

76

Virginia
Western
Community
College

CURRICULUMS

ACCOUNTING	41
AIR CONDITIONING AND REFRIGERATION	54
ARCHITECTURAL DRAFTING	55
ARCHITECTURAL TECHNOLOGY	47
¹ ART EDUCATION	36
¹ AUTOMOTIVE TECHNOLOGY	53
BUSINESS ADMINISTRATION	38
CHILD CARE	55
CIVIL ENGINEERING TECHNOLOGY	47
CLERK-TYPIST	56
COMMERCIAL ART	40
DATA PROCESSING TECHNOLOGY	41
DENTAL ASSISTANT	56
DENTAL HYGIENE	49
DEVELOPMENTAL STUDIES PROGRAM	17
EDUCATION	38
ELECTRICAL/ELECTRONICS ENGINEERING TECHNOLOGY	48
ENGINEERING	39
ENGINEERING/TECHNICAL ASSISTANT	57
¹ FINE ARTS	37
FIRE FIGHTING AND PREVENTION	57
GENERAL STUDIES	39
HOTEL, RESTAURANT AND INSTITUTIONAL MANAGEMENT	42
LIBERAL ARTS	37
MANAGEMENT	43
MECHANICAL ENGINEERING TECHNOLOGY	49
MENTAL HEALTH TECHNOLOGY	50
MERCHANDISING	44
NURSING	51
POLICE SCIENCE	53
RADIO AND TELEVISION PRODUCTION TECHNOLOGY	54
RADIOLOGIC TECHNOLOGY	52
SCIENCE	40
SECRETARIAL SCIENCE	45
STENOGRAPHIC	58
TRAFFIC AND TRANSPORTATION MANAGEMENT	46

¹PENDING APPROVAL

VIRGINIA WESTERN COMMUNITY COLLEGE CATALOG



1976-78

The statements and provisions in this catalog are not to be regarded as an irrevocable contract between the student and the college. The college reserves the right to change, when warranted, any of the provisions, schedules, programs, courses, or fees, as might be required.

Supplements may be issued to this catalog as considered necessary by the college.

An equal opportunity/affirmative action institution.

**3095 Colonial Avenue, S. W.
Roanoke, Virginia 24015
Telephone (703) 344-2031**

WORLD
WESTERN

CATALOG SUPPLEMENT 1977-79

CALENDAR

Fall Quarter

1977-78	1978-79
Contract Period Begins.....
Sept. 16	Sept. 16
Faculty Report.....
Sept. 16	Sept. 18
In-Service Days.....
Sept. 19-21	Sept. 19-21
Orientation Day—New Students.....
Sept. 22	Sept. 22
Student Advising by Faculty
Sept. 22-23	Sept. 22
Registration (See class schedule for times).....
Sept. 26-27	Sept. 25-26
Faculty Work Day.....
Sept. 28	Sept. 27
Classes Begin.....
Sept. 29	Sept. 28
Drop/Add (Two Days-see class schedule for times).....
Oct. 3, Oct. 5	Oct. 2, Oct. 4
*Last day for withdrawal without penalty.....
Nov. 9	Nov. 8
Thanksgiving Recess.....
Nov. 24-26	Nov. 23-25
Classes End.....
Dec. 10	Dec. 9
Final Exams (Schedule posted on Bulletin Boards).....
Dec. 12-17	Dec. 11-16
Faculty Work Day.....
Dec. 19	Dec. 18
Christmas Recess.....
Dec. 20-Jan. 2	Dec. 19-Jan. 1

Winter Quarter

All Faculty Report.....
Jan. 3	Jan. 2
Registration (See class schedule for times).....
Jan. 3-4	Jan. 2-3
Classes Begin.....
Jan. 5	Jan. 4
Drop/Add (Two days-see class schedule for times).....
Jan. 9 & 11	Jan. 8 & 10
*Last day for withdrawal without penalty.....
Feb. 15	Feb. 14
Classes End.....
Mar. 15	Mar. 14
Last day for Graduation Application.....
Feb. 15	Feb. 14
Final Exams (Schedule posted on Bulletin Boards).....
Mar. 16-22	Mar. 15-21
*After this date, students may not withdraw with a grade of "W" ..	

SEPTEMBER						
1	S	M	T	W	T	F
9						S
7				1	2	3
7	4	5	6	7	8	9
7	11	12	13	14	15	16
	18	19	20	21	22	23
	25	26	27	28	29	30

OCTOBER						
1	S	M	T	W	T	F
9						S
7						1
7	2	3	4	5	6	7
7	9	10	11	12	13	14
	16	17	18	19	20	21
	23	24	25	26	27	28
	30	31				

NOVEMBER						
1	S	M	T	W	T	F
9						S
7			1	2	3	4
7	6	7	8	9	10	11
7	13	14	15	16	17	18
	20	21	22	23	24	25
	27	28	29	30		

DECEMBER						
1	S	M	T	W	T	F
9						S
7				1	2	3
7	4	5	6	7	8	9
7	11	12	13	14	15	16
	18	19	20	21	22	23
	25	26	27	28	29	31

SEPTEMBER						
1	S	M	T	W	T	F
9						S
7					1	2
8	3	4	5	6	7	8
	10	11	12	13	14	15
	17	18	19	20	21	22
	24	25	26	27	28	29
	30					

OCTOBER						
1	S	M	T	W	T	F
9						S
7	1	2	3	4	5	6
8	8	9	10	11	12	13
	15	16	17	18	19	20
	22	23	24	25	26	27
	29	30	31			

NOVEMBER						
1	S	M	T	W	T	F
9						S
7			1	2	3	4
8	5	6	7	8	9	10
	12	13	14	15	16	17
	19	20	21	22	23	24
	26	27	28	29	30	

DECEMBER						
1	S	M	T	W	T	F
9						S
7						2
8	3	4	5	6	7	8
	10	11	12	13	14	15
	17	18	19	20	21	22
	24	25	26	27	28	29
	31					

JANUARY						
1	S	M	T	W	T	F
9						S
7	1	2	3	4	5	6
8	8	9	10	11	12	13
	15	16	17	18	19	20
	22	23	24	25	26	27
	29	30	31			

FEBRUARY						
1	S	M	T	W	T	F
9						S
7			1	2	3	4
8	5	6	7	8	9	10
	12	13	14	15	16	17
	19	20	21	22	23	24
	26	27	28			

MARCH						
1	S	M	T	W	T	F
9						S
7			1	2	3	4
8	5	6	7	8	9	10
	12	13	14	15	16	17
	19	20	21	22	23	24
	26	27	28	29	30	31

JANUARY						
1	S	M	T	W	T	F
9						S
7	1	2	3	4	5	6
9	7	8	9	10	11	12
	14	15	16	17	18	19
	21	22	23	24	25	26
	28	29	30	31		

Spring Quarter

1978	1979
Registration (See class schedule for times).....	Mar. 23-24
Classes Begin.....	Mar. 28
Drop/Add (Two days-see class schedule for times).....	Mar. 30 & Apr. 3
*Last day for withdrawal without penalty.....	May 8
Classes End.....	June 5
Final Exams (Schedule posted on Bulletin Boards).....	June 6-12
Faculty Work Day.....	June 13
Graduation.....	June 15

Summer Quarter [Full 10 weeks] 1978

Registration.....	June 16
Classes begin.....	June 19
Drop/Add (Two days only-See class schedules for times).....	June 19 & June 21
Independence Day Holiday.....	July 4
*Last day for withdrawal without penalty.....	Aug. 1
Faculty work day (no classes).....	Aug. 28
Classes End.....	Aug. 29
Final Exams (Last class or last two class periods)	
Faculty work day.....	Aug. 30
Graduation.....	Sept. 1

Summer Quarter (Two five week terms with Double Class Periods)

FIRST TERM	
Registration.....	June 16
Classes Begin.....	June 19
Drop/Add (Two days only-See class schedules for times).....	June 19 & 21

*After this date, students may not withdraw with a grade of "W".

	JULY						
1	S	M	T	W	T	F	S
7							1
8	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					

	AUGUST						
1	S	M	T	W	T	F	S
7			1	2	3	4	5
8	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		

	JULY						
1	S	M	T	W	T	F	S
7	1	2	3	4	5	6	7
8	8	9	10	11	12	13	14
9	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				

	FEBRUARY						
1	S	M	T	W	T	F	S
7						1	2
8	3	4	5	6	7	8	9
9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28		

	MARCH						
1	S	M	T	W	T	F	S
7						1	2
8	3	4	5	6	7	8	9
9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						

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

	MAY						
1	S	M	T	W	T	F	S
7							1
8	2	3	4	5	6	7	8
9	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					

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

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

	MAY						
1	S	M	T	W	T	F	S
7							1
8	2	3	4	5	6	7	8
9	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					

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

	AUGUST						
1	S	M	T	W	T	F	S
7							1
8	2	3	4	5	6	7	8
9	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					

Summer Quarter (Cont.)

*Last day for withdrawal without penalty.....
July 11
Independence Day Holiday.....
July 4
Classes End.....
July 25
Final Exams (Last class period)
Faculty work day.....
July 24
SECOND TERM
Registration.....
July 24
Classes Begin.....
July 25
Drop/Add (Two days only-See class schedules for times).....
July 26-27
*Last day for withdrawal without penalty.....
Aug. 5
Classes End.....
Aug. 29
Final Exams (Last class period)
Faculty work day.....
Aug. 30
Graduation.....
Sept. 1
*After this date, students may not withdraw with a grade of "W".



THE VIRGINIA COMMUNITY COLLEGE SYSTEM

The College does not illegally discriminate on the basis of race, color, religion, national origin, political affiliation, sex, age, handicap in violation of Section 504 of the Rehabilitation Act of 1973, or other nonmerit factors and complies with the Civil Rights Act of 1964."

VIRGINIA WESTERN COMMUNITY COLLEGE CALENDAR 1977-78
(Insert in College Catalog)

FALL QUARTER 1977-78

Contract Period Begins	Thursday, September 1
Faculty Report & Division Meetings	Thursday, September 1
Freshmen Orientation	Friday, September 2
Faculty Advising of Returning Students	Friday, September 2
Labor Day Holiday	Monday, September 5
Registration - Day & Evening	Tuesday, September 6
Registration - Day Only	Wednesday, September 7
Night Classes Begin	Wednesday, September 7
Day Classes Begin	Thursday, September 8
Classes End	Tuesday, November 15
Final Exams	Wednesday, November 16 <u>thru</u> Tuesday, November 22
Grades Due	Wednesday, November 23
Thanksgiving Recess	Thursday, November 24 <u>thru</u> Saturday, November 26

WINTER QUARTER 1977-78

Registration - Day & Evening	Wednesday, November 30
Registration - Day Only	Thursday, December 1
Night Classes Begin	Thursday, December 1
Day Classes Begin	Friday, December 2
Christmas Recess	Thursday, December 22 (5 PM) <u>thru</u> Monday, January 2
Classes Resume	Tuesday, January 3
Classes End	Monday, February 20
Final Exams	Tuesday, February 21 <u>thru</u> Monday, February 27
Grades Due	Tuesday, February 28

SPRING QUARTER 1978

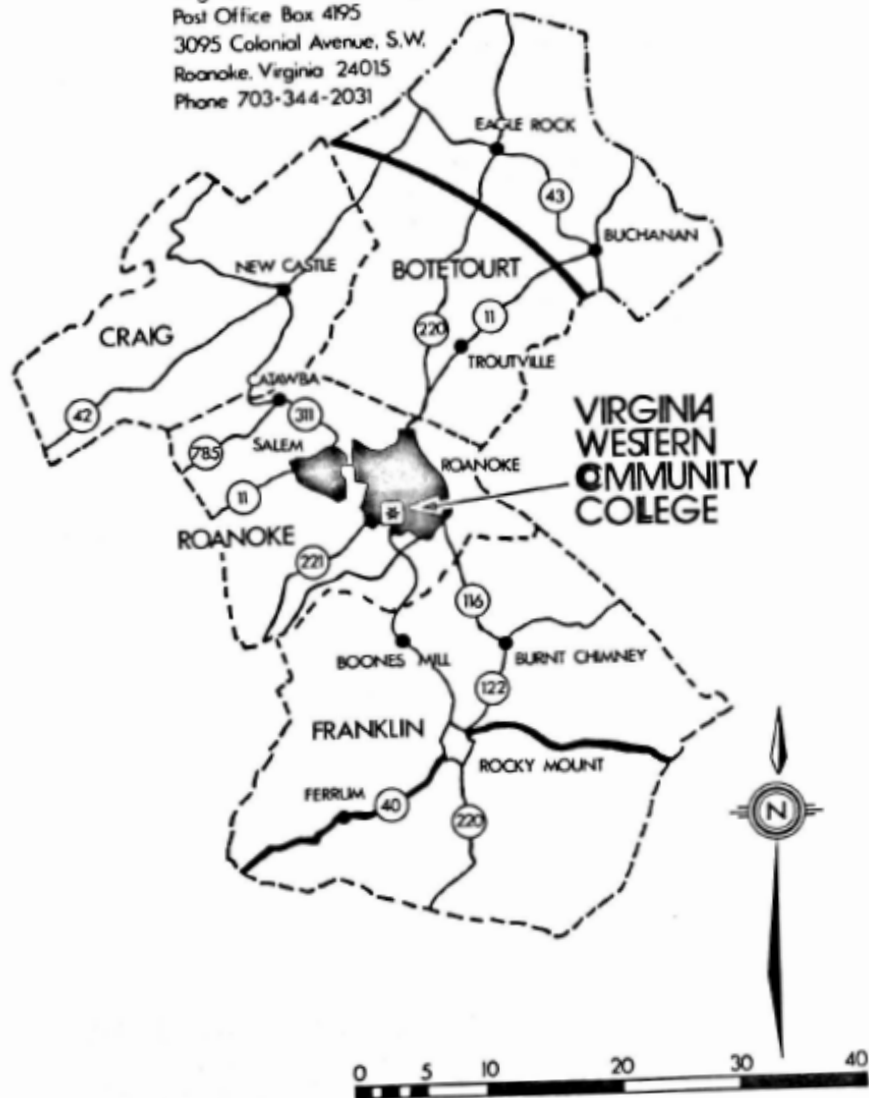
Registration - Day & Evening	Tuesday, March 7
Registration - Day Only	Wednesday, March 8
Night Classes Begin	Wednesday, March 8
Day Classes Begin	Thursday, March 9
Classes End	Wednesday, May 17 (5 PM)
Final Exams	Thursday, May 18 <u>thru</u> Wednesday, May 24 (5 PM)
Grades Due	Thursday, May 25
Graduation	Wednesday, May 31

