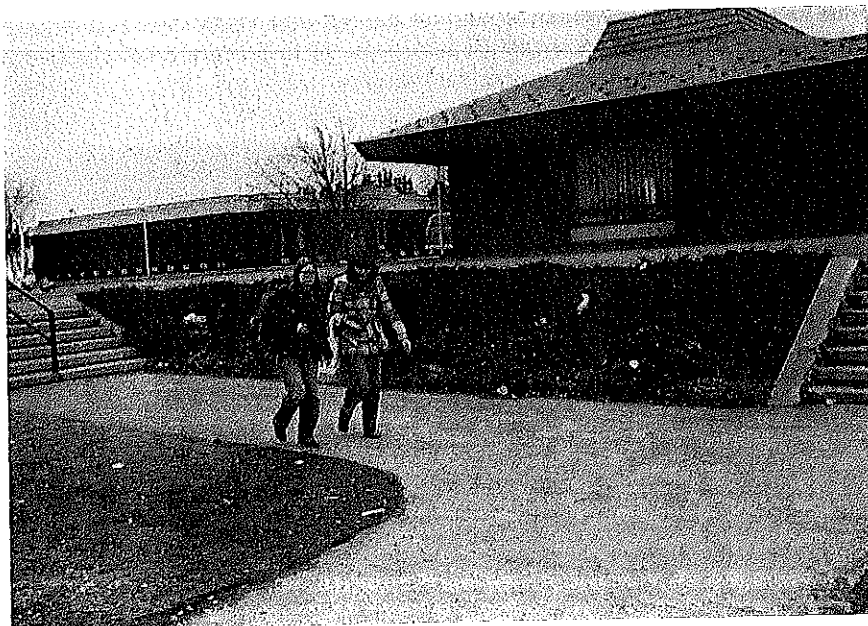
FULTON-MONTGOMERY COMMUNITY COLLEGE
& THE COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY

Forest Technology	A.A.S.	5403	620
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CERTIFICATE PROGRAMS
(One Year)

DEGREE HEGIS APC

Automotive Mechanics	Certificate	5306	926
Clerk-Typist	Certificate	5005	935
Criminal Justice	Certificate	5505	947
General Education	Certificate	4999	985
Individual Studies	Certificate	5699	987
Medical Information Processing	Certificate	5214	045
Quantity Food Production	Certificate	5404	044
Secretarial Studies	Certificate	5005	927
Word Processing Operator	Certificate	5005	996



INDUSTRIAL TECHNOLOGY. (A.A.S.)
APC - 583

FIRST YEAR - FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester		Second Semester	
EN 125 Freshman English	3	EN 126 or 127 Freshman English	3
Elective*	3-4	Elective*	3-4
EL 125 Electricity	4	EL 126 Electricity	4
MA Elective**	3-4	MA Elective**	3-4
MD 171 Engineering Graphics	3	Physical Education	1
Physical Education	1		14-16
	17-19		

SECOND YEAR - CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester		Second Semester	
30310 Strength of Materials	4	30421 Electronics	4
40614 Basic Calculus	4	30621 Fluid Power Systems	4
***Technical Electives	8	Social Science	3
	16	***Technical Electives	5-6
			16-17

*SC 161-162 or PH 171-172

**MA 151 and MA 154 or EQUIVALENT

***Technical Electives (credits may vary from FMCC courses)

30604 Manufacturing Processes I
30202 Automotive Welding
30303 Elementary Surveying
30304 Construction I
30624 Shop Practice
30605 Engineering Drawing II
30607 Manufacturing Processes II
30307 Construction Drafting
30306 Hydraulics
30117 Introduction to Alternate Energy
30108 Plumbing Design
30314 Project Management
30614 Work Simplification & Measurement
30118 Active & Passive Energy Systems I
30619 Quality Control
30620 Production Planning
30119 Active & Passive Energy Systems II
30002 Computer Applications

NOTE: MD 171 can be postponed until second year at Canton if student appears unable to take heavy load first semester.

GRADUATION REQUIREMENTS: Total semester hours - 64.

11/28/83 per latest Canton catalog and phone call to
Dean Fraser at Canton.

LIBERAL ARTS GENERAL STUDIES (A.A.) A.P.C. - 250

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

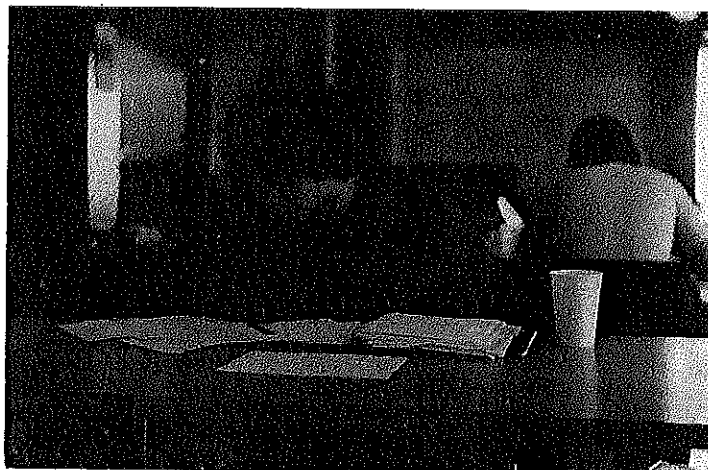
FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
Social Science Elective	3	Social Science Elective	3
Mathematics Elective	3- 4	Science Elective	3- 4
Electives*	6	Electives*	6
Physical Education	1	Physical Education	1
	<hr/> 16-17		<hr/> 16-17

SECOND YEAR

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

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



Humanities and Social Sciences [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/> 16-18		<hr/> 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/> 15-18		<hr/> 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

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.

Visual Fine Arts (A.A.) APC-664

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

FIRST YEAR

First Semester

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

Second Semester

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

SECOND YEAR

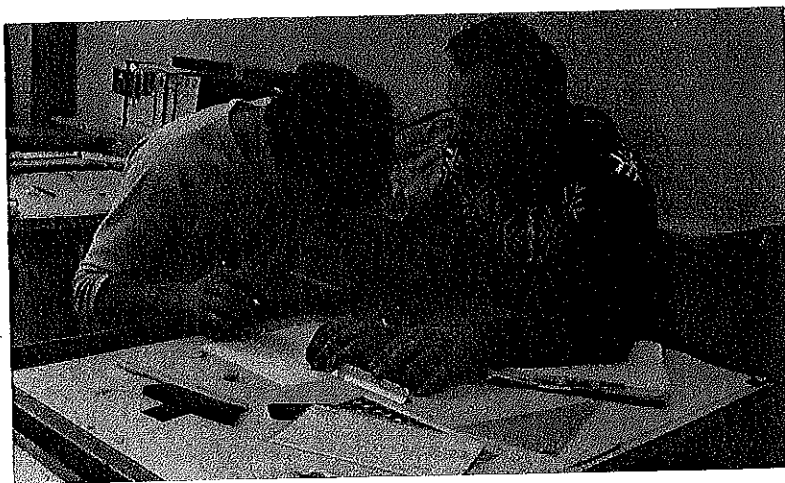
First Semester

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

Second Semester

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

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



Computer Science [A.S.] Business Concentration APC-532

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

FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
EN 125 Freshman English	3	EN 126 Freshman English	3
DP 110 Intro. to D.P.	3	DP 113 Prgm Assembler Lang.	3
DP 122 Computer Prgm (R.P.G.)	3	DP 121 Computer Prgm (cobol)	3
MA 157 A. Geom. Calc. 1	4	MA 158 A. Geom. Calc. 2	4
Science Elective*	3-4	Science Elective*	3-4
	<u>16-17</u>		<u>16-17</u>

SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
DP 120 Computer Prgm (fortran)	3	DP 135 Systems Anal. & Dsgn	3
DP 133 Computer Prgm (adv cobol)	3	MA 258 Diff. Equations	4
MA 257 A. Geom. Calc. 3	4	MA 259 Linear Algebra	3
SS Elective	3	SS Elective	3
Physical Education	1	Physical Education	1
Elective **	3	Elective**	3
	<u>17</u>		<u>17</u>

* PH 171, PH 172 recommended

**Recommended electives include:

EL 232- Computer Logic & Switching Circuits
EL 236- Introduction to Microcomputers



Computer Science [A.S.] Mathematics/Science Concentration APC-532

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

FIRST YEAR

First Semester

EN 125 Freshman English 3
SS Elective 3
DP 110 Intro to D.P. 3
MA 157 A. Geom. Calc. 1 4
Science Elective* 3-4

16-17

Second Semester

EN 126 Freshman English 3
SS Elective 3
DP 113 Prgm Assembler Lang. 3
MA 158 A. Geom. Calc. 2 4
Science Elective* 3-4

16-17

SECOND SEMESTER

First Semester

DP 120 Computer prgm (fortran) 3
DP Elective 3
MA 257 A. Geom. Calc. 3 4
Physical Education 1
**Electives 6

17

Second Semester

DP Elective 3
DP 121 Computer Prgm (cobol) 3
MA 258 Diff. Equations 4
MA 259 Linear Algebra 3
Physical Education 1
**Elective 3

17

DP Elective: DP 122 Computer Programming (R.P.G.)
DP 123 Data Processing - BASIC
DP 130 Data Processing Seminar
DP 132 Computer Science

*PH 171, PH 172 recommended
**Recommended electives include:

EL 232 Computer Logic & Switching Circuits
EL 236 Introduction to Microcomputers

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

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

FIRST YEAR

<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	3-4
Mathematics	3-4	Mathematics	3-4
Science	3-4	Science	1
Physical Education	1	Physical Education	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
Foreign Language or Elective	3	Foreign Language or Elective	6
Electives	6	Electives	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

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

First Semester

PH 171 Physics	4
MA 157 Calculus	4
CH 173 Chemistry	4
*DP 120 Computer Programming (FORTRAN)	3
EN 125 Freshman English	3
	<hr/>
	18

Second Semester

PH 172 Physics	4
MA 158 Calculus	4
CH 174 Chemistry or Elective***	3-4
*SC 130 Science-Technology— Society or Elective***	3-4
EN 126 Freshman English	3
	<hr/>
	17-19

SECOND YEAR

First Semester

ES 235 Mechanics: Statics	3
MD 171 Engineering Graphics or Elective*	3-4
MA 257 Calculus	4
PH 271 Physics	4
**Social Science Elective	3
Physical Education	1
	<hr/>
	18-19

Second Semester

ES 236 Mechanics: Dynamics	3
ES 281 Electric and Electronic Circuits	3
MA 258 Differential Equations	4
MA 259 Linear Algebra or Elective***	3-4
**Social Science Elective	3
Physical Education	1
	<hr/>
	17-18

*May be postponed till the second year.

**May be taken during the first year.

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

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
	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			16-18
P.E. Majors	1		
PE 250 Lifetime Sports Series	2		
	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

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

First Semester

EN 125 Freshman English	3
Social Science Elective	3
Science or Math Elective	3- 4
HE 135 Personal Health	3
PE 201 Introduction to H.P.E.R.	3
PE Activity	1
	<hr/>
	16-17

Second Semester

EN 126 Freshman English	3
Social Science Elective	3
Science or Math Elective	3- 4
HE 136 Safety & First Aid	3
Elective	3
PE Activity	1
	<hr/>
	16-17

SECOND YEAR

First Semester

SS 291 General Psychology	3
BI 181 Anatomy & Physiology	4
Humanities Elective	3
HE 235 Community Health	3
Elective	3
	<hr/>
	16

Second Semester

Social Science Elective	3
BI 182 Anatomy & Physiology	4
Humanities Elective	3
Health Elective	3
Elective	3
	<hr/>
	16

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

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

BUSINESS

Accounting [A.A.S.] 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 Finance	3	*Mathematics Elective	3-4
BU 121 Principles of Accounting	3	BU 122 Principles of Accounting	3
*Elective	3	EC 180 Intro. to Economics	3
		Physical Education	1
	15		16-17

SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
BU 221 Intermediate Accounting	3	BU 222 Intermediate Accounting	3
BU 171-172 or 254 Law	3	BU 224 Cost Accounting	3
DP 110 Intro. to Data Processing	3	Liberal Arts Elective	3
SC Science Elective	3-4	*Electives	6
Physical Education	1		15
*Elective	3		
	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.

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		15
Physical Education	1		
	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, 172, or 254 Law
BU 243 Retail Management

General Finance

BU 160 Introduction to Finance
BU 164 Credit Administration
BU 171, 172, or 254 Law
BU 262 Introduction to Investments
DP 110 Introduction to Data Processing

Management

BU 151 Personnel Management
BU 152 Production Management
BU 171, 172, or 254 Law
BU 261 Managerial Accounting
BU 179 Business Organizations

Recommended Electives

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

**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.] **APC-636**

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

FIRST YEAR

First Semester
 EN 125 Freshman English
 DP 110 Intro to D.P.
 DP 122 Programming RPG
 BU 101 Principles of Business
 Mathematics Elective
 Physical Education

3	<i>Second Semester</i>	3
3	EN 126 Freshman English	3
3	DP 113 Programming Assembler	3
3	DP 121 Programming COBOL	3
3	BU 121 Accounting	3- 4
3- 4	Liberal Arts Elective	1
1	Physical Education	16-17
16-17		

SECOND YEAR

First Semester
 BU 122 Accounting
 DP 133 Programming Adv. COBOL
 SC Science Elective
 Liberal Arts Elective
 Business Elective

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

*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

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

First Semester

BU 133 Beginning Typewriting* and/or	
BU 134 Intermediate Typewriting	3
BU 131 Shorthand or	
BU 138 Shorthand Skills**	2- 5
EN 125 Freshman English	3
Mathematics or Science***	3- 4
Physical Education	1
	<hr/>
	15-18

Second Semester

BU 132 Shorthand	5
BU 137 Bus. Communications	3
BU 130 Electronic Calculator	
Applications	2
Social Science Elective	3
Liberal Arts Elective	3
BU 129 Transcription Machines	1
	<hr/>
	17

SECOND YEAR

First Semester

BU 231 Shorthand and	
Transcription****	4
BU 235 Administrative Support	
Procedures	3
Liberal Arts or	
Concentration****	3- 4
Liberal Arts Elective	3
Physical Education	1
	<hr/>
	14-15

Second Semester

BU 232 Shorthand and Transcription	4
BU 236 Administrative Support	
Procedures	3
BU 234 Advanced Typewriting****	3
Liberal Arts or	
Concentration****	3- 4
Liberal Arts Elective	3
	<hr/>
	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 course identified below:

Medical Secretary

Medical-Related Elective
 Medical-Related Elective
 BU 231 Shorthand & Transcription
 —Medical Module

Legal Secretary

BU 171, 172, or 254, Law
 BU 234 Advanced Typewriting
 —Legal Typing 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. Requirements are being revised; consult Advisement office.

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

The Word Processing Specialist 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

First Semester

BU 133 Beginning Typewriting* or	3
BU 134 Intermediate Typewriting	3
DP 110 Introduction to Data Processing	3
EN 125 Freshman English	3
**GA 101 Graphic Arts 1	3
Liberal Arts Elective	1
Physical Education	16

Second Semester

BU 134 Intermediate Typewriting or	3
Elective	3
English Elective	3
GA 104 Typography	3
Social Science Elective	3
Elective	1
Physical Education	16

SECOND YEAR

First Semester

BU 179 Business Organizations	3
BU 230 Machine Transcription	3
BU 234 Advanced Typewriting or	3
Elective***	3
BU 235 Administrative Support	3
Procedures	3
HD 221 Human Relations & Group	3
Dynamics	15

Second Semester

BU 236 Administrative Support	3
Procedures	3
BU 239 Introduction to Word	3
Processing	3
BU 259 Word Processing Management	3
or Business Elective	3-4
Mathematics or Science	3
Liberal Arts Elective	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. Requirements are being revised; consult Advisement office.

Suggested Electives:

AR 150 Basic Design
BU 103 Math of Business Finance
BU 130 Electronic Calculator Applications
BU 137 Business Communications
BU 151 Personnel Management
BU 250 Management Decision Making
EN 127 Technical English
EN 132 Speech

EN 257 Creative Writing
GA 103 Graphic Arts II
GA 107 Production Management
HD 100 Studies of the Person
HU 254 Logic and Argument
SS 291 General Psychology
EC 183 Consumer Economics
BU 131 Shorthand

TECHNOLOGIES

Automotive Technology [A.A.S.]

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
**AT 124 Automotive Electrical Systems	3
Physical Education	1
	<hr/>
	16-17

Second Semester

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

SECOND YEAR

First Semester

**AT 225 Automotive Chassis Systems	3
EN 126 Freshman English or EN 127 Technical English	3
Electives	6
Social Science Elective	3
	<hr/>
	15

Second Semester

**AT 227 Electronic Engine & Chassis Analysis	3
AT 228 Consumer Relations & Services	3
**AT 226 Power Trains—Design Features & Analysis	3
Electives	6
	<hr/>
	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

First Semester

**CT 121 Introduction to Building Trades and Construction Materials	3
**CT 122 Light Frame Construction I	3
SC 161 Introduction to Physics	3
EN 125 Freshman English	3-4
Mathematics*	1
Physical Education	16-17

Second Semester

**CT 123 Light Frame Construction II	3
CT 124 Blueprint Reading	3
Elective	3
EN 126 Freshman English	
or	
EN 127 Technical English	3
Mathematics or Elective*	3-4
Physical Education	1
	<u>16-17</u>

SECOND YEAR

First Semester

**CT 225 Masonry, Concrete and Steel Construction	3
**CT 226 Plumbing & Climate Control	3
Elective	3
MD 171 Engineering Graphics	3
Social Science Elective	3
	<u>15</u>

Second Semester

CT 228 Estimating	3
CT 229 Electrical Wiring	3
**CT 230 Principles of Soils	1
Social Science Elective	3
SU 101 Surveying I	3
MD 180 Architectural Drafting	3
	<u>16</u>

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 MA 142 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.]

APC-640

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 offered only in the evening and summer.

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 281 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/> 16-17		<hr/> 16-17

SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
CJ 112 Introduction to Police Organization & Management	3	HU 258 Ethics or Liberal Arts Elective	3
DP 110 Introduction to Data Processing	3	CJ 107 Police Community Relations	3
EN 132 Speech	3	CJ 111 Introduction to Public Administration	3
CJ 109 Criminology	3	Social Science Elective	3
Elective or Science (SC 130 suggested)	3-4	Elective	3
	<hr/> 15-16		<hr/> 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.]

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 and 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.]

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

First Semester

FS 121 Intro. to Food Service	3
**FS 122 Food Selection and Preparation	3
HE 121 Nutrition	3
EN 125 Freshman English	3
SC 141 Intro. to Biology	3
Physical Education	1
	<hr/>
	16

Second Semester

**FS 123 Food Purchasing	3
**FS 124 Quantity Food Selection & Preparation	3
HE 125 Advanced Nutrition	3
EN 126 Freshman English	
or	
EN 127 Technical English	3
BU 103 Business Math	3
Physical Education	1
	<hr/>
	16

SECOND YEAR

First Semester

**FS 224 Hospitality Management	3
**FS 225 Food & Beverage Cost Control	3
BU 121 Principles of Accounting	3
Social Science Elective	3
*Elective	3
	<hr/>
	15

Second Semester

**FS 130 Quantity Food Internship	3
**FS 227 Food Service Organization & Management	3
**FS 228 Catering Seminar	3
*Elective	3
Social Science Elective	3
	<hr/>
	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, plus 20 semester hours of Liberal Arts.

*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

The Natural Resources Conservation curriculum is designed to provide students with the educational background required to actively seek employment from government and private agencies in the areas of lands, parks and wildlife management. The Program has developed a close working relationship with the NYS Department of Environmental Conservation and additional work experience-related independent study credits are available during summers, winter intersession and fall and spring semesters. The program can also provide the flexibility to allow students to transfer baccalaureate degree programs in 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. In addition, Haywood Technical College (Clyde, North Carolina) provides the following certificate programs: Sawyer, Saw Filer, and Lumber Specialist. Students planning to transfer to these institutions must consult with their Instructor or see a Counselor before they begin their study at Fulton-Montgomery Community College.

FIRST YEAR

First Semester

**NR 121 Fisheries and Wildlife Management I	3
Social Science Elective	3
EN 125 Freshman English	3
Mathematics or Elective*	3-4
SC 141 Introductory Biology	
or	
BI 171 Modern Biology	3-4
Physical Education	1
	<hr/>
	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
	<hr/>
	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
	<hr/>
	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
	<hr/>
	16

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

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

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

First Semester

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

Second Semester

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

SECOND YEAR

First Semester

BI 282 Microbiology	4
**NU 205 Nursing Science III	9
EN 126 Freshman English	3
	<hr/>
	16

Second Semester

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

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

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

Textile Technology [A.A.S.]

APC - (pending approval)

Programs in Textile and Leather Technology are under development. For further information, contact the Admissions Office.

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 the advertising field; including specialty and general printing for commercial, job shop and in-plant printing units. The program is also designed to provide some flexibility for transfer to schools offering baccalaureate degrees in graphic communications.

FIRST YEAR

First Semester

**GA 101 Graphic Arts I	3
ER 101 Principles of Photography	3
EN 125 Freshman English	3
BU 133 Beginning Typewriting	3
AR 150 Basic Design	3
Physical Education	1
	<hr/> 16

Second Semester

**GA 103 Graphic Arts II	3
GA 104 Typography	3
EN 126 Freshman English	
or	
EN 127 Technical English	3
Mathematics*	3-4
Elective	3
Physical Education	1
	<hr/> 16-17

SECOND YEAR

First Semester

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

Second Semester

**GA 107 Production Management	3
ER 102 Advanced Photography	3
Elective	3
SC 162 Physics	3
Social Science Elective	3
	<hr/> 15

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

Suggested electives: BU 170, 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 credit)
- 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 additional specialization provided by the one-year certificate and two-year degree programs.