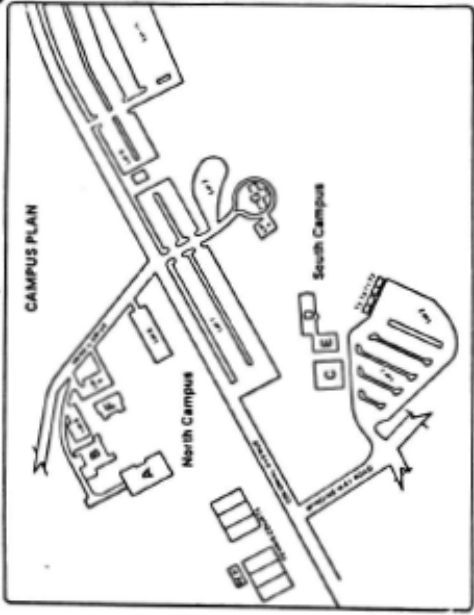
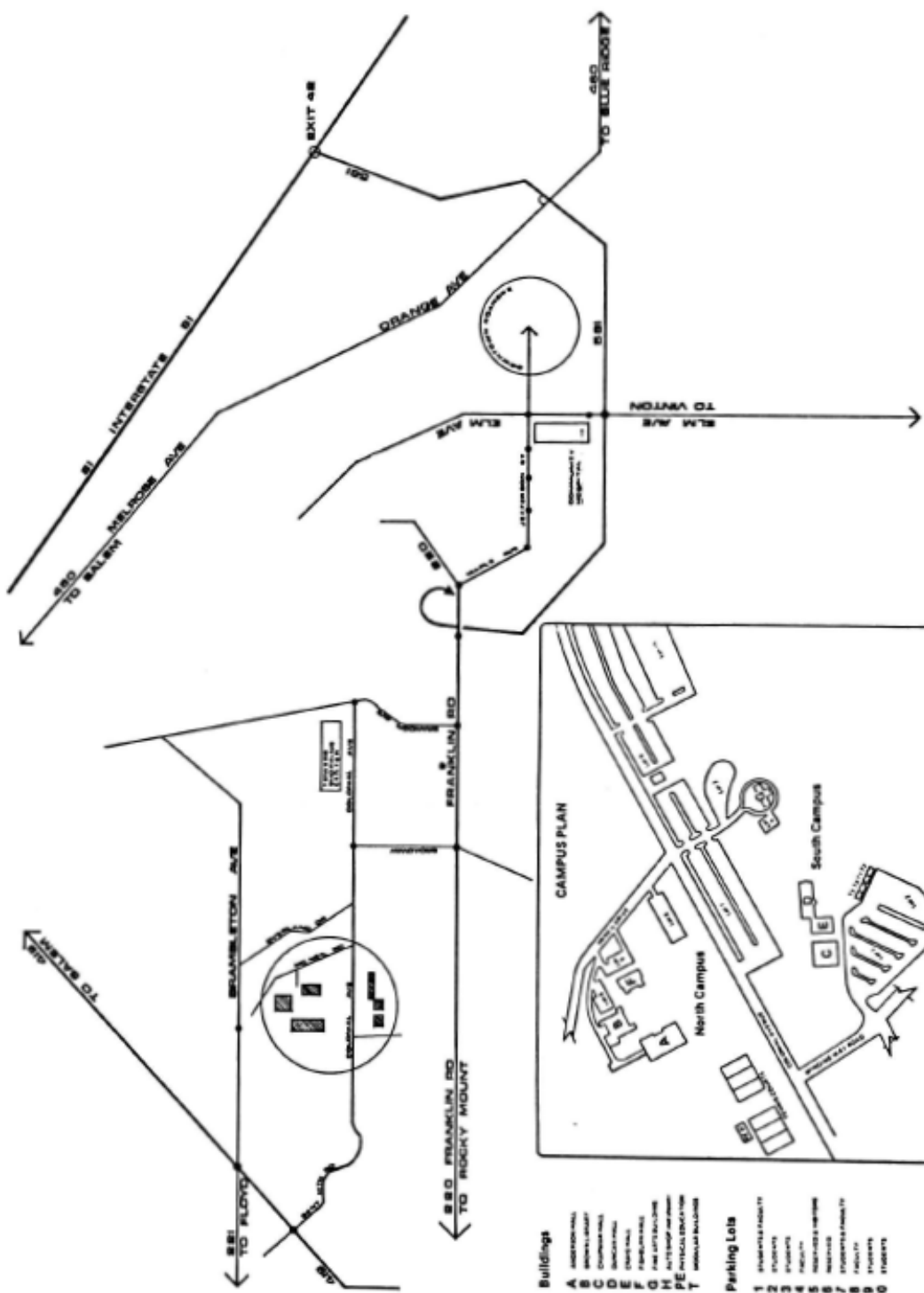
SUMMER QUARTER 1978

Registration	Thursday, June 8
Classes Begin	Monday, June 12
Classes End	Wednesday, August 23
Final Exams	Last Class Period
Grades Due	Thursday, August 24
Graduation	Sunday, August 27

Virginia Western Community College Area

Dr. Harold H. Hopper, President
Virginia Western Community College
Post Office Box 4195
3095 Colonial Avenue, S.W.
Roanoke, Virginia 24015
Phone 703-344-2031





Buildings

- A ADMINISTRATION
- B BUSINESS ADMINISTRATION
- C COMMUNICATIONS
- D COMPUTER CENTER
- E ENGINEERING
- F FINANCE
- G FOOD SERVICE BUILDING
- H HEALTH SERVICES
- PE PHYSICAL EDUCATION
- T TRUCKS

Parking Lots

- 1 FACULTY
- 2 STUDENTS
- 3 VISITORS
- 4 FACULTY
- 5 VISITORS
- 6 FACULTY
- 7 STUDENTS
- 8 FACULTY
- 9 STUDENTS
- 10 VISITORS

VIRGINIA WESTERN COMMUNITY COLLEGE

Contents

Calendar	7	Academic Suspension	23
PART I—GENERAL INFORMATION ...	13	Academic Dismissal	23
The College	13	Self-Advising	23
Location and Facilities	13	Repeating A Course	23
History	13	Examinations	23
Purpose	13	Academic Honors	23
Occupational-Technical Education	14	PART III—STUDENT SERVICES/ HANDBOOK	25
University Parallel—College Transfer Education ..	14	Counseling Services	25
General Education	14	Career Life Development Center	25
Continuing Adult Education	14	Testing	25
Cooperative Education Programs	14	CLEP	25
Developmental Programs	14	Orientation	25
Specialized Regional and Community Services ..	14	Financial Aid	25
Broadcasting Service	14	Application Procedures	26
Special Training Programs	14	Types of Financial Assistance	26
Recognition	14	Federal	26
PART II—ADMINISTRATIVE INFORMATION	15	State of Virginia	26
Admission Requirements	15	Private Scholarships	26
General Admission to the College	15	Employment	26
Student Permanent Record File	15	Veterans—Office of Veterans' Affairs	26
Admission to Specific Curriculums	17	Special Services	26
International Student—Admission Requirements	17	Food Services	27
Developmental Studies Program	17	Loss and Found	27
Residence Requirements	18	Student Health Services	27
Students Transferring from Other Colleges	18	Bulletin Boards	27
Students Transferring From One College in the Virginia Community College System to Another	18	Student Activities	27
Transfer Between Curriculums	18	Student Conduct	27
Students Applying for Credit or Waiver of Requirements	18	College Colors	28
Auditing a Course	18	College Rings	28
Classification of Students	18	Emergency Information	28
Regular Student	18	Smoking	28
Special Student	19	Suggestions, Grievances, Channels of Communications	28
Full-time Student	19	Statement of Student Rights, Responsibilities and Conduct	29
Part-time Student	19	PART IV—CURRICULUMS OF STUDY	35
Freshman	19	State and Regional Specialized Curriculums	35
Sophomore	19	Minimum Requirements for Associate Degrees ..	36
Senior Citizens	19	Curriculum Outlines	36
Expenses	19	PART V—DESCRIPTIONS OF COURSES	61
Application Fee	19	Continuing Education and Community Service Programs	61
Tuition	19	General Course Information	61
Transcripts	19	Course Numbers	61
Graduation Fee	19	Course Credits	61
Parking	19	Course Hours	61
Books and Materials	20	Course Prerequisites	61
Rules for Bookstore Refunds	20	Accounting	61
Tuition Refunds	20	Administration of Justice	62
Student Accounts	20	Air Conditioning and Refrigeration	62
Credits	20	Architectural Technology	62
Grading System	20	Arts	63
Grade Reports	21	Automotive Technology	64
Degrees, Diplomas, and Certificates	21	Biology	64
Graduation Requirements	21	Broadcasting	65
Associate Degree and Diploma Requirements .	21	Business Management and Administration	65
Certificate Requirements	22	Chemistry	66
Second Degree, Diploma, or Certificate	22	Civil Engineering Technology	67
Academic Regulations	22	Data Processing	67
Attendance	22	Dental	68
Change of Registration	22	Drafting	69
Academic Standing	23	Economics	69
Academic Warning	23	Education	70
Academic Probation	23	Electricity and Electronics	70
		Engineering	71

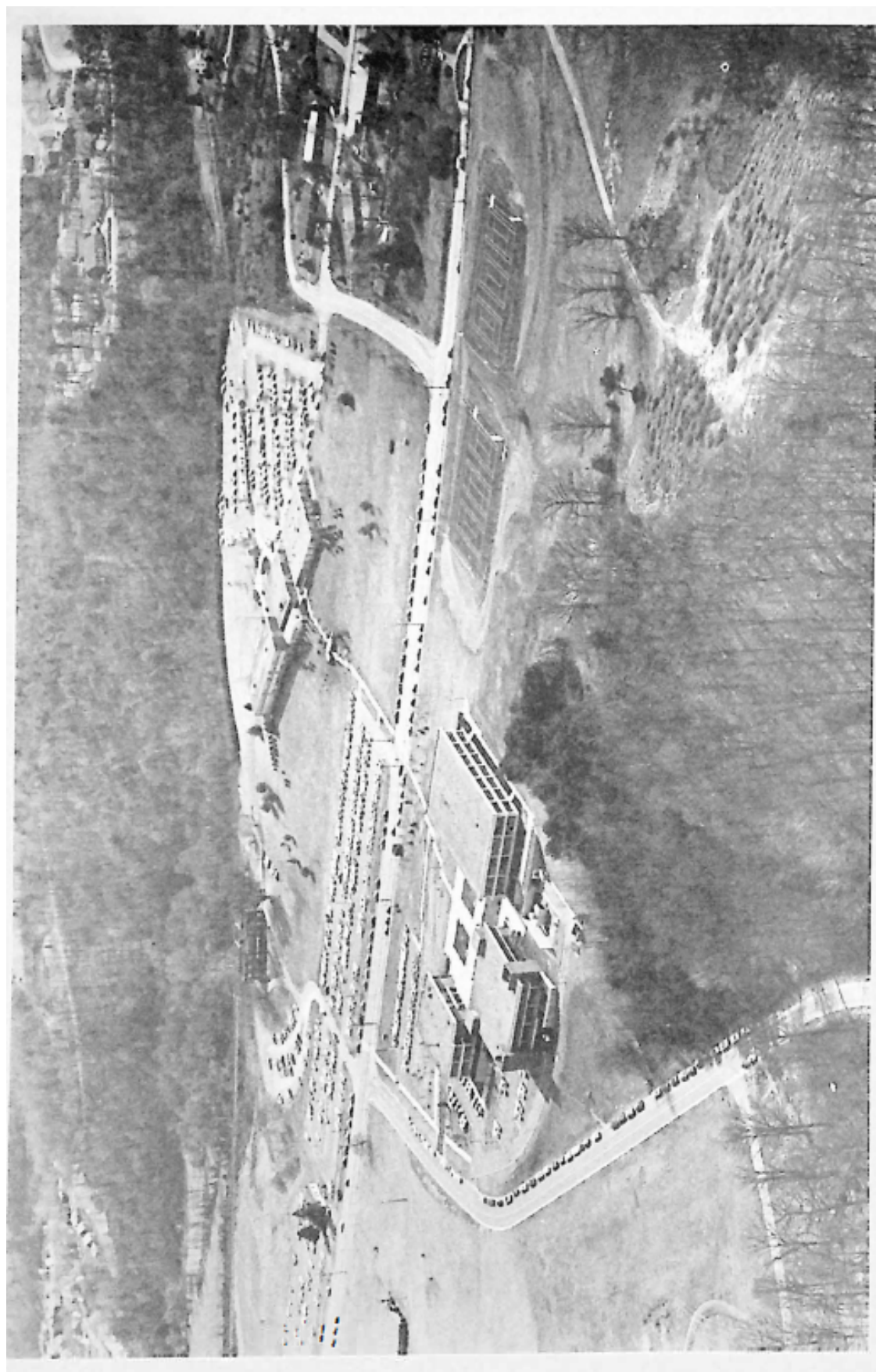
English	71
Fire Science	72
French	72
General Studies Courses	72
General Usage Courses	73
Geography	73
Geology	73
German	73
Government	73
Health	74
History	74
Hotel, Restaurant and Institutional Management	74
Humanities	75
Industrial	75
Marketing	76
Mathematics	77
Mechanical	78
Mental Health	78
Music	79
Natural Science	80
Nursing	80
Philosophy and Religion	80

Physical Education	80
Physics	80
Psychology	81
Radiology	81
Secretarial Science	82
Social Science	83
Sociology	83
Spanish	83
Speech and Drama	83
Welding	84

PART VI—STATE AND LOCAL ORGANIZATION

State Board for Community Colleges	85
Virginia Western Community College Board	85
Administrative Offices	86
Faculty and Staff	86

It is the student's responsibility to become completely familiar with the College regulations and other important material in this catalog.



CALENDAR

Fall Quarter

	1976	1977 (Tentative)
Contract Period Begins	Thur., Sept. 16	Fri., Sept. 16
Faculty Report	Thur., Sept. 16	Fri., Sept. 16
Orientation Day—New Students	Fri., Sept. 17	Fri., Sept. 16
Registration	Mon., Sept. 20 & Tue., Sept. 21	Mon., Sept. 19 & Tue., Sept. 20
Classes Begin	Sat., Sept. 25	Sat., Sept. 24
Drop/Add (Two Days Only)	Wed., Sept. 29 & Fri., Oct. 1	Wed., Sept. 28 & Fri., Sept. 30
Last Day for Withdrawal without Penalty	Fri., Oct. 15	Fri., Oct. 14
Last Day to Withdraw	Fri., Nov. 12	Fri., Nov. 11
Thanksgiving Recess	Thur., Nov. 25- Sat., Nov. 27	Thur., Nov. 24- Sat., Nov. 26
Classes End	Tues., Dec. 7	Tues., Dec. 6
Registration Winter Quarter	Wed. & Thur., Dec. 8-9	Wed. & Thur., Dec. 7-8
Final Exams	Fri., Dec. 10- Thur., Dec. 16	Fri., Dec. 9- Thur., Dec. 15
Faculty Work Day	Fri., Dec. 17	Fri., Dec. 16
Christmas Recess	Sat., Dec. 18- Sun., Jan. 2	Sat., Dec. 17- Mon., Jan. 2

1976

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1	2	1	2	3	4	5	6				1	2	3	4	
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30				26	27	28	29	30	31		
							31																				

1977

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3						1	1	2	3	4	5				1	2	3				
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			25	26	27	28	29	30	31	
							30	31																			

Winter Quarter

	1977	1978 (Tentative)
All Faculty Report	Mon., Jan. 3	Tues., Jan. 3
Registration for New Students and Drop/Add for Registered Students who failed Fall Courses	Mon., Jan. 3	Tues., Jan. 3
Classes Begin	Tues., Jan. 4	Wed., Jan. 4
Drop/Add (Two days only)	Thur., Jan. 6 & Mon., Jan. 10	Fri., Jan. 6 & Tues., Jan. 10
Last Day to Withdraw Without Penalty	Mon., Jan. 24	Tues., Jan. 24
Last Day to Withdraw from Class	Mon., Feb. 21	Tues., Feb. 21
Classes End	Mon., Mar. 14	Tues., Mar. 14
Registration Spring Quarter (Returning Students)	Tues., Mar. 15	Wed., Mar. 15
Last Day for Graduation Application	Tues., Mar. 15	Wed., Mar. 15
Final Exams	Wed., Mar. 16- Tues., Mar. 22	Thur., Mar. 16- Wed., Mar. 22
Faculty Work Day	Wed., Mar. 23	Thur., Mar. 23

1977

JANUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

FEBRUARY

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

MARCH

S	M	T	W	T	F	S
						1
		2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

1978

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

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

MARCH

S	M	T	W	T	F	S
						1
		2	3	4		
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Spring Quarter

1977

1978
(Tentative)

Registration for New Students and Drop/Add
for Registered Students who Failed

Winter Courses	Wed., Mar. 23	Thur., Mar. 23
Classes Begin	Mon., Mar. 28	Mon., Mar. 27
Drop/Add (Two days or 'y)	Wed., Mar. 30 & Fri., Apr. 1	Wed., Mar. 29 & Fri., Mar. 31
Last day to Withdraw Without Penalty	Mon., Apr. 18	Mon., Apr. 17
Classes End	Sat., June 4	Sat., June 3
Final Exams	Mon., June 6- Sat., June 11	Mon., June 5- Sat., June 10
Faculty Work Day	Mon., June 13	Mon., June 12
Graduation	Wed., June 15	Thurs., June 15

1977

MARCH

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

APRIL

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

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

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

1978

MARCH

S	M	T	W	T	F	S
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

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

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE

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

Summer Quarter (full 10 weeks)

	1977	1978 (Tentative)
Registration	Thur., June 16	Fri., June 16
Classes begin	Sat., June 18	Mon., June 19
Drop/Add (Two days only)	Mon., June 20 & Wed., June 22	Wed., June 21 & Fri., June 23
Independence Day Holiday	Mon., July 4	Tue., July 4
Last Day to Withdraw without Penalty	Fri., July 8	Mon., July 10
Classes End	Mon., Aug. 29	Tue., Aug. 29
Final Exams (Last Class or Last Two Class Periods)		
Faculty Work Day	Tue., Aug. 30	Wed., Aug. 30
Graduation	Fri., Sept. 2	Fri., Sept. 1

1977

JUNE

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

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

1978

JUNE

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

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Summer Quarter (Two five week terms with Double Class Periods)

FIRST TERM

1977

1978

(Tentative)

Registration	Thur., June 16	Fri., June 16
Classes Begin	Sat., June 18	Mon., June 19
Drop/Add (Two days only)	Mon., June 20 & Wed., June 22	Wed., June 21 & Fri., June 23
Last Day to Withdraw without Penalty	Tue., June 28	Wed., June 28
Independence Day Holiday	Mon., July 4	Tue., July 4
Classes End	Thur., July 21	Fri., July 21
Final Exams (Last Class Period)		
Faculty Work Day	July 22	Sat., July 22

SECOND TERM

Registration	Fri., July 22	Mon., July 24
Classes Begin	Mon., July 25	Tue., July 25
Drop/Add (Two Days Only)	Tue., July 26 & Wed., July 27	Wed., July 26 & Thur., July 27
Last Day to Withdraw without Penalty	Wed., Aug. 3	Thur., Aug. 3
Classes End	Mon., Aug. 29	Tues., Aug. 29
Final Exams (Last Class Period)		
Faculty Work Day	Tue., Aug. 30	Wed., Aug. 30
Graduation	Fri., Sept. 2	Fri., Sept. 1

1977

JUNE

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

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

1978

JUNE

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

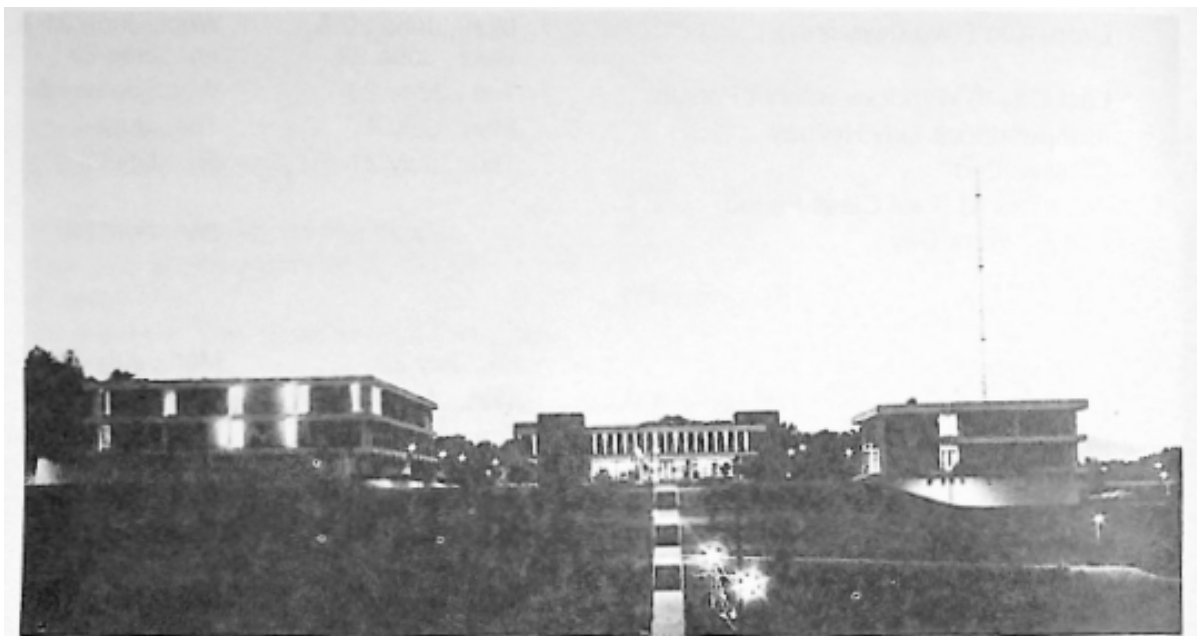
JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NORTH CAMPUS



SOUTH CAMPUS



PART I**GENERAL
INFORMATION****THE COLLEGE**

Virginia Western Community College is a two-year institution of higher education established under a state-wide system of Community Colleges in the Commonwealth of Virginia, and serving an area within driving distance of the City of Roanoke. This includes the cities of Roanoke and Salem, the southern portion of Botetourt County, the northern portion of Franklin County, and the counties of Craig and Roanoke. The areas covered have a population of approximately two hundred and fifty thousand, with a heavy projected growth within the next 25 years.

The College operates under the policies established by the State Board for Community Colleges and with the support and advice of a local Community College Board. It is financed primarily by State funds supplemented by Federal funds and by contributions from the various local political subdivisions, individuals, and businesses.

LOCATION AND FACILITIES

Virginia Western Community College is located in Southwest Roanoke at 3095 Colonial Avenue. The campus consists of 70 acres split roughly in half by Colonial Avenue.

The South Campus has four buildings which were acquired by Virginia Western from Roanoke Technical Institute in 1966. Chapman Hall houses laboratories for Civil, Electrical and Mechanical Technologies, Photography, and Radio and Television Production. The Electrical and Electronic Laboratories are located in Craig Hall. Duncan Hall contains facilities for the Mental Health, Nursing, and Radiologic Technology Programs in addition to general classrooms. The Fine Arts Center is occupied by the Music and Fine Arts Departments.

The North Campus has three buildings surrounding a mall planted with flowers and shrubs selected to bloom alternately in each of the four seasons. The smaller of these buildings, Fishburn Hall, is the Administration Building which also houses Business Science classrooms, the Office of Continuing Education, the Cooperative Education Office, and the WWR-FM Radio Station. Opposite is the Science Building, Anderson Hall, containing laboratories and equipment of the most modern design, a Dental Laboratory, Reading Laboratory, classrooms, Office of Veterans' Affairs,

Special Services Office, and faculty and counselors' offices. In the center is Brown Library with its 41,690 volumes, a Learning Laboratory, Language Laboratory, Career Life Development Center and Auditorium on the second floor. The Admissions and Records Offices, Counseling Center, Audio-Visual Department, and the Bookstore are located on the ground floor.

The campus was dedicated on October 23, 1969, and its buildings were named for men of Southwestern Virginia influential in education or in the development of the region.

HISTORY

Since 1927, the Extension Division of the University of Virginia, its programs under the direction and supervision of the University, has served students in the Roanoke Valley. In 1960, the area's educational opportunities were further expanded by establishment of the Roanoke Technical Institute, its programs an extension of Virginia Polytechnic Institute. In February 1966, by authorization of the General Assembly of Virginia, these two facilities were combined into the comprehensive institution of higher education now known as Virginia Western Community College with the University of Virginia continuing to offer its upper division program.

PURPOSE

Virginia Western Community College is dedicated to the belief that each individual should be given a continuing opportunity for the development and extension of his skills and knowledge along with an opportunity to increase his awareness of his role and responsibility in society. The College is devoted to serving the educational needs of its community and assumes a responsibility to help meet the requirements for trained manpower in the region through a cooperative effort with local industry, business, professions, and government.

Various opportunities are provided for post high school age youth and adults. These include high quality instructional programs at the associate degree level and at the preparatory or foundations level. A strong guidance and counseling program and other student services are also provided to help each student make sound decisions regarding his occupational, educational, and personal-social plans.