For further information contact the Admissions Office.



Individual Studies [A.O.S.]

Professional Pilot Concentration APC-688

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

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

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

FIRST YEAR

<i>First Semester</i>		<i>Second Semester</i>	
AV 101 Air Science I	3	AV 102 Air Science II	3
Mathematics	3- 4	EN 126 Freshmen English or	
SC 161 Intro to Physics or		EN 127 Technical English	3
PH 171 General Physics	3- 4	Social Science Elective	3
EN 125 Freshman English	3	Elective	3
Physical Education	1	Physical Education	1
	<hr/>		<hr/>
	13-15		13

(SUMMER FLYING EXPERIENCE WILL BE REQUIRED)

SECOND YEAR

<i>First Semester</i>		<i>Second Semester</i>	
AV 201 Air Science III	3	AV 202 Air Science IV	3
Social Science Elective	3	Humanities Elective	3
Electives	11	Electives	11
	<hr/>		<hr/>
	17		17

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

NOTE: The cost of flight experience (off campus) is not included in the estimated costs listed in this catalog. Flight costs are established by the flight school involved and are paid directly to the flight school.

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:

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

with Hudson Valley:

Environmental Technology
Transportation

with Cobleskill:

Biological Technology
Chemical Technology
Floriculture
Public Health Technology
Environmental Health
Medical Laboratory Technology
Histotechnology

with College of Environmental

Science & Forestry:
Forest Technology

A student in a one-plus-one program spends the first year at Fulton-Montgomery taking courses prescribed for the program. Upon successful completion of this first year (minimum of 1.75 average), the student is guaranteed transfer into the program at Canton, Cobleskill or Forestry, 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.

Animal Husbandry [A.A.S.] **APC-515**

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English	3
BI 171 Modern Biology or	3-4
SC 141 Introduction to Biology	3
SC 170 Introduction to Chemistry	3
Social Science Elective	3
Mathematics*	1
Physical Education	16-17

Second Semester

EN 126 Freshman English or	3
EN 127 Technical English	
BU 140 Salesmanship or	3
BU 141 Marketing	3
Social Science Elective	3-4
Mathematics or Elective*	3
Elective	15-16

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

10101 Soil Science	3
10109 Animal Science	3
10126 Farm Techniques	1
Elective**	3-4
Elective**	3-4
Elective**	3-4
	16-19

Second Semester—Electives (5)

Elective***	1-4
Elective***	1-4
Elective***	1-4
Elective***	1-4
Elective***	1-4
	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	1-2
Problems	4
10110 Feeds & Nutrition	3
10115 Animal Breeding	3
10116 Livestock Production	4
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.

Milk & Food Quality Control [A.A.S.]

APC-517

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

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

Second Semester

EN 126 Freshman English or	3
EN 127 Technical English	
BI 282 Microbiology	4
CH 174 Fundamentals of Chem.	4
Social Science Elective	3
Physical Education	1
	<hr/>
	15

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

10301 Dairy & Food Sci. I	3
10220 Careers	1
10201 Prin. of Env. Health	3
10210 Dairy & Food Micro.	4
10304 State Lic. for Milk	3
10212 Field Bio. & Ecol. or	
10109 An. Science or	
10213 Freshwater Bio.	3- 4
	<hr/>
	17-18

Second Semester

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

GRADUATION REQUIREMENTS: Total Semester Credit Hours: 64.

Industrial Technology [A.A.S.] **APC-583**

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English	3
PH 171 Physics	4
EL 125 Electricity	4
MA 151 Inter. Algebra	4
Physical Education	1
	<hr/>
	16

Second Semester

EN 126 or 127 Freshman English	3
PH 172 Physics	4
MD 171 Engineering Graphics	3
EL 126 Electricity	1
MA 154 Mathematics	4
Physical Education	1
	<hr/>
	16

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

30310 Strength of Materials	4
40614 Basic Calculus	4
*Technical Electives	8
	<hr/>
	16

Second Semester

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

**Technical Electives*

- 30604 Manufacturing Processes I
- 30202 Automotive Welding
- 30303 Elementary Surveying
- 30304 Construction I
- 30624 Shop Practice
- 30605 Engineering Drawing II
- 30607 Manufacturing Processes II
- 30307 Construction Drafting
- 30306 Hydraulics
- 30117 Introduction to Alternate Energy
- 30108 Plumbing Design
- 30314 Project Management
- 30614 Work Simplification & Measurement
- 30118 Active & Passive Energy Systems I
- 30619 Quality Control
- 30620 Production Planning
- 30119 Active & Passive Energy Systems II
- 30002 Computer Applications.

GRADUATION REQUIREMENTS: Total semester hours — 64.

Mortuary Science [A.A.S.] **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 Princ. of Business	3	BU 103 Mathematics of Bus. Finance	3
BU 171 Business Law	3	BU 121 Accounting I	3
Social Science Elective	3	BU 137 Bus. Communication	3
BI 181 Anat. & Phys.	4	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 Intro. to Fun. Service	3	10504 Clin. Theory, Pract. & San. II	4
10502 Funeral Service	3	10506 Senior Seminar	3
10503 Dlin. Theory, Pract. & San. I	4	10508 Restorative Art	4
10219 Pathology	3	10509 Mort. Hyg. & San. Sci	3
41001 Sociology	3	Social Science Elective	3
	16		17

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

GRADUATION REQUIREMENTS: Total Semester Credit Hours — 65.

Science Laboratory Technology [A.A.S.] **Biology Concentration** **APC-584**

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
ENG 125 Freshman English	3	ENG 126 Freshman English	3
BIO 171 Biology	4	BIO 172 Biology	4
CHEM 173 Chemistry	4	CHEM 174 Chemistry	4
MA 154 Mathematics	4	BIO 282 Microbiology	4
Physical Education	1	Social Science Elective	3
	<hr/> 16		<hr/> 18

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

<i>First Semester</i>		<i>Second Semester</i>	
10220 Careers	1	Electives (4-5)	
Social Science	3	40111 Biochemistry	3
Electives (4)		10223 Microtechniques	3
40109 Quantitative Analysis		40110 Instru. Analysis	3
(Strongly rec.)	4	10107 Land Mngt. & Conservation	3
10212 Field Bio. & Ecol.	3	10211 Env. Microbiology	3
10201 Princ. of Env. Health	3	10711 Research An. Handling Skills	1
10210 Dairy & Food Micro.	4	10305 Water Supplies &	
10101 Soil Science	3	Sewage Treatment	3
10301 Dairy & Food Sci. I	3	10207 Human Anat. & Phys.	4
10213 Freshwater Biology	4	40615 Statistics	3
	<hr/> 16	10412 Medical Microbiology	3
		10402 Hematology	2
			<hr/> 16

GRADUATION REQUIREMENTS: Total Semester Credit Hours — 64.

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

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

ENG 125 Freshman English	3
BIO 171 Biology	4
CHEM 173 Chemistry	4
MATH 154 Mathematics	4
Physical Education	1
	<hr/>
	16

Second Semester

ENG 126 Freshman English	3
BIO 172 Biology	4
CHEM 174 Chemistry	4
MA 160 Statistics	3
MA 157 Calculus I or	
DP 110 Data Processing	3-4
	<hr/>
	18

SECOND YEAR—CANTON AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

10220 Careers	1
40107 Organic Chemistry I	4
40109 Quantitative Analysis	4
40803 College Physics I	4
Social Science Elective	3
	<hr/>
	16

Second Semester

Social Science Elective	3
40108 Organic Chemistry II	4
40110 Instrumental Analysis	3
40804 College Physics II	4
40111 Biochemistry	3
	<hr/>
	17

GRADUATION REQUIREMENTS: Total Semester Credit Hours—64.

Biological Technology [A.A.S.]

APC-584

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

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

Second Semester

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

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

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

Second Semester

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

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

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

Chemical Technology [A.A.S.]

APC-535

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

EN 125 Freshman English	3
CH 173 Chemistry	4
Mathematics*	3-4
Social Science Elective	3
Elective	2-3
Physical Education	1
	<hr/>
	16-18

Second Semester

EN 127 Technical English or	
EN 126 Freshman English	3
CH 174 Chemistry	4
Mathematics*	3-4
Social Science Elective	3
Elective	3
Physical Education	1
	<hr/>
	17-18

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

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

Second Semester

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

*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.

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

3
3
4
6
1

17

Second Semester

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

3
3
4
6
1

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

3
3
1
3
3
1
3

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

3
3
1
3
1
3
3

17

GRADUATION REQUIREMENTS: Total Semester hours—68.

Public Health Technology [A.A.S.] **Environmental Health Concentration** **APC-624**

FIRST YEAR—FULTON-MONTGOMERY COMMUNITY COLLEGE

First Semester

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

Second Semester

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

SECOND YEAR—COBLESKILL AGRICULTURAL AND TECHNICAL COLLEGE

First Semester

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

Second Semester

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

*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

First Semester

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

Second Semester

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

SECOND YEAR—S.U.N.Y. COBLESKILL

First Semester

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

Second Semester

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

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/> 16-17		<hr/> 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/> 15
	<hr/> 16		

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.

First Semester

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

Second Semester

English Elective	3
Exploratory Electives—Technical, Vocational, Liberal Arts	<hr/> 9-12
	12-15

*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 58 for further information.

Automotive Mechanics

APC-926

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

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

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

First Semester

*AT 121 Introduction to Automotive Function	3
*AT 122 Theory of Internal Combustion Engines	3
*AT 124 Automotive Electrical Systems	3
*AT 225 Automotive Chassis Systems	3
Elective	3
	<hr/>
	15

Second Semester

*AT 123 Internal Combustion Engine Support Systems	3
*AT 226 Power Trains-Design Features and Analysis	3
*AT 227 Electronic Engine and Chassis Analysis	3
AT 228 Consumer Relations and Services	3
Elective**	3
	<hr/>
	15

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

**Business course Recommended.

Clerk-Typist APC-935

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

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

First Semester

*BU 134 Intermediate Typewriting	3
BU 129 Transcription Machines	1
BU 235 Administrative Support	
Procedures	3
BU 130 Electronic Calculator	
Applications	2
Elective	3-6
	<hr/> 12-15

Second Semester

BU 234 Advanced Typewriting	3
BU 137 Business Communications	3
BU 236 Administrative Support	
Procedures	3
Business Elective	3-6
	<hr/> 12-15

*A student must have completed BU 133 or Equivalent.

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 Clerk-Typist Certificate. The courses listed must be passed with satisfactory grades. Typewriting must be passed with a minimum grade of C. Requirements are being revised; consult Advisement Office.

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.

First Semester

EN 125 Freshman English	3
Mathematics (Strongly Suggested MA 160 Statistics)	3-4
CJ 103 Criminal Law I	3
CJ 106 Introduction to Law Enforcement & Criminal Justice	3
CJ 112 Introduction to Police Organization & Management	3
SS 291 General Psychology	3

18-19

Second Semester

EN 126 Freshman English	3
CJ 104 Criminal Law II	3
CJ 105 Principles of Criminal Investigation	3
CJ 107 Police-Comm. Relations or CJ 108 Introduction to Juvenile Delinquency	3
SS 281 Introduction to Sociology	3
	15

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

Medical Information Processing

APC-045

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

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

Graduates may be employed as medical records aides, medical transcribers, medical word processing specialists, medical office support personnel, and related careers. Jobs are available in hospitals, medical clinics, physicians offices, government agencies, and either health and related agencies.

First Semester

BU 134 Intermediate Typewriting	3
BU 230 Machine Transcription	3
BU 285 Medical Administrative Support Procedures	3
BU 283 Medical Terminology	3
Elective	3
	<hr/> 15

Second Semester

BU 234 Advanced Typewriting or Elective	3
BU 236 Administrative Support Procedures II	3
BU 137 Business Communications	3
BU 287 Medical Transcription	3
Elective	3
	<hr/> 15

*A student must be typing at least 35 net words per minute at the end of BU 134, otherwise Advanced Typewriting will be required.

Program Prerequisite:
Suggested Elective:

BU 133 or equivalent
Word Processing, Humanities, Health, Social Sciences, Anatomy & Physiology, Human Development.

GRADUATION REQUIREMENTS: A minimum of 30 hours must be completed for the Medical Information Processing Certificate.

Quantity Food Production

APC-044

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

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

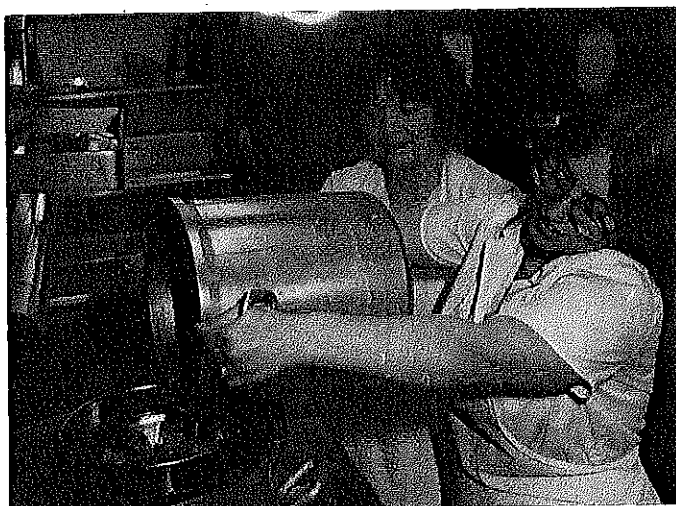
Students will be prepared for positions in all areas of quantity foods: Preparation, receiving, operations, purchasing and service. Graduates may be employed by owner operated restaurants, chain restaurants, contractual food service companies, and other agencies associated with the production of food.

<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	3
FS 224 Hospitality Management	3	and Preparation	6
FS 225 Food and Beverage	3	FS 130 Quantity Food Internship	3
Cost Control	3	Elective (optional)*	3
HE 121 Nutrition	3		15
	15		

*Suggested Electives (optional)

SC 141, EN 125, HE 125, BU 103, HD 150, HE 136, Social Sciences.

GRADUATION REQUIREMENTS: A minimum of 27 hours must be completed for the Quantity Food Production Certificate.



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. Requirements are being revised; consult Advisement Office.



Word Processing Operator APC-996

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

Emphasis is on practical hands-on experience in basic word processing operations. Keyboarding, machine transcription, word processing, administrative support procedures, and related skills are developed.