Virginia Western Community College is a comprehensive institution of higher education, offering programs of instruction generally extended not more than two years beyond the high school level. Programs include:

1. **Occupational-Technical Education.** The occupational and technical education programs are designed to meet the increasing demand for technicians, semiprofessional workers, and skilled craftsmen for employment in industry, business, the professions, and government. The curricula are planned primarily to meet the needs for workers in the region being served by the College.
2. **University Parallel-College Transfer Education.** The university parallel-college transfer program includes college freshman and sophomore courses in arts and sciences and pre-professional programs meeting standards acceptable for transfer to baccalaureate degree programs in four-year colleges and universities.
3. **General Education.** The programs in general education encompass the common knowledge, skills, and attitudes needed by each individual to be effective as a person, a member of a family, a worker, a consumer, and a citizen.
4. **Continuing Adult Education.** Adult education programs are offered to enable the adults in the region to continue their learning experiences. This work includes both degree credit and non-degree credit work during the day and evening hours.
5. **Cooperative Education Programs.** Cooperative Education Programs are designed to enrich the student's total development by integrating classroom study with well planned and supervised practical work experience.
The programs provide a solid foundation for career planning and vocational guidance by giving the student the opportunity to gain an understanding of the work related to his career objectives.
6. **Developmental Programs.** Developmental programs are offered to help prepare individuals for admission to the occupational-technical program and to the university parallel-college transfer program in the community college. These programs are designed to help the individual develop the basic skills and understanding necessary to succeed in other programs of the community college.
7. **Specialized Regional and Community Services.** The facilities and personnel of the College are available to provide specialized services to help meet the cultural and educational needs of the region served by the community college. This service includes the non-classroom and non-credit programs, cultural events, workshops, meetings, lectures, conferences, seminars, and special community projects which are designed to provide needed cultural and educational opportunities for the citizens of the region.
8. **Broadcasting Service.** WVWR-FM, Virginia Western's stereo non-commercial public radio station, went on the air in August of 1973. The station increased its power to 100,000 watts in September 1975 in order to serve additional community colleges and communities outside the Roanoke Valley. The purposes of the station are to extend the educational resources and activities of the College and the Virginia Community College System to the community, and to provide an educational, informational, and cultural service not presently available. WVWR-FM provides attractive, challenging programming that involves its listeners as completely as possible in the learning experience. The radio station offers programs such as news and public affairs from the National Public Radio Network, college courses for credit, educational enrichment programs, music ranging from jazz to classical, and discussions on important contemporary subjects. The radio station broadcasts every day of the year on 89.1 MHz. Studios and offices are located on the campus in Fishburn Hall.
9. **Special Training Programs.** Special training may be provided where specific job opportunities are available for new or expanding industries. This special training shall be coordinated with Virginia's economic expansion efforts and with the needs of employers.

RECOGNITION

The College is a division of the Virginia Community College System and is approved by the State Board for Community Colleges and by the State Department of Community Colleges in Virginia. The Associate Degree Programs of the College have also been approved by the State Council of Higher Education for Virginia. The College was given full academic accreditation by the Southern Association of Colleges and Schools in December 1969.

The College has institutional membership in the American Association of Community and Junior Colleges and has been approved by the Veterans Administration for V.A. assistance and by the U. S. Office of Education for various federal funding programs.

The College is listed among the approved institutions of higher education in the Education Directory of the U. S. Office of Education.

PART II**ADMINISTRATIVE
INFORMATION****ADMISSION REQUIREMENTS**

The College does not discriminate on the basis of race, color, religion, sex, age, national origin, physical disability, political affiliation or other non-merit factors and is in compliance with applicable civil rights legislation.

General Admission to the College

Any person who has a high school diploma or the equivalent, or who is 18 years of age, and in any case is able to benefit from a program at the College may be admitted as a regular student when the following items have been received by the Office of Admissions:

1. A completed "Application for Admission as a Regular Student";
2. A \$5.00 application fee (non-refundable unless the requested program or course is not offered);
3. Official transcripts from all high schools, colleges and universities attended;
4. Regular health form;
5. Student data form.

For all special students, the following items are required:

1. A complete official application for admission;
2. A \$5.00 application fee (non-refundable unless the requested program or course is not offered);
3. Health form;
4. Student data form.

The College reserves the right to evaluate special cases and to refuse admission to the applicants when considered advisable in the best interest of the College.

Prior to admission every applicant will be required to meet with a College counselor (a) to discuss his educational interests, (b) to determine what additional tests may be needed, (c) to plan admission to a specific curriculum or program, and (d) to examine other reasonable standards to insure that the applicant possesses the potential to meet program requirements.

Students entering the College may be required to take a diagnostic test battery. The test battery is normally administered at the College prior to registration and is used to

assist the counseling staff in placing students in an appropriate level of instruction.

Persons wishing to apply for the non-credit community service programs should contact the College's Office of Continuing Education for additional information.

Student Permanent Record File

The Office of Admissions and Records at Virginia Western Community College maintains a file for each student attending, or who has attended, the College. This file contains the following:

- A. High school transcripts and GED records (M)
- B. Other college transcripts and evaluations (M)
- C. Application and fee receipts (M)
- D. Health form
- E. VWCC permanent record card (M)
- F. Correspondence with student
- G. Test scores (academic) (M)
- H. Acceptance to curriculum and advisor assignment form
- I. Curriculum change form
- J. Address change form
- K. Grade change form
- L. Requests for transcripts (M)
- M. Graduation fee receipts

The Coordinator of Admissions and Records is the official in charge of student records. Administrators, counselors, and faculty who have need to see student records to assist an individual in his or her academic pursuits have access to these records. All others are required to have written permission from the student.

The permanent files of students are microfilmed after a student has not been in attendance for two quarters (excluding the summer term). The items retained are marked on the above list with the letter "M."

In order for a student to review his or her file, a request must be made to the Coordinator of Admissions and Records who will arrange to review the file with the student.

If a student finds that statements or other information contained in his file is—to his knowledge—incorrect, the following procedure should be followed to clarify the situation.

- A. The student will call the Coordinator's attention to any possible errors.
- B. If the Coordinator finds the item or items to be in error, he will initiate corrective action.
- C. If the Coordinator cannot resolve the problem, it will be referred to the Dean of Academic and Student Affairs for review



and further action. The student will be informed of any action taken.

Cost of copying file material shall be a minimum of \$1.00 for up to four (4) pages, with an additional charge of \$.25 per page for copies in excess of four (4) pages. These costs apply to each request.

The information considered "Directory information" and, therefore, available to anyone requesting such information shall include the following:

- A. Name and address
- B. Name of program
- C. Date of attendance

Admission to Specific Curriculums

The specific requirements for each curriculum in the College are listed in the Curriculum Offerings section of the catalog. The College reserves the right to make changes in program and/or course requirements. A current Curriculum Guide Sheet (form C-3) detailing elective and required courses is made available to each student by the Student Development Staff. Any deviation requires Divisional approval. Persons who do not meet the requirements for a specific curriculum or course may be eligible to enter the curriculum or course after they have completed a developmental studies program and/or prerequisites.

International Student—Admission Requirements

In addition to the general requirements of the College, all international students must demonstrate proficiency in both written and oral English.

Written English proficiency may be demonstrated by submitting scores on either the "Test of English as a Foreign Language" (TOEFL—administered by the College Entrance Examination Board, Princeton, N.J.) or the Virginia Western Placement Test. Normally, the required score for acceptance on the TOEFL is 500 and on the English Placement Test the required score is 75. If these preliminary scores are acceptable, the applicant must also demonstrate, by personal interview at the College, oral proficiency both in speaking and understanding the English language. If a personal interview is not possible, a letter which testifies to the student's oral proficiency will be acceptable. This must be executed by an official of the U. S. Government residing in the student's native country. TOEFL scores must be submitted along with the application for admission by applicants not now residing in this country.

In the event that test scores and interview

results indicate minimum acceptable levels of proficiency they will be required to complete non-college credit developmental courses prior to acceptance to a particular curriculum.

As the policy of the U. S. Immigration Department states, international students must show proof of how financial responsibility will be met.

Developmental Studies Program

A Developmental Studies Program is offered to assist individuals in the acquisition of the necessary knowledge and skills for entry into one of the programs of the College. After a close analysis of the high school transcript, test scores, and a personal interview with a College counselor students may be identified for inclusion in a Developmental Studies Program.

Specialized teaching methods permit students to progress through the area of their weakness at their own rate. Personnel in the Learning Laboratory and other faculty are available for individualized assistance to students.

A grade of "S" is awarded when all objectives required for each course are completed. A grade of "R" is awarded when students are making satisfactory progress but have not yet mastered all course objectives. Students receiving a grade "R" must re-enroll for that course the following academic quarter. A grade of "U" indicates that students have failed to show interest or application in their studies. Students receiving a "U" will be required to discuss their program of studies with a counselor and may not be permitted enrollment the following two academic quarters.

Sample Developmental Studies Program

COURSE NUMBER	COURSE TITLE	CREDITS
ENGL 01	Verbal Studies	5
ENGL 08	Reading Improvement	5
MATH 05	Developmental Math or other Math Sequence	5
GENL 100	Orientation	1
GENL 198	Study Skills	1
GENL 298	Personal/Career Development	2
		16-17

Those students who have shown marginal progress in mathematics, either from test scores or high school grades, will be placed in Math 05. Students with a deficiency in high school algebra will be placed in the Math 31, 32, 39 sequence. While the Grading System of the College will be applied, the grades earned in these mathematics courses will not be computed in the student's grade point average.

A student may not repeat a Developmental Level Course more than once without the approval of the Director of Student Development. A failure to remove all academic deficiencies within four academic quarters subjects the student to "Academic Suspension."

Residence Requirements

Applicants will be required to submit a residence affidavit to determine state residency eligibility for tuition purposes. Questions concerning residency requirements should be directed to the Coordinator of Admissions and Records.

When enrollments must be limited for any curriculum or course, first priority must be given to all qualified students who are residents of the political subdivisions supporting the College, provided such students apply for admission to the program a reasonable length of time prior to registration. The priority is as follows: (1) residents of the political subdivisions supporting the College, (2) other Virginia residents, (3) out-of-state and foreign students.

Students Transferring from Other Colleges

Usually a student transferring from another college who is eligible for reentrance at the last college shall be eligible for admission to this College.

It is the role of the College to help each student succeed in a program from which he can benefit. Counseling and testing services are available to help students select a program appropriate to his interests and abilities. If a transfer student is ineligible to return to a particular curriculum in a previous college, generally he will not be allowed to enroll in the same curriculum in the College until two quarters elapse or until he completes an approved developmental program at the College. The Admissions Committee of the College shall decide on each case and usually shall impose special conditions for the admission of such students, including placement on probation.

Each student transferring from another college should contact the Student Development Office for an assessment of credits in order to determine his standing before registering for classes. Generally no credit will be given for courses with grades lower than "C". A transfer student may be advised to repeat courses if it is clearly to his advantage to do so in order to make satisfactory progress in his curriculum.

Students Transferring from One College in the Virginia Community College System to Another

Students transferring from one community college to another within the System are not required to pay additional application fees after they have paid the first application fee in the System. A student transferring within the Community College System will not be charged a fee for transcripts sent to the community college to which he is transferring.

When a student transfers from one community college to another within the System, his grades and grade-point average (GPA) are transferred with his record; and his quality points for the courses previously taken are utilized in the computation of his cumulative grade-point average (GPA).

Transfer Between Curriculums

No changes in program or curriculum can be made without the approval of the Counseling Services and the instructional division to which transfer is requested.

Students Applying for Credit or Waiver of Requirements

Students who have reason to believe that previous educational studies, training programs, work experience or test results may entitle them to an adjustment in the course requirements for a particular curriculum should contact the Coordinator of Admissions and Records to determine procedures before registering for classes.

Auditing A Course

Degree candidates usually may not audit required courses prior to taking the course for credit.

Students desiring to attend a course without taking the examination or receiving credit for the course may do so by obtaining signatures of both the instructor and division chairman. Students desiring to change status in a course from audit to credit or credit to audit must do so the first week of the quarter.

Audited courses carry no credit but may count as a part of the student's course load.

CLASSIFICATION OF STUDENTS

All students are classified according to the following categories:

Regular Student.

1. A full-time or part-time student working toward completion of an associate degree, diploma, certificate, or developmental program.

2. A full-time or part-time student taking credit courses for transfer to another college or university.

Special Student.

1. A part-time student taking course(s) as audit for no credit;

2. A high school student who, with the permission of his school principal, is concurrently enrolled in a college course;

3. A part-time student not enrolled in an associate degree, diploma, or certificate program who may be taking a course(s) for credit (such students may later apply to the College for admission to a program as a regular student);

4. A student who has not yet fulfilled all of the requirements as a regular student but who is admitted under special consideration by the Admissions Committee of the College. It is expected that such students would fulfill all requirements within three weeks of the commencement of the quarter or face dismissal from the College.

Full-time Student. A student is considered a full-time student if he is carrying 12 or more course credits.

Part-time Student. A student is considered a part-time student if he is carrying less than 12 course credits.

Freshman. A student is classified as a freshman until he has completed 45 course credits in his designated curriculum.

Sophomore. A student is considered a sophomore after he has successfully completed 45 or more course credits. Transferred credits are included providing they apply toward meeting the requirements of the student's curriculum.

Senior Citizens. Persons over the age of 62 years may enroll for both credit and non credit courses without charge so long as their taxable income for the previous tax year was less than \$5,000 and so long as all tuition paying students are not denied admission to the class(es) in question.

EXPENSES

Application Fee

An application fee of \$5.00 must accompany the application for admission to the College for each student. This fee is not applicable to tuition, nor refundable unless the requested program is not offered.