Graduates may be employed as word processor operators, correspondence specialists, transcribers, and in related careers. Jobs are available in industry, government, education, law offices and other large and small service agencies.

First Semester

*BU 134 Intermediate Typewriting	3
BU 230 Machine Transcription	3
BU 235 Administrative Support Procedures	3
BU 137 Business Communications	3
	<hr/> 12

Second Semester

**BU 234 Advanced Typewriting or Elective (optional)	3
BU 239 Intro. to Word Processing	3
BU 236 Administrative Support Procedures	3
GA 104 Typography	3
DP 110 Intro to Data Processing	3
	<hr/> 12-15

*A student must have completed BU 133 or equivalent.

**A student must be typing at least 35 net words a minute at the end of BU 134, otherwise enrollment in advanced typewriting will be required.

GRADUATION REQUIREMENTS: A minimum of 24 hours (27 hours if a student is required to complete BU 133 or BU 234 or 30 hours if both BU 133 and BU 234 are required) is required for the word processing operator certificate. Requirements are being revised; consult Advisement Office.



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

3 s.h.

BU 121 Accounting

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

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.

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 261 Managerial Accounting**3 s.h.**

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

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

Business Administration

BU 101 Principles of Business**3 s.h.**

An introductory course to the diverse world of business, its structure, its operations and its impact upon each of us as employees, as consumers, as individuals, and as members of society. Course designed to acquaint the student with 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 and computerized and manual business games are used.

Hours of class per week: 3.

BU 103 Mathematics of Business Finance**3 s.h.**

Review of the basic fundamentals and use of shortcut operations in 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. 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 172 Business Law II**3 s.h.**

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

Prerequisite: NONE. Hours of class per week: 3

BU 173 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 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. 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 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.

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

BU 262 Introduction to Investments

3 s.h.

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

Hours of class per week: 3.

Data Processing

DP 105 How Computers Do It

3 s.h.

Introductory course about computers and computer applications covering data processing concepts and problems, the fundamentals of hardware and software, programming languages and programming logic. To be taught via 20 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.

DP 110 Introduction to Data Processing

3 s.h.

Orientation course designed to introduce the terminology and concepts of automated data processing. Topics include: methods of data processing, data representation, unit-record systems, computer programming languages, file maintenance, and input/output devices. Class projects will include live-run computer programs.

Hours of class per week: 3.

DP 113 Programming Assembler Language

3 s.h.

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

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

DP 120 Computer Programming [FORTRAN]

3 s.h.

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

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

DP 121 Computer Programming [COBOL]

3 s.h.

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

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

DP 122 Computer Programming [R.P.G.]

3 s.h.

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

Prerequisite: Completion of, or concurrent registration in DP 110, or permission of instructor. Hours of Class per week: 3.

DP 123 Computer Programming — [BASIC]**3 s.h.**

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

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

DP 130 Data Processing Seminar**4 s.h.**

Limited to a restricted number of advanced students majoring in Data Processing, involves an arranged schedule of work either in the College's Data Processing Center or an off-campus operating business data processing installation. Designed to offer the students direct involvement in an on-the-job situation.

Prerequisite: Two programming courses and permission of instructor. Hours of class per week: 1 hour seminar discussion, 15-20 hours on the job.

DP 132 Computer Science**3 s.h.**

Advanced course using the computer as a problem solving tool for math and science. Topics covered include: Algorithms on the computer, advanced flowcharting techniques, approximations, looping, fractional references, root-mean-square deviations, etc. Student will utilize FORTRAN IV for solving intermediate and complex mathematical applications on the College Computer.

Prerequisite: DP 120. Hours of class per week: 3.

DP 133 Computer Programming [Advanced COBOL]**3 s.h.**

A continuation of COBOL programming techniques introduced in DP 121. It deals with advanced programming techniques such as segmentation, tape/disc utilization, multiple I/O procedures, and functions associated with EXTENDED COBOL. Laboratory exercises employ the College Computer.

Prerequisite: Completion of DP 121. Hours of class per week: 3.

DP 135 Systems Analysis and Design**3 s.h.**

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

Prerequisites: DP 110, 113, and DP 133 [Advanced COBOL] or equivalent work experience, DP 120 recommended. Hours of class per week: 3.

Secretarial Science

BU 113 The Typewriter Keyboard**1 s.h.**

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

Hours of class per week: 1.

BU 123 Personal 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 230.

Prerequisites: BU 134 or Permission of Instructor. 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: One year high school typing, BU 133, or equivalent: pretest optional. Class hours: 3 to 4 class hours per week to be arranged.

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

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 230 Machine Transcription**3 s.h.**

This course is taught by the AVT (Audio-Visual-Tutorial) system which is a self-paced, individualized method of instruction. A comprehensive course designed to provide the student with the necessary skills to prepare typewritten work from a recorded voice. Material to be transcribed will consist of various forms of business correspondence used in fifteen different employment areas such as 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. Not open to students who have credit for BU 129.

Prerequisite: EN 125, or BU 137, BU 134, or permission of instructor

Hours of class per week: 3.

BU 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 234 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 239 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]. Hours of class per week: 3.

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

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

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

BU 283 Medical Terminology**3 s.h.**

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

Prerequisites: None. Class hours: 3.

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

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

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

BU 287 Medical Transcription**3 s.h.**

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

Prerequisites: BU 134, BU 230, BU 283, or permission of instructor. Class hours: 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 (composition).

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 services, technical processing. There will be a preparatory session on introduction to library services, circulation, reference services, technical processing. There will be a preparatory session on introduction to library services.

Photography

ER 101 Principles of Photography

3s.h.

The study of the history of photography, Balance of color, lighting and composition in the 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, PHYSICAL EDUCATION AND RECREATION

100 Series-Service Program

1 s.h. each

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

PE 110 Slimnastics and Physical
Fitness***

111 Jogging

112 Introduction to Archery,
Tennis, Paddleball

113 Archery Skills

114 Canoeing**

116 Golf & Racket Activities**

117 Volleyball* & Paddleball

119 Racket Activities

120 Tennis & Aquatics

122 Tennis & Bowling**

123 Bowling & Aquatics

125 Skiing (Beginning)**

126 Skiing (Advanced)**

PE 127 Cross-Country Ski Touring**

128 Dance

129 Equestrian Skills

(Beginning)**

130 Seminar for Veterans***

(Permission of Instructor)

132 Equestrian Skills

(Advanced)**

141 Beginning Swimming

142 Intermediate Swimming

143 Lifesaving*

144 Skin & Snorkel Diving

145 Water Sports

149 Water Safety Instructors*

Hours of class per week: 2.

*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)

162 Tumbling & Gymnastics
(women)

165 Soccer & Wrestling

PE 166 Softball & Fitness

168 Dance — Folk and Square

241 General Aquatics for P.E.
Majors

Hours of class per week: 2.

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.

RE 110 American Leisure Time Activities **1 s.h.**

An introduction to lifetime sport activities popular in America. Physical, social and mental benefits of activity are stressed through lecture and participation.

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, such as:

1. Identity (Finding answers to the question, "Who Am I?")
2. Connectedness (Relationship with other people and the environment)
3. Power (Exercising control over one's life)

Topics include: Self Actualization and the Fully Functioning Person, Values and Life-style, Assertiveness Training, Life Passages, Man in Nature, Management of Stress, and Interpersonal Relationships.

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 208 Survival Skills for the Family System

3 s.h.