Tuition

Full-time Student (12 or more credits)	
Virginia Resident	\$100.00
Out-of-State Resident	335.00
Part-time Student (less than 12 credits):	
Virginia Resident	\$ 8.50 per credit (or equivalent)
Out-of-State Resident	28.00 per credit (or equivalent)

A Virginia resident is one who has been domiciled in, and is and has been an actual bona fide legal resident of Virginia, for a period of at least one year prior to the commencement of the quarter for which he is enrolling.

Payment of tuition also enables the student to use the library, bookstore, parking lot, student lounge and other facilities of the College. There are no special laboratory or library fees, but students are expected to pay charges for any college property which they damage or lose (such as laboratory or shop equipment, supplies, library books and materials). There may be special fees from time to time (such as Physical Education fees).

Transcripts

Student transcripts must be requested in writing at the Admissions and Records Office.

There is a charge of \$1.00 for the first transcript and \$1.00 for each additional transcript. (An official transcript is one which is sent by the College and bears the College seal; an unofficial transcript is one without the seal and will be given to the student with "UNOFFICIAL" stamped on it.)

Graduation Fee

A graduation fee of \$10.00, payable at the beginning of the last quarter of instruction, is charged each graduating student.

Parking

The use of an automobile in the campus area by any student registered at this College is regarded as a privilege and not as a right. Students who wish to use the College parking facilities must apply for a permit during registration or from the Business Office.

A thorough understanding of the regulations regarding parking is important. Violations may result in needless expense and inconvenience. Student parking on the College campus is permitted only in the spaces marked in white; faculty and reserved spaces are marked in yellow. The College assumes no responsibility for the care or protection of any

vehicle or contents at any time it is operated or parked on campus.

Books and Materials

Students are expected to obtain their own books, supplies, and consumable materials needed in their studies. It has been estimated that the cost of these items will average \$50 per quarter for the average full-time student. The Bookstore, located on the ground floor of Brown Library, provides a modern, convenient place to obtain books and supplies. A complete line of textbooks, supplies, art material and general merchandise is available.

Rules for Bookstore Refunds

The Bookstore Manager is the only authorized person who can accept books for refund. Books returned for refund are subject to inspection and must be in new condition with no marking or other damage. The cash register receipt must be presented with the book for a refund. The book must be presented to the Bookstore Manager within two weeks from date of purchase (date shown on cash register receipt) to be considered for a refund. Refunds are made by check, and the check will be mailed to the student.

Refunds will be made only if the course is cancelled, the course is dropped (drop slip must be presented), or the incorrect book is purchased. All books with misprint, pages missing, or other publishing mistakes may be exchanged at any time for the same book by presenting the cash register receipt.

Tuition Refunds

1. Regular Sessions and summer sessions
 - a. Full tuition will be refunded for credit hours dropped below 12 credit hours when dropped during first week of classes.
 - b. One-half tuition will be refunded for credit hours dropped below 12 credit hours when dropped during second week of classes.
 - c. No refunds of any type will be given after two weeks of classes.
2. Special Sessions

For any sessions less than the standard short summer sessions, one-half refund on or before the first day of classes will be given; no refund will be given after that day.
3. Eligibility

The drop must be completed within the above time frame to be eligible for a refund. The student must complete a Student Schedule Change Form dropping the class. Appropriate signatures must

be obtained and the form must be received and dated in the office of Admissions and Records.

Student Accounts

No transcripts, certificates, diplomas, or degrees will be issued, nor will students be permitted to complete registration, until accounts are satisfactory to the Business Office, Bookstore, and Library.

CREDITS

A credit is equivalent to one collegiate quarter hour credit or two-thirds of a collegiate semester hour credit. Usually one credit for a course is given as follows:

1. One hour of lecture plus an average of two hours of out-of-class study, or
2. Two hours of laboratory or shop study plus an average of one hour of out-of-class study, or
3. Three hours of laboratory or shop study with no regular out-of-class assignments.

Fixed credit and variable hours with behavioral objectives are assigned to each Developmental Studies Course (courses numbered 01-09).

Variable Credit (1-5 credits) is assigned to all Supervised Study, Seminar and Project, and Coordinated Internship courses.

GRADING SYSTEM

A	Excellent	4 grade points per credit
B	Good	3 grade points per credit
C	Average	2 grade points per credit
D	Poor	1 grade point per credit
F	Failure	0 grade points per credit
R	Re-enroll	No credit. While student is making satisfactory progress, course objectives have not been completed. Students are required to re-enroll to complete course objectives. (Used only for courses numbered 01 through 09.)
S	Satisfactory	No credit. Student successfully completed course objectives. (Used only for courses numbered 01 through 09.)
U	Unsatisfactory	No credit. Student is not making satisfactory progress. Student may not be considered for readmission for two

academic quarters excluding summer. (Used only for courses numbered 01 through 09.)

W	Withdrawal	No credit. A grade of withdrawal implies that the student was making satisfactory progress in the courses at the time of his withdrawal or that the withdrawal was officially made before the end of the third week of the quarter. A grade of "F" will be awarded for any withdrawal after the seventh week except in the case of an administrative withdrawal.
I	Incomplete	No credit. A grade of incomplete is assigned only in cases of the student's absence from a limited number of class sessions near the end of a term or absence from the final examination and when the absence is for a verifiable unavoidable reason; i.e., sickness verified by medical statement, accident verified by police records, etc. An "Incomplete" must be academically removed during the quarter following the issuance of that grade or it will revert to an "F" grade. Special permission for an extension of time may be given by the Dean of Academic and Student Affairs.
X	Audit	No credit. Permission of the instructional department is required to audit a class.

The grade point average (GPA) is determined by dividing the total number of grade points earned in courses by the total number of credits attempted.

Grade Reports

Final grade reports are furnished the student at the end of each quarter. These final grades are a part of the student's record and are recorded on the student's permanent file.

DEGREES, DIPLOMAS, AND CERTIFICATES

The College offers the following degrees, diplomas, or certificates for students who successfully complete approved programs at the College.

1. **Associate in Arts Degree (AA)** is awarded to students majoring in the Liberal Arts. Students receiving an AA generally transfer to four-year colleges or universities.

2. **Associate in Science Degree (AS)** is awarded to students majoring in specialized curriculums such as Business Administration, Engineering, Education and Science. Students receiving an AS generally transfer to four-year colleges or universities.

3. **Associate in Applied Science Degree (AAS)** is awarded to students majoring in an occupational-technical curriculum. Students receiving an AAS may elect to transfer to selected four-year colleges or universities or to pursue immediate employment.

4. **Diploma** is awarded to students who complete a two-year non-degree occupational curriculum.

5. **Certificate** is awarded to students who complete an approved, non-degree curriculum which is usually less than two years in length.

GRADUATION REQUIREMENTS

With the exception of Summer Quarter, if a student is out for two or more quarters normally the catalog under which he returns becomes the catalog under which he graduates.

Attendance at the formal graduation exercise is required of all students meeting the academic standards for an associate degree, diploma, or certificate program. Request for waiver of this requirement must be submitted in writing to the President of the College for his consideration.

Associate Degree and Diploma Requirements

To be awarded an Associate Degree from the College, a student must:

1. Have fulfilled all of the course requirements of his curriculum as outlined in the College catalog;

2. Have been recommended for graduation by the appropriate instructional authority in his curriculum;

3. Have completed at least 97 credits applicable to an associate degree of which 20% of the classroom credits must be acquired at the College;

4. Have earned a grade point average of at least 2 on all courses attempted which are

applicable toward graduation in his curriculum;

5. Have filed an application for graduation in the Office of Admissions and Records;

6. Have resolved all financial obligations to the College and returned all library and other college materials.

Certificate Requirements

If a student successfully completes a program of instruction which does not lead to an associate degree or diploma, he may be awarded a certificate. No less than 50 percent of the class credits must be earned at the college. Also, if he pursues a degree or diploma program but is unable to complete the degree or diploma requirements, he may, upon the recommendation of the appropriate instructional division and the Dean of Academic and Student Affairs be issued a certificate provided the portion of study successfully completed is equivalent to an approved certificate program offered at the College.

Second Degree, Diploma, or Certificate

In awarding students an additional certificate, diploma, or degree, the College may grant credit for all previously completed applicable courses which are requirements of the additional certificate, diploma, or degree.

ACADEMIC REGULATIONS

In order to achieve and maintain academic standards, levels of responsibility must be established for each student. Students should use the following policies and regulations to guide them in achieving their full academic potential while at Virginia Western.

A faculty member may be designated as advisor to provide academic and educational assistance in the student's field of specialization. The faculty advisor may be helpful in providing information on the knowledge and skills needed along with information on the job opportunities in your field.

The College attempts to keep the student informed of his academic standing. Students will be notified if they are academically deficient and when they have regained acceptable academic standing. The College will assist the student in meeting the academic standards of the institution and to ultimately attain graduation.

The normal academic load is 15-17 credits. The minimum full-time load is 12 credits and the normal maximum full-time load is 18 credits. To carry an academic load of more than 18 credits, students must have a 3.0 average or higher and must have the approval of the Coordinator of Admissions and Records or the Director of Student Development. Students on "Academic Probation" will not be

permitted to register early. Rather, they will be required to register with students at the beginning of the subsequent quarter. This will give students the opportunity to seek assistance from members of the Counseling Staff in an effort to regain good academic standing.

Attendance

Registration in a course presupposes that regularly scheduled classes and laboratory sessions will be attended. When absence from a class becomes necessary it is the responsibility of the student to inform the instructor prior to the absence. Frequent unexplained absences may result in dismissal from a course.

The student is responsible for making up all work missed during an absence. If a student fails to appear for a test or final examination he should contact the instructor. The granting of individual requests for late examinations is left to the discretion of the instructor involved.

The classroom and laboratory are central to the education programs of the College, and require regular attendance to achieve the learning goals of those programs. Any instruction missed and not made up may, regardless of the reason for the absence, affect the grade of the student concerned.

Change of Registration

In all cases students should follow established procedures for making any changes in their programs after registration. Failure to do so could place their college record in jeopardy.

1. Withdrawal from a course:

A student does not receive a "W" automatically if he stops attending class. HE MUST FILE A Student Schedule Change Form with the Office of Admissions and Records.

2. Addition of a course:

In most cases a student may not enter a new class after the first week of instruction. Any request for entry after this period will be considered by the instructor concerned and the Dean of Academic and Student Affairs.

3. Withdrawal from the College:

A student who wishes to withdraw from the College should contact a counselor to determine the appropriate procedure. Failure to follow established procedures could place the student's college record in doubt and prejudice his return to this or another college.

A three quarter history of withdrawals, either student or instructor initiated, from two or more courses after the third week of any quarter, whether at the developmental or college level, constitutes a lack of normal progress. Such action subjects the student to Academic Suspension.

ACADEMIC STANDING

Students are judged to be in "good standing" as long as you are eligible to continue in attendance in accordance with the following:

Academic Warning

Any student who fails to attain a minimum grade point average of 2.0 for any quarter, or who fails any course, will receive an Academic Warning. This action serves to alert the student that satisfactory academic progress is not being made. The statement "Academic Warning-Please see Counseling Services" is printed on the grade report.

Academic Probation

Any student who fails to maintain a cumulative grade point average of 1.50 will be placed on "Academic Probation." The statement "Placed on Academic Probation" will be printed on the student's permanent record.

Academic Suspension

The student on Academic Probation who fails to attain a grade point average of 1.50 for the next quarter in attendance will be placed on "Academic Suspension." The statement "Academic Suspension" will be placed on the student's permanent record. Academic suspension is normally for two quarters unless, with good cause, the student reapplies, and is accepted under special conditions for re-admission by the Admission Committee of the College.

Academic Dismissal

A student on "Academic Suspension" who fails to attain at least a 2.0 average for the quarter following reinstatement to the College will be "Academically Dismissed." The statement "Placed on Academic Dismissal" will be placed on the student's permanent record. Dismissal is normally permanent unless, with good cause, the student reapplies, and is accepted under special consideration for re-admission by the Admission Committee of the College.

The above criteria become effective after the student has attempted 24 non-developmental credits. The following criteria defines, in the interim, normal progress as having earned a grade of "S" in English 01 and/or 08 and/or Mathematics 01/05 with no more than one repeat in the course(s) or a 2.0 repeat average for any combination of Mathematics 31, 32, and 39 with no more than one repeat in any course. Any student requiring more than one quarter in any of these courses will have made available the services of a tutor. Counseling Services personnel will contact each student who fails to earn an "S" or "C" grade in the

second attempt at the course and will counsel with the student regarding programs with less stringent mathematical, English, and/or reading requirements.

Self Advising

Students currently enrolled in a curriculum and who:

1. Have completed, through the last quarter of attendance, thirty (30) or more credits with a 2.50 grade point average.
2. Are officially in an academic curriculum as reflected on the last quarter grade report. (Bring last quarter's grade report to registration).
3. Plan to enroll for nine (9) or fewer credits.

may "self-advise." Students do not have to have the approval of a counselor or faculty advisor in order to register; however, the above information will be verified at the time of registration.

NOTE: Any deviation from your prescribed course of study as outlined in the College Catalog and on the Curriculum Guide Sheet [C-3 Form available in Counseling Services] will result in the reduction and/or loss of veterans or financial aid assistance.

Repeating a Course

If a course is repeated one or more times for credit, only the last repetition is counted toward graduation.

Examinations

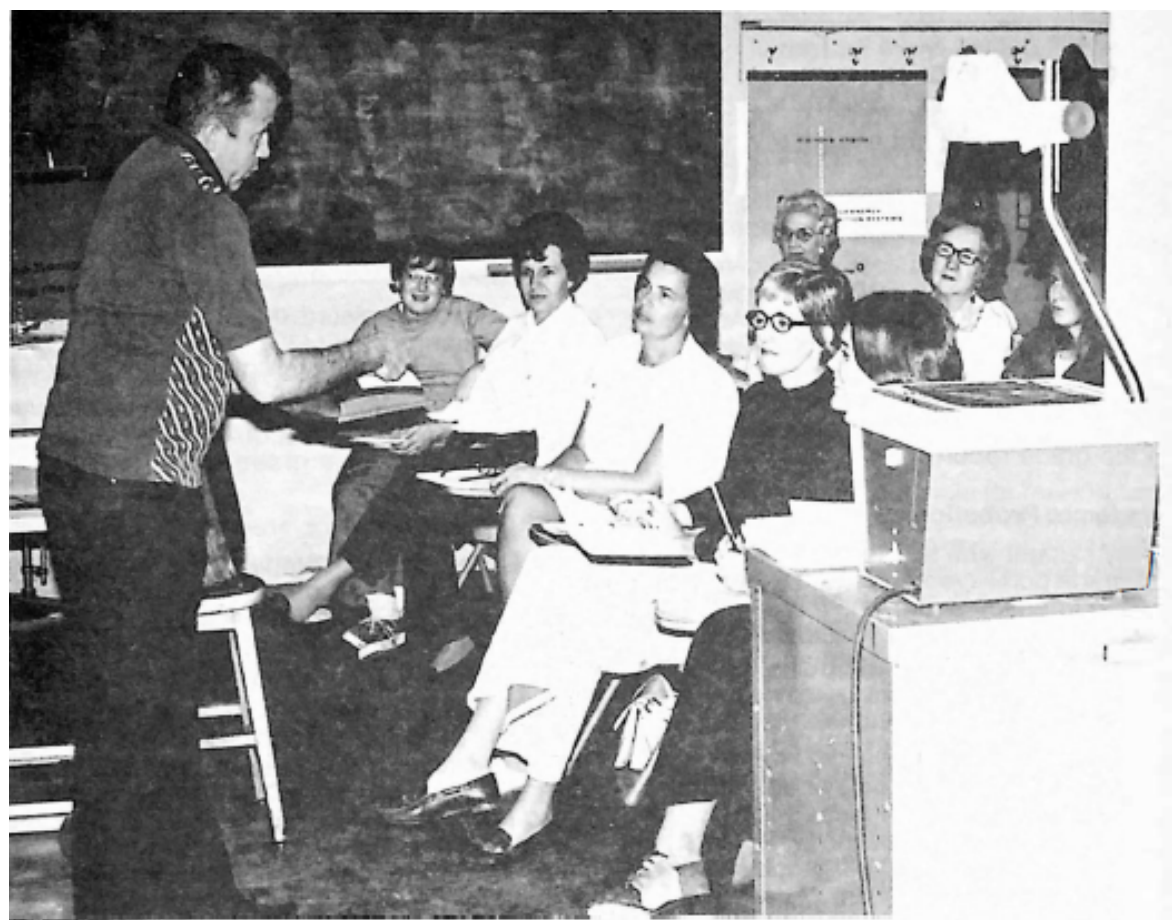
All students are expected to take their examinations at the regularly scheduled times. No exceptions will be made without the permission of the Dean of Academic & Student Affairs and the instructor of the class.

Academic Honors

At the end of each quarter the Dean's List is prepared, recognizing all regular full-time students who earned a grade point average of 3.2 or better. Regular full-time students who earned a grade point average of 3.5 or better are placed on the President's Honor Roll. The College cannot be responsible for newspaper publicity of these lists.

If you have attended this community college for a minimum of 45 credit hours, you may be eligible for graduation honors. Appropriate honors are recorded on your diploma. The honors based on your overall academic achievement at Virginia Western Community College are as follows:

- 3.2 Cum laude [with honor]
- 3.5 Magna cum laude [with higher honor]
- 3.8 Summa cum laude [with highest honor]



PART III

STUDENT SERVICES/ HANDBOOK

Counseling Services

As a service to students, the College maintains a staff of professional counselors in addition to faculty advisors in each instructional program. The counselors will assist students in making intelligent decisions regarding your vocational, educational, and personal-social plans. As a part of this assistance, students have available appropriate tests, inventories, occupational and educational information, and information regarding financial assistance or employment.

The many and complex problems which may suddenly confront students in the new situations presented in college, the pressures of achieving at a higher level, the anxieties brought about by parental attitudes, peer attitudes, etc., often require that a nonjudgmental, professional counselor committed to your well-being and future success be permitted to assist you in reaching a proper decision. Sessions with counselors are matters of strict confidence.

Career Life Development Center

In order to meet the vocational needs of VWCC students, Counseling Services maintains the Career Life Development Center. Its function is to provide career related information and to assist students in making sound career decisions. Informational components include college catalogs and transfer manuals; resources for exploring the nature of specific occupations; part-time, full-time, and summer employment opportunities; employment seeking skill guides and various other career development resources. Individual counseling is provided to afford the student a logical system of career guidance.

Also available through the Career Life Development Center are various psychometric instruments designed to identify occupational interests and aptitudes. The results of the evaluations are an additional source of information used by the counselor in assisting the student with the career development process.

TESTING

Counseling Services administers a testing program that includes instruments for determining interests, measures of study habits, and attitudes, educational and occupational

ability tests, and personality assessments. These tests are useful if you wish to understand yourself better in terms of your interests, motivations, abilities, and occupational and life goals. Frequently, such tests are recommended by the counselor during a conference but are also available to you upon request.

CLEP

Virginia Western is an "open" test center for the College-Level Examination Program, a comprehensive testing program with the broad purpose of establishing a national system of awarding college credit by examination.

There are two types of examinations: the **General Examinations** designed to provide a comprehensive measure of undergraduate achievement in five basic areas (English composition, mathematics, natural sciences, humanities, social sciences-history) and the **Subject Examinations** designed to measure achievement in specified undergraduate courses. The CLEP is given at various times throughout the year. For specific information, interested persons should contact the Student Development Office.

ORIENTATION

An orientation program has been established to acquaint new students with the purposes and programs of the College. The orientation program begins weeks before registration when the student will be asked to meet with a counselor at the College for an interview to discuss the student's educational interests, and to determine what additional tests he may need. The student will also meet with a counselor to plan his program and course of study.

A program is scheduled for all new students prior to the registration period for group orientation to the College and a discussion of student services and activities.

In addition, an orientation class, General 100, is provided for all first time students to aid them in their personal, social, and academic adjustments and in career exploration. This class is required of all newly entering full-time regular students.

FINANCIAL AID

The basic philosophy of the Financial Aid Program at Virginia Western is that "no student shall be denied the opportunity of a post-secondary education because of a lack of financial resources of the student and/or his family." Paramount to this philosophy is that the parents and students are to provide, within their ability, all or part of the cost for a post-secondary education; however, should their

funds be found insufficient to cover the cost of attendance, the student may be eligible to receive financial assistance from the College.

Application Procedures

To apply for financial assistance with Virginia Western Community College, students should follow procedures as outlined below:

1. File application for admission to Virginia Western Community College.
2. Request an application for financial assistance from the Financial Aid Office of Virginia Western Community College.
3. Request from your high school counseling department a "Parent's Confidential Statement" and submit this completed form to the College Scholarship Service, Box 176, Princeton, New Jersey, designating VWCC (Code 5868) to receive the analysis. "Parent's Confidential Statements" are also available to non-high school students from the Financial Aid Office at Virginia Western Community College.

If self-supporting status can be established according to federal guidelines, a "Student's Financial Statement" should be submitted in lieu of a "Parent's Confidential Statement." These forms are available from the College's Financial Aid Office.

Determination of awards will be made when the student's admission file and financial aid file are complete.

Types of Financial Assistance

Virginia Western Community College has available a variety of financial assistance programs.

Federal:

1. Grants
2. National Direct Student Loans
3. College Work-Study
4. Law Enforcement Educational Program
5. Nursing Loans and Grants
6. Mental Health Grants
7. Veteran's Educational Benefits
8. Federal Insured Student Loans through the Virginia State Educational Assistance Authority in cooperation with local banks.

State of Virginia:

1. Teacher's Scholarships
2. Tuition Grants
3. Department of Vocational Rehabilitation Educational Benefits.

Private Scholarships:

The College has available a limited number of scholarships for students. These awards are made based upon a combination of a student's financial need and potential to maintain academic excellence.

Employment

Full-time students are committed to specific class schedules which require fifteen or more hours per week of class work. In addition, students are usually responsible for an average of two or more hours of study per week for each hour in the classroom.

These standards result in an average student workload of approximately forty-five hours, depending on the particular courses and course load of the student.

A student who is considering part-time employment should discuss the question with his counselor or faculty advisor prior to seeking a position. Extreme caution should be used in making a commitment for more than fifteen hours of part-time work per week. Students who must work more than fifteen hours should consider taking a reduced schedule of classes.

VETERANS—OFFICE OF VETERANS' AFFAIRS

Programs and courses of study at this College are approved by the Veterans Administration. A "Veteran's Application for Program of Education or Training" must be obtained from, completed and returned to the Office of Veterans' Affairs.

The Office has the responsibility for veterans' outreach, recruitment, and special education programs, including educational, vocational, and personal counseling. Inquiries concerning eligibility, benefits, tutorial assistance, and other matters that may be of concern to veterans should be directed to personnel in this office.

SPECIAL SERVICES

The Student Special Services project at Virginia Western Community College is designed for students with academic potential who by reason of educational, cultural, or economic background, or physical handicap, are in need of special services to assist them to initiate, continue, or resume their post-secondary education and to enhance their success in the academic environment. The focus of Special Services is to help students (part-time and full-time) who qualify to remain in and successfully complete college.

Services available include tutoring, career counseling, personal counseling, assistance

in obtaining financial aid, academic counseling, cultural activities and individualized assistance as needed.

Food Services

Two commercially operated snack bars are located on campus. One is on the ground floor of Brown Library on North Campus and the other is located in the breezeway adjacent to Craig Hall on South Campus.

Lost and Found

Articles which have been found are to be turned in to the Student Development Office where they may be claimed upon identification. If not claimed in a reasonable time, items will be disposed of by the College.

Student Health Services

Since Virginia Western is a "commuter-college" no health services are provided. However, all students are required to complete a health certificate and this certificate may be used in the counseling processes.

Bulletin Boards

The materials to be posted on the three official student announcement boards must be approved by the Director of Student Development. These boards are to be used for such things as items for sale, notices of school activities, coming events at the College, and information of general student interest. These boards are located inside and outside the lunch room on the ground floor of Brown Library and on the first floor corridor of Duncan Hall. All other bulletin boards are to be used for Division communications or for items of interest to students within a curriculum.

All materials should be removed from the boards by the person posting them after the function has been served. Normally the boards will be checked and cleared of materials over two weeks old by those persons assigned responsibility for that bulletin board.

The use of any space other than bulletin boards for the advertising of any special events must have prior approval by the Director of Student Development. Posters, advertisements, announcements, etc., should not be posted on any glass, doors, or walls.

STUDENT ACTIVITIES

Virginia Western has a varied activities program for students: student council, publications, intramural athletics for men and women, dramatic activities, music activities, depart-

mental clubs, and special interest groups. All activities must have a faculty advisor or sponsor. The Office of Student Development coordinates all student activities. There is no student activity fee.

Any student interested in joining a club or other organization may contact this office for information.

The activities program is designed to supplement the academic program in providing meaningful educational, cultural, and social experiences.

STUDENT CONDUCT

Each College student is considered a responsible adult, and it is assumed that men and women of college age will maintain standards of conduct appropriate to membership in the college community. Emphasis is placed on standards of student conduct rather than on student limits or restrictions. Guidelines and regulations governing student conduct are developed by representatives of the students, faculty, counseling staff, and administration. The College refrains from imposing a rigid code of discipline but reserves the right to take disciplinary action compatible with its own best interest when it is clearly necessary.

Failure to meet standards of conduct acceptable to the College may result in disciplinary probation or dismissal, depending upon the nature of the offense. A disciplinary probation period, unless otherwise specified, is for the duration of one quarter. A student who is dismissed must reapply to the College and will normally be required to appear before a special committee before readmission can be considered.

The Virginia Community College System guarantees to each student the privilege of exercising his right of citizenship under the Constitution of the United States without fear of prejudice. Special care is taken to assure due process and to spell out clearly-defined routes of appeal when a student feels his rights have been violated.

For student conduct which tends to discredit or injure the College, the Chancellor is authorized by the State Board for Community Colleges to impose such penalty as he may deem appropriate, including expulsion from the College. This authority has been delegated by the Chancellor to the Administration of each community college, subject to review by the Chancellor or his delegated representative.

Any student found guilty of participating in or inciting a riot or an unauthorized or disorderly assembly is subject to suspension or dismissal.

Groups of students who wish to have a

public assembly on campus must file proper notification in both the Office of the President and the Student Development Office 96 hours in advance. Forms are available in the Student Development Office.