Most of us exist in a family system as parent or child. This course teaches skills which will help make that family system more open, freeing and nurturing. Issues to be examined include Family Dynamics, Communications, Self-worth, and Value Structures.

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 and Leadership. This course also contains a substantial unit of Transactional Analysis.

Hours of class per week: 3.

HD 225 Man's Search for Meaning

3 s.h.

(An Advanced Seminar On Individual Development.)

An in-depth study of selected theories which reflect current thinking in the area of individual development. The course will stress self-understanding through application of the theories under study.

Hours of class per week: 3.

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

HUMANITIES

English

EN 124 Basic English

3 s.h.

This course teaches the fundamentals of writing and may be a prerequisite for further study of composition for some students. It is aimed at helping students who need special assistance in the improvement of writing and includes a study of grammar and composition with emphasis on the fundamental principles of writing. Not credited toward the Associate Degree English requirements.

Hours of class per week: 3.

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 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 145-146 Elementary Italian**3 s.h. each semester**

A beginners course covering the fundamentals of oral comprehension, oral expression, reading, and grammar of the Italian language. Italian will be presented in culturally relevant situations that will help students become acquainted with the civilization, life-style, and customs of the Italian people.

Hours of class per week: 3.

FL 147-148 Elementary German**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 150 Basic Design**3 s.h.**

Introduction to the elements and principles of two-dimensional design. Organization and composition on a flat surface with a variety of media.

Hours of class per week: 4.

AR 160 3 Dimensional Design**3 s.h.**

An introductory studio course on the fundamentals of sculpture. Wood, paper, metal, wire, plaster, and clay will be used to identify solutions to problems in volume, scale, weight, texture, balance, movement and tension. Ideas being transformed into sculptural statements through visual logic and creativity, utilizing a variety of construction techniques will be stressed.

Hours of class per week: 4.

AR 200 Printmaking I**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.**

A preliminary drawing course emphasizing the study of perspective, form and composition to expand seeing, and to develop the techniques and procedures necessary in recording visual information. Landscape, still life, natural and machine objects will be observed and used as content.

Hours of class per week: 4.

AR 211 Drawing II**3 s.h.**

An exploration in a variety of drawing media, with emphasis on personal expression. Topics include studies in perceptual as well as conceptual drawing as a preparatory sketch, as diary, and as a finished product. Emphasis will be placed on the subjective, creative process.

Prerequisite: AR 210, or permission of Instructor.

Hours of class per week: 4.

AR 220 Painting I**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.

AR 300 Fine Arts Seminar**3 s.h.**

This course will allow the student the opportunity to develop a professional profile. Topics include matting, and mounting of selected works; portfolio presentation; slide presentations; contemporary trends; exhibition participation, and discussions of individual works in progress.

Hours of class per week: 4.

Philosophy and Language

2-4 s.h.

HU 100 Seminar in Humanities

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.

3 s.h.

HU 251 Introduction to Philosophy

An introduction to philosophical problems and selected philosophers of the ancient period; prosocratics, Plato, Aristotle. Emphasis is placed on the rise of the scientific tradition in ancient philosophy vs. mythological treatment of cosmogonical issues prior to the presociatics. Students will deal with problems from the basic divisions of philosophy, metaphysics, epistemology, ethics, with emphasis on critical thinking—r.e. "doing" philosophy as well as gaining knowledge of the historical development of philosophical ideas.

Hours of class per week: 3.

3 s.h.

HU 254 Logic and Argument

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.

3 s.h.

HU 258 Ethics

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.

3 s.h.

HU 267 Modern Philosophers

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.

3 s.h.

HU 271 Comparative Religion

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 con-

sidered 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.

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.

A study of the interrelationship between living systems and their physical environment. Emphasis will be placed on the understanding of different ecosystems, their balance and dynamics. Man's role as a member of the biosphere will be stressed.

Prerequisite: SC 141, BI 171, or permission of instructor. Hours of class per week: 3. Field trips will be taken.

BI 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, BI 181 recommended, or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.

Chemistry

SC 170 Introductory Chemistry (The Chemistry of Cosmic Evolution)

3 s.h.

A course in the chemical evolution of the universe presented as a continuum. The point of departure will be the big bang, some 10 to 20 billion years ago, and the resulting dust cloud which expanded and evolved along two separate paths. Along one path the macrouniverse of galaxies, stars and celestial bodies resulted. Along the other path elements were produced within dying stars, in a process called nucleosynthesis, which coalesced to form the planets, thus the origin of the planet earth. On earth, atoms of elements combined to form inorganic compounds then, to organic compounds, to macromolecules, to complex structures of proteins and nucleic acids, and to the living cell, all operating on a micro scale. From the cell, chemical-biological evolution proceeded to populate the earth with living organisms and finally to higher forms of life and the human race. With humanity came contradictory challenges to resolve, such as: how to increase production of goods through industrialization and control the resulting pollution; how to provide needed energy and find substitutes for the resulting energy shortages; how to improve health and longevity and solve the problem of overpopulation and the increased need for food production.

An important element of the course will be the preparation and the presentation of a research paper on a chemical aspect of a topic selected by each student with the instructor's approval.

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 rigid bodies and indicates the general methods of applying them to the solution of varied engineering problems and develops the analytical ability of the student. Topics covered are: equations of motion, rectilinear and curvilinear motion, motion relative to translating and rotating axes; work and energy; impulse and momentum; Euler equations, the gyroscope; central force motion; simple harmonic motion, damped oscillations and forced oscillations.

Prerequisites: PH 171 and MA 157-158. Hours of class per week: 3.

ES 281 Electric and Electronic Circuits

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, superposition principle, 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; complex frequency, transfer functions, poles and zeroes; characteristics of vacuum tubes, diodes and transistors.

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 engineering, mathematics and science majors. Areas covered are: fundamentals of mechanics, heat and thermodynamics, electricity and magnetism, oscillations and waves. Atomic and nuclear physics is also briefly studied. Fundamental forces and conservation of energy, linear momentum, and angular momentum are used as unifying themes of different branches of physics. Major emphasis is placed on developing the analytical ability and problem solving skills of the student.

Prerequisites: Concurrent registration in MA 157 or permission of instructor. Hours of class per week: 3. Hours of lab per week: 3.

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

Course designed for engineering, mathematics and science majors. Topics covered are: Maxwell's equations and electromagnetic waves; special theory of relativity; dual nature of matter and radiation—photoelectric effect, Compton effect, pair production and annihilation, X-Rays, electron diffraction, deBroglie waves; particle in a box; uncertainty principle; Bohr model of the atom; Schrodinger equation; Pauli exclusion principle and the periodic table; nuclear structure; radioactivity; nuclear fission and fusion reactions; Maxwell-Boltzman distribution, quantum statistics, laser, band theory of solids and semiconductors. An independent laboratory project is required. The laboratory project could be in any one or combinations of the following areas: vacuum tubes, semiconductor devices, photoelectric devices, electron dynamics, radioactivity, 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 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 Hunteng'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]

1s.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 in Automotive, Construction, Natural Resources, and Visual Communications Technologies. Topics include review of signed numbers and operations, exponents, algebraic fractions, calculator usage, the metric system, perimeter/area/volume, 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.]

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 296 Israel: Biblical Period to 1948

3 s.h.