To prevent misunderstanding, the Chancellor has issued the following clarification:

1. When an assembly on campus of students not authorized by the College has been requested to disband by the President or other designated officer, those refusing to comply will be subject to immediate suspension, and/or dismissal and legal action.
2. In the event that an assembly appears to be a demonstration related to grievances, those present should be advised that orderly procedures for the hearing of grievances are available and must be adhered to. College officials will not negotiate with such groups under condition of duress, such as unauthorized occupation of College property.
3. Any unauthorized occupation of buildings and/or College property constitutes reason for immediate suspension and/or dismissal from the institution of students who may be involved. Furthermore, legal action will be brought against any student involved in acts on community college property which are prohibited by law.
4. Any person currently not a student is not allowed to participate in demonstrations on the campus.

COLLEGE COLORS Colonial Blue and White
COLLEGE RINGS

Official College rings are sold through the Bookstore. Students are eligible to purchase a college ring during the year in which they plan to graduate.

The crest of VWCC which appears on the shank of the ring has the following meaning. The triangular shape represents the three basic types of programs offered—certificate, diploma, and degree. The VCC in the center denotes that the College is part of the Virginia Community College System. The compass and slide rule in the upper left corner represent the technologies (more particularly, the engineering technologies). The open book with a lamp flame in the right corner represents the liberal arts area. The atom at the bottom is symbolic of the various science programs.

Emergency Information

The College switchboard operator should be notified immediately concerning the nature and location of any emergency. She will notify the fire department, police, rescue service or College personnel, as necessary.

In case of a fire or fire drill, the building will be evacuated in accordance with instructions posted in each room. Fire extinguishers are strategically placed about the buildings for use in putting out small fires.

It is College policy to remain in operation to the maximum extent possible. When weather conditions are so severe as to require reduced operations, students will be notified through announcements by local radio and television stations.

Smoking

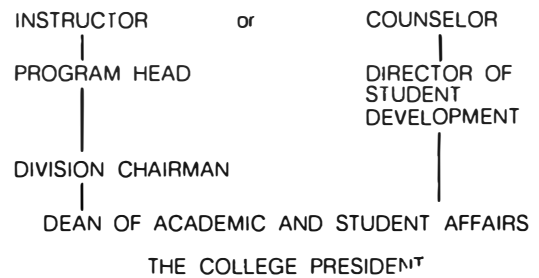
Smoking is prohibited in all laboratories, classrooms, and Brown Library (other than offices).

Suggestions, Grievances, Channels of Communications

Each student has the right to express an opinion, make suggestions, and submit grievances. Channels of communication are always open to students with personal problems and to those who wish to suggest improvements, etc.

To facilitate the communication process, use of the following is suggested:

Students may elect to resolve instructional conflict(s) following these administrative channels:



In the event that the conflict cannot be resolved following these channels, an ad hoc Grievance Committee may be convened by the Dean of Academic and Student Affairs. Findings of such a committee are advisory to the President of the College.

Students may elect to resolve a non-instructional conflict by contacting the Office of Student Development.

STATEMENT OF STUDENT RIGHTS, RESPONSIBILITIES AND CONDUCT

Student Rights

I. Students Rights

The following statement of student rights shall not be construed to deny other rights normally enjoyed by students in their role as citizens.

A. Students' freedom to pursue their educational goals in an atmosphere of free inquiry and expression is a reasonable expectation.

B. No disciplinary sanctions may be imposed upon any student without notice to the accused of the nature and cause of the charges and, upon request, a fair hearing which shall include confrontation of witnesses against him and the advice of a person of his own choosing.

C. Every student has the right to be interviewed on campus by any college approved organization desiring to recruit at the institution.

II. Definitions

A. The terms "institution" and "college" are used interchangeably to mean Virginia Western Community College, and collectively, those responsible for its control and operation.

B. The term "student" includes all persons taking courses at the institution both full-time and part-time.

C. The term "instructor" means any person employed by the institution to conduct classroom activities.

D. The term "administration" means any person employed by the institution to assume responsibility for its day-to-day management.

E. The term "legal compulsion" means a judicial or legislative order which requires some action by the person to whom it is directed.

F. The term "organization" means a number of persons who have complied with the formal requirements for institutional recognition as prescribed in this Code.

G. The term "group" means a number of persons who have not yet complied with the formal requirements for becoming an organization.

H. The term "campus press" means either an organization whose primary purpose is to publish and distribute any publication on campus or a regular publication of an organization.

I. The term "shall" is used in the imperative sense.

J. The term "may" is used in the permissive sense.

K. All other terms have their natural meaning unless the context dictates otherwise.

III. Access to Higher Education

Within the limits of its facilities, the institution shall be open to all applicants who are qualified according to the admissions policies as published in this Catalog. Under no circumstances shall an applicant be denied admission on the basis of race, religion, or ethnic background.

IV. Classroom Expression

A. The instructor should encourage free discussion, inquiry, and expression. Student performance will be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Discussion and expression of all views relevant to the subject matter are permitted in the classroom, subject only to the responsibility of the instructor to maintain order.

B. Students will be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for the content of any course of study in which they are enrolled. Requirements of participation in classroom discussion and submission of written exercises are not inconsistent with this section.

C. Students shall have protection through proper channels as established by the institution against improper academic evaluations. At the same time, they are responsible for maintaining standards of academic performance established for each course in which they are enrolled.

D. Information about student views, beliefs, and political associations acquired by instructors in the course of their work as teachers, advisors, and counselors is confidential. Judgments of ability and character may be provided under appropriate circumstances, normally with the knowledge or consent of the student.

V. Campus Organizations

A. Procedures for forming an organization may be obtained from the Student Development Office.

B. A group shall become a recognized organization when recommended by the SCA and approved by the Director of Student Development and the President of the College.

C. Rules for the governance of all student clubs and organizations:

1. All student organizations operating on the Virginia Western Community College campus must be approved in accord-

ance with the procedures given in the "Procedures for Formation of New Clubs. . . ."

2. Membership is limited to registered students. This does not restrict any organization from inviting guests to visit or to speak to the membership from time to time. Invited guests should not attend on a regular basis nor should they take part in the regular activities of the membership.
3. The assignment of a meeting room is controlled through the Dean's office. Each club or other activity will be assigned space, as available, upon request of the club president. Space for special meetings requiring larger facilities and/or special equipment must be requested in advance (at least two weeks) through the Student Development Office.
4. Guest speakers on campus are subject to regulation to the time, place, and manner. Regulations are not imposed to prohibit any speaker from appearing on campus except when it is shown that the speaker's presence constitutes a clear and present danger of disruption or violence. This determination shall be made by the Student Development Office.
5. Organizations having speakers for regularly scheduled meetings are not normally required to make special arrangements. The faculty sponsor will be responsible for any regulations as in No. 4.
6. Faculty advisors are required for each student organization. Their duty is to advise the membership about the College regulations and other advice as may be appropriate to the proper operation of the activity.
7. An approved organization may be penalized for members' actions which are in violation of College policy. Such penalties shall not be invoked upon an organization because of the acts of individual members unless the organization has failed to fulfill its responsibilities and/or the incidents occur in conjunction with an activity of the organization.

D. Institution facilities shall be assigned to organizations, groups, and individuals within the college community for regular business meetings, for social programs, and for programs open to the public.

1. Reasonable conditions may be imposed to regulate the timeliness of request, to determine the appropriateness of space assigned, to regulate time and use, and to insure proper maintenance.
2. Preference may be given to programs designed for audiences consisting primarily of members of the college community.

3. Allocations of space shall be based on the order in which requests are received and the demonstrated needs of the organization, group, or individual.
 4. The institution may delegate the assignment function to an administrative official or to a student committee on organizations.
 5. Charges may be imposed for use of facilities.
 6. Physical abuse of assigned facilities shall result in reasonable limitations on future allocation of space to offending parties and restitution for damages.
 7. The individual, group, or organization requesting space must inform the institution of the general purpose of any meeting open to persons other than members and the names of outside speakers.
- E. No individual, group, or organization may use the college name without the express authorization of the institution.

VI. Campus Publications

A faculty sponsor will be appointed for each college publication including the student newspaper, the Communicator. Appropriate staff, including editors, will be employed by the College and charged with the responsibilities implied under the Canons of Responsible Journalism such as avoidance of libel, standards of decency, techniques of harassments and innuendos.

While publications will from time to time be official organs of the College, especially as to policy, they are distinctly student enterprises subject to ordinary business rules and regulations.

Participation by students is encouraged in order that the attainment and best interests of students shall be mirrored in all publications. The aim is the highest good for both the College and the students, particularly as respects the training of students in responsible journalism and kindred artistic or literary endeavors. Material for publication should be as interesting and factual as possible within the generally accepted limits of decency and morality, without sacrifice of freedom for responsible staffs of respective publications.

The most important tenets are: fairness, accuracy, and good taste.

VII. Institutional Government

Clearly defined means shall be provided for student expression on all institutional policies affecting academic and student affairs.

A. Students will assist in the development of activities and organizations, and in other matters affecting their welfare on campus.

B. Students will be represented on appropriate standing committees of the college.

VIII. Protection of Student Freedoms

A. Institutional Authority and Civil Penalties

Students who violate the law may incur penalties prescribed by civil authorities, but institutional authority will never be used merely to duplicate the function of general laws. Only where the institution's interests as an academic community are distinct and clearly involved with the special authority of the institution be asserted.

B. Privacy

1. Students have the same rights of privacy as any other citizen and surrender none of those rights by becoming members of the academic community.
2. No inquiry is permitted into the activities of students away from the campus where their behavior is subject to regulation and control by public authorities.

C. Student Records

1. Transcripts of academic records will contain only information about academic status, except that disciplinary action taken against a student which affects his eligibility to reregister within the institution will be recorded.
2. Information from disciplinary or counseling files will not be made available to unauthorized persons on the campus or to any person off campus without the expressed consent of the student involved, except under legal compulsion or in cases where the safety of persons or property is involved.
3. Provisions will be made for periodic routine destruction of noncurrent disciplinary records.
4. No records will be kept for the sole purpose of reflecting the activities or beliefs of students.
5. Administrative staff and faculty members will respect confidential information about students which they acquire in the course of their work.
6. Upon graduation or withdrawal from the institution, the records and files of former students shall continue to be subject to the provisions of this Code of Conduct.

IX. Procedural Standards in Disciplinary Proceedings

In developing responsible student conduct, disciplinary proceedings play a role substantially secondary to example, guidance, and admonition. At the same time, educational institutions have a duty and the corollary disciplinary powers to protect their educational purpose through the setting of standards of

scholarship and conduct for the students who attend them and through the regulation of the use of institutional facilities. In the exceptional circumstances when the preferred means fail to resolve problems of student conduct, proper procedural safeguards will be observed to protect the student from unfair imposition of serious penalties.

A. Sanctions

The following sanctions may be imposed upon students:

1. Admonition: A written statement to a student that he is violating or has violated institution rules.
2. Warning: Notice, in writing, that continuation or repetition of conduct found wrongful, within a period of time stated in the warning, may cause more severe disciplinary action.
3. Censure: A written reprimand for violation of specified regulations, including the possibility of more severe disciplinary sanctions in the event of the finding of a violation of any institution regulation within a stated period of time.
4. Disciplinary probation: Exclusion from participation in privileged or extra-curricular college activities as set forth in the notice for a period of time not exceeding one school year.
5. Restitution: Reimbursement for damage to or misappropriation of property. This may take the form of appropriate service or other compensation.
6. Suspension: Exclusion from classes and other privileges or activities as set forth in the notice for a definite period of time not to exceed two years.
7. Expulsion: Termination of student status for an indefinite period. The conditions of readmission, if any, shall be stated in the order of expulsion. No sanctions may be imposed for violations of rules and regulations for which there is not actual or constructive notice.

B. Proscribed Conduct

Generally, institutional discipline shall be limited to conduct which adversely affects the college community's pursuit of its educational objectives. The following misconduct is subject to disciplinary action as set forth in any of the above-mentioned sanctions:

1. All forms of dishonesty including cheating, plagiarism, knowingly furnishing false information to the institution, and forgery, alteration or use of institution documents or instruments of identification with intent to defraud.
2. Disruption or obstruction of teaching, research, administration, disciplinary

- proceedings or other college activities.
3. Physical abuse of any person on college premises or at college sponsored or supervised functions.
 4. Theft from or damage to college premises or damage to property of a member of the institutional community on institution premises.
 5. Failure to comply with directions of college officials acting in the performance of their duties.
 6. Possession or use of alcoholic beverages on campus not in connection with an approved function where an appropriate license has been secured.
 7. Possession, use, or distribution of illegal drugs either on or off campus.
 8. Violation of published institutional regulations including those relative to entry and use of institutional facilities, the rules in this Code of Conduct, and any other regulations which may be enacted.
 9. Violation of any local, state, or federal law in a way that affects the college community's pursuit of its proper educational purposes.

C. Disciplinary Proceedings

Procedural standards incorporating the principles listed below will be observed in all disciplinary proceedings.