Major historical, political, social, and military developments from the time of Abraham to the emergence of the Modern State of Israel in 1948. Areas of concentration will include: Biblical Period, resistance against Greece and Rome; Life in the Diaspora; Rise of Jewish Nationalism; Growth of the Yishuv; Balfour Declaration and the British Mandate; Arab-Jewish Confrontation; Holocaust; Palestine in WW II; War of Independence; Mass Immigration.

Hours of class per week: 3.

Political Science

SS 191 Comparative Democratic Systems

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 selected 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 Local and State Politics

3 s.h.

An analysis of the multitude of governmental institutions and political practices at the local and state levels. The emphasis of the course will be intergovernmental relations and on the practical consideration of the ways local or state governments 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 181 The Sociology of the Post Affluent Society**3 s.h.**

This course shall examine the literature regarding contemporary crises in agriculture, limits to growth, rising unemployment, rising prices, scarcity of non-renewable resources, pollution and other issues. This examination will include the question of whether we really are beginning a new, post industrial, post affluent society. This course will then examine the theoretical literature which explores various alternatives for future social life.

Hours of class per week: 3.

SS 264 Minority Groups in America**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 280 The Mass Media in Contemporary Society**3 s.h.**

Selected topics include the history of American journalism, the impact of the mass media, media audiences, responsibility of media, media and politics, newspapers, radio and television, overview of media around the world, and alternative approaches to the media.

Hours of class per week: 3.

SS 281 Introduction to Sociology**3 s.h.**

An introductory course designed to acquaint the student with the study of sociology as one of the sciences that deals with man in his relationships with the members of his society and the world in which he lives. The methods and objectives of sociological research, the varying patterns of social organization, and the study of society in relation to individual and group behavior are major areas of study.

Hours of class per week: 3.

SS 289 History and Sociology of Sport in America**3 s.h.**

Review of sociological study of sport, discussion of how sport is viewed in America, individual involvement in sport, winning and losing, youth and athletics in American society, the Black athlete, women in athletics; Title IX - The Coach - the athlete - and understanding of motivation - professional sports: an overview and more:

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.

Prerequisite: SS 281 or permission of the instructor.

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.

Prerequisite: SS 281 or permission of the instructor.

TECHNOLOGIES**Air Science* ******AV 101 Air Science I (Private Pilot)**

This course is designed to provide the student with authoritative aeronautical knowledge to pass successfully the required written examination given by the Federal Aviation Agency.

Subjects covered in this course include: theory of flight, aerodynamics, airplane operation and performance, navigation, flight computer, communications, publications, regulations, instrument flying, and emergency procedures.

Prerequisites: Concurrent flight experience or permission of instructor.

AV 102 Air Science II (Instrument)

This course instructs the student in all phases required in preparation for the Federal Aviation written examination for the Instrument Rating. Instrument flying techniques and procedures, in conjunction with modern ILS, VOR, ADF, and radar facilities are stressed.

Prerequisites: AV 101, and related flight experience, and Private Pilot Rating.

AV 201 Air Science III (Commercial Pilot)

This course provides the student with the aeronautical knowledge and experience necessary to pass the **Commercial Pilot** written examination given by the Federal Aviation Agency. Professional attitude and performance excellence are magnified during this course. Subjects covered in this course in detail are: basic aerodynamics, navigation, aircraft operation and performance, flight physiology, flight safety and emergency procedures, regulations, and communications.

Prerequisites: AV 102, and related flight experience, and Private Pilot and Instrument Ratings.

AV 202 Air Science IV (Flight Instructor)

This course provides the student with the knowledge required to pass the tests for the Flight Instructor's Written Examination. This course is devoted to fundamentals of teaching and effective techniques, the analysis of flight maneuvers, and an indepth study of the principles of instrument flight instruction.

Prerequisites: AV 201, and related flight experience, and Commercial Pilot and Instrument Ratings.

* Air Science majors may be developed as an option in the A.O.S. degree Individual Studies (see page 83)

**The cost of flight experience (off-campus) is not included in the estimated costs listed in this catalog. Flight costs are established by the flight school and are paid directly to the flight school.

Automotive Technology* **

AT 121 Introduction to Automotive Function

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.

CJ 104 Criminal Law II**3 s.h.**

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.

CJ 105 Principles of Criminal Investigation**3 s.h.**

An analysis of the nature and purpose of criminal investigation. Discussion will include various methods of investigation, the interview, and the interrogation of witnesses and suspects, collection and preservation of evidence, use of informants, techniques of surveillance and special investigation techniques; methods used in police science laboratory, ballistics, documents, serology, photography, and related forensic services.

Hours of class per week: 3.

CJ 106 Introduction to Law Enforcement and Criminal Justice**3 s.h.**

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.

CJ 107 Police-Community Relations**3 s.h.**

Survey of the numerous and complex factors involved in the area of human rights. Topics covered: Controlling racial prejudice in the community; the role of police as professionals; and examination of prejudice and discrimination and their effects and implications for police in a changing and interacting society. The history and development of civil rights and liberties is surveyed.

Hours of class per week: 3.

CJ 108 Introduction to Juvenile Delinquency**3 s.h.**

Consideration of the methods and philosophy of the juvenile court system, police programs for the prevention and control of juvenile delinquency and the role of various social work agencies in the care and treatment of juveniles. Special attention will be given to police techniques utilized in handling juveniles with special emphasis on the utilization of existing community resources. The course will examine prevailing professional philosophy, existing law, public policy, and knowledge of current delinquent behavior theories.

Hours of class per week: 3.

CJ 109 Criminology**3 s.h.**

A survey of the nature and scope of prevalent forms of criminology. This course will consider the major theories of criminal conduct drawn from psychological, social and cultural modes of explanation. A discussion of various classifications and 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.

CJ 110 Traffic Enforcement Administration**3 s.h.**

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: 2. Hours of recitation per week: 1.

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, thyrister, 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: 2. Hours of recitation per week: 1.

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 130 Quantity Food Internship**3/6 s.h.**

This course is the practical application of skills learned in Food Service Classes. It involves an arranged schedule of work either in the College's Food Service Lab or at an off-campus quantity food operation. It is designed to offer the students direct involvement in an "on-the-job" situation.

Prerequisites: FS 121, FS 122, FS 224, FS 225.

Hours of Class: One hour discussion, 10-12 or 15-20 hours on the job.

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 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 each week: 1. Hours of lab per week: 3.

*Photography courses — see EDUCATIONAL RESOURCES.

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

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.

Prerequisite: MD 171.

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 Topography**3 s.h.**

Function of type, type identification, point size, and photocomposition. Copyfitting, proof-reading, type composition variations will be emphasized, coupled with practical applications.

Prerequisite: GA 101 or Enrollment in Word Processing Certificate program. Hours of class per week: 2. Hours of lab per week: 2.

GA 105 Graphic Arts Layout and 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 principles of fisheries and wildlife management. An understanding of the practice of wildlife management in a contemporary context, but with sufficient review of past efforts to clarify present directions. A knowledge of the plants and animals indigenous to Eastern United States with respect to their management and identification will be stressed.

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

NR 122 Fisheries and Wildlife Management II**3 s.h.**

Utilization and an understanding of both the theoretical and operational aspects of the varied techniques used in the management of both fisheries and wildlife. Topical areas will include population estimation, analysis and manipulation of cover water and food for both fisheries and wildlife, wildlife collection techniques, species management techniques, telementary.

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.

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

**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.

*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.

Textile Technology

Courses in Textile and Leather Technology are under development. For further information, contact the Admissions Office.