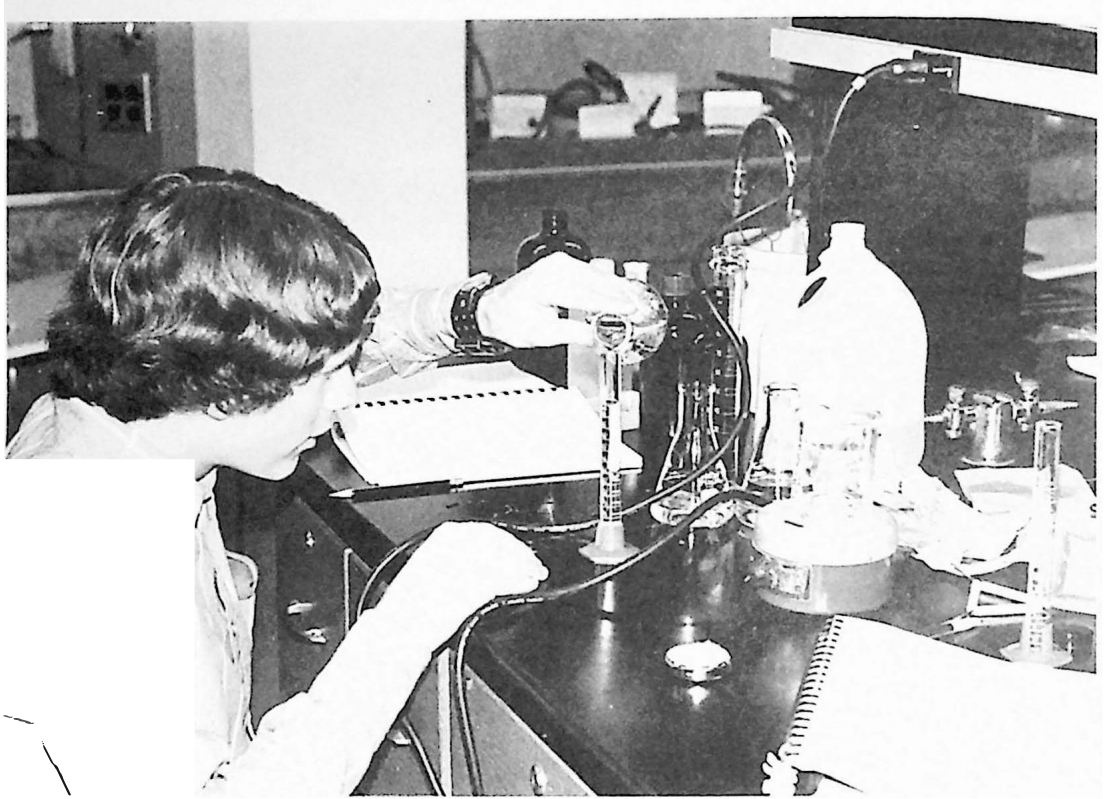
1. Any academic or administrative official, faculty member, or student may file charges against any student for misconduct. When the President or his designate believes that the continued presence of a person charged with misconduct presents a serious and immediate danger to the college community, the student may be suspended pending consideration of the case. Such suspension shall not exceed a reasonable time.
2. This institution may make a preliminary investigation to determine if the charges can be disposed of informally by mutual consent without the initiation of disciplinary proceedings.
3. All charges shall be presented to the accused student in written form and he shall respond within seven calendar days. The time may be extended for such response. A time shall be set for a hearing which shall not be less than seven or more than fifteen calendar days after the student's response.
4. A calendar of the hearings in a disciplinary proceeding shall be fixed after consultation with the parties. The institution shall have discretion to alter the calendar for good cause.
5. Hearings shall be conducted in such manner as to do substantial justice.
 - a. Hearings shall be private if requested by the accused student. In hearings involving more than one student, severance shall be allowed upon request.
 - b. An accused student has the right to be advised by counsel or an adviser who may come from within or without the institution.
 - c. Any party to the proceedings may request the privilege of presenting witnesses subject to the right of cross-examination by other parties.
 - d. Production of records and other exhibits may be required.
6. In the absence of a transcript, there shall be both a digest and a verbatim record, such as a tape recording, of the hearing in cases that may result in the imposition of the sanctions of restitution, suspension, and expulsion as defined in Section IX A above.
7. No recommendation for the imposition of sanctions may be based solely upon the failure of the accused student to answer the charges or appear at the hearing. In such a case, the evidence in support of the charges shall be presented and considered.
8. Disciplinary procedures within the institution shall consist of two stages:
 - a. The initial hearing board, composed of faculty members and students, shall be charged with the responsibility of conducting the hearing, determining the guilt or innocence of the accused student, and recommending sanctions to the President of the College. Findings of this board are advisory to the President of the College.
 - b. Within five calendar days of receipt of the hearing board's recommendations, the President of the College shall act on the recommendations and notify the student and the hearing board, in writing, of his decision.
9. When the penalty for misconduct is suspension or dismissal, the student may appeal the decisions to the Appeals Committee. Such appeal must be made within ten days of notification of the decision.
 - a. Appeal shall be limited to a review of the full report of the hearing board for the purpose of determining whether the institution acted fairly in light of the charges and evidence presented.
 - b. An appeal may not result in a more severe sanction for the accused student.
 - c. Findings of this board are advisory to the President of the College.

10. When the penalty for misconduct is suspension or dismissal, the student may appeal the decision to the Local College.

Board. Final appeal may be made to the State Board of Community Colleges.

D. Judicial Authority

1. The Disciplinary Committee composed of administrators, faculty members, and students handle all questions of student discipline. Findings of such judicial bodies are advisory to the President of the College, whose decisions are final.
 - a. The judicial bodies may formulate procedural rules which are not inconsistent with the provisions of this code.



PART IV

CURRICULUMS OF STUDY

DEGREE

MAJOR(S)

SPECIALIZATION(S)

Associate in Arts (AA)

¹Art Education
¹Fine Arts
 Liberal Arts

Associate in Science (AS)

Business Administration
 Education
 Engineering
 General Studies
 Science

Arts & Design Technology (AAS)

Commercial Art

Business Technology (AAS)

Accounting
 Data Processing
 Computer Programming
 Hotel-Restaurant-Institutional Management
 Food Service
 Management
 Management
 Banking & Finance
 Real Estate
 Merchandising
 Secretarial Science
 Executive
 Legal
 Medical
 Traffic & Transportation

Engineering Technology (AAS)

Architecture
 Civil
 Electrical/Electronics
 Communications
 Power
 Mechanical

Health Technology (AAS)

Dental Hygiene
 Mental Health
 Nursing
 Radiologic Technology

Industrial Technology (AAS)

¹Automotive

Public Service Technology (AAS)

Police Science/Administration of Justice
 Radio and Television Production

Certificate

Air Conditioning & Refrigeration
 Architectural Drafting

Child Care
 Clerk Typist
 Dental Assistant
 Engineering/Technical Assistant
 Fire Fighting & Prevention
 Stenographic

¹Pending approval

STATE AND REGIONAL SPECIALIZED CURRICULUMS

In the Virginia Community College System, certain highly-specialized curricula, though designed to serve all Virginia residents, are limited in offering to selected locations. These curricula generally reflect geographic, demographic, or economic considerations which preclude extensive offering Statewide, and therefore usually are approved for not more than three community colleges to meet State or Regional requirements. As changing circumstances warrant and additional State and Regional needs are determined, specialized curricula may be located in other community college regions. Accordingly, the following State and Regional Specialized Programs are identified for the Virginia Community College System.

Program	Community College
Agricultural & Natural Resources Technology Majors: Animal Science Agronomy Forestry Livestock Natural Resources Management & Security Wildlife	Blue Ridge Paul D. Camp Dabney S. Lancaster Paul D. Camp Lord Fairfax Dabney S. Lancaster
Arts and Design Technology Majors: Crafts Production	Mountain Empire
Business Technology Majors: Aviation Administration Hotel-Restaurant-Institutional Management	Northern Virginia Northern Virginia Tidewater Virginia Western
Engineering/Industrial Technology Majors: Broadcast Engineering Chemical Furniture Production Instrumentation Marine Science Mining Nuclear	Northern Virginia John Tyler Patrick Henry New River Rappahannock Thomas Nelson Southwest Virginia Central Virginia

Health Technology		
Majors:		
Dental Laboratory	J. Sargeant Reynolds	Northern Virginia
Medical Records	Central Virginia	J. Sargeant Reynolds
Physical Therapy	Northern Virginia	Northern Virginia
Mortuary Science	Northern Virginia	John Tyler
Radiology	Central Virginia	Virginia Western
Respiratory Therapy	Northern Virginia	Piedmont Virginia
Public Service Technology		
Majors:		
Air Traffic Control	Northern Virginia	
Occupational Safety and Health	Northern Virginia	
Radio and Television Production	Thomas Nelson	Virginia Western

Natural Sciences and Mathematics

Natural Sciences (Laboratory) (Biology, Chemistry, Geology, Physics)	12-15	12-24	—
Mathematics	9	9	—
Health, Physical Education or Recreation	3-6	3-6	3-6
Orientation	1	1	1
Electives and Other Major Field Requirements	<u>3-21^a</u>	<u>48</u>	<u>75^o</u>
MINIMUM TOTAL NUMBER OF CREDITS for DEGREE			
	97	97	97

MINIMUM REQUIREMENTS FOR ASSOCIATE DEGREES (SB)
Associate in Arts (AA)
Associate in Science (AS)
Associate in Applied Science (AAS)

	Number of Credits (Quarter Hours)		
	AA	AS	AAS
Humanities			
English Composition	9	9	0
Communication Skills	0	0	6-9
Literature (English, American, or World)	6-9	0-3	—
English or Speech Art, Drama, Music, Humanities and/or Philosophy	0-3	0-3	0-3
Foreign Language	0-6	0-3	—
	12-24 ^b		
Social Sciences			
History (American or Western Civilization)	9	3-9	—
Economics	0-9	0-9	3
Government	0-9	0-9	3
Psychology or Human Relations	0-9	0-9	3
Sociology	0-9	0-9	—

^aStudents are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and further to consult with the Counseling Department of the community college in planning their program and selecting electives.

^bStudents who have successfully completed two years of a foreign language in high school may petition for advance placement to the sophomore course of this foreign language.

^cIn addition to the history requirements, the student shall complete a total of nine quarter-hours credit in the social sciences which may include economics, government, sociology and/or psychology.

^dSOSC 101-102-103 may be substituted for ECON, GOVT, and PSYC.

^eThe Associate in Applied Science degree programs should be organized approximately as follows

Specialized and degree related courses	50%
General education courses	25%
College electives	25%

1^{ART} EDUCATION

ASSOCIATE IN ARTS DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in art education. **Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.**

Special Curriculum Admission Requirements: Entry into the art program requires a satisfactory aptitude in visual art, and applicants may be required to submit a portfolio for placement. Students with deficiencies in English and mathematics will require developmental studies.

¹Pending Approval



¹Art Education Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ARTS 111-112-113 History and Appreciation of Art	3	3	3
ARTS 121-122-123 Theory and Practice of Drawing	3	3	3
ARTS 151-152-153 Fundamentals of Design	3	3	3
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
² MATH 161-162-163 College Mathematics (or MATH 181-182-183)	3	3	3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-19	16-18	16-18
(Second Year)			
ARTS 266-267-268 Illustration	4	4	4
ARTS 231-232-233 Theory and Practice of Painting	3	3	3
ARTS 241-242-243 Theory and Practice of Sculpture (or ARTS 274-275-276)	3	3	3
Natural Science with laboratory	4	4	4
Social Science	3	3	3
Electives	<u>1</u>	<u>1</u>	<u>1</u>
Total Credits	18	18	16
Total Minimum Credits for Degree	97		

¹Pending Approval

²Math courses chosen fulfill requirement of four-year college or university the student plans to attend.

¹FINE ARTS

ASSOCIATE IN ARTS DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year program in professional art schools or to a four-year program in fine arts. Students who are interested in art but who do not elect immediately to transfer will find this program suited to their needs. **Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.**

Special Curriculum Admission Requirements: Entry into the art program requires a satisfactory aptitude in visual art, and applicants may be required to submit a portfolio for placement. Students with deficiencies in English and mathematics will require developmental studies.

¹Pending Approval

¹Fine Arts Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ARTS 111-112-113 History and Appreciation of Art	3	3	3
ARTS 121-122-123 Theory and Practice of Drawing	3	3	3
ARTS 151-152-153 Fundamentals of Design	3	3	3
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
² MATH 161-162-163 College Mathematics (or MATH 181-182-183)	3	3	3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	17-19	16-18	16-18
(Second Year)			
ARTS 266-267-268 Illustration	4	4	4
ARTS 231-232-233 Theory and Practice of Painting	3	3	3
ARTS 241-242-243 Theory and Practice of Sculpture	3	3	3
ARTS 274 Intro. to Art Printmaking	3		
ARTS 275-276 Art Printmaking Workshop		3	3
Literature (American, English, World)	3	3	3
Electives	<u>2</u>	<u>2</u>	<u>2</u>
Total Credits	18	18	18
Total Minimum Credits for Degree	97		

¹Pending Approval

²Math courses chosen should fulfill requirement of four-year college or university the student plans to attend.

LIBERAL ARTS

ASSOCIATE IN ARTS DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program, usually the Bachelor of Arts degree in the liberal arts or social sciences. Students in this program may wish to major in the following fields:

- | | |
|------------------|-----------------|
| English | Social Sciences |
| Foreign Language | Philosophy |
| Humanities | Pre-law |
| Journalism | Speech-Drama |

Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.

Special Curriculum Admission Requirements: 4 units of English; 2 units of college preparatory mathematics; 1 unit of laboratory science; and 1 unit of history. The remaining units are

elective courses, but at least two units of a foreign language are recommended. Students are urged to check the mathematics requirement of the four-year college or university to which they plan to transfer to determine the proper mathematics courses to be taken in the community college. Students with deficiencies will require Developmental Studies.

Liberal Arts Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
HIST 111-112-113 American History (or HIST 101-102-103)	3	3	3
*MATH 161-162-163 College Mathematics (or MATH 181-182-183)	3	3	3
¹ Foreign Language	4	4	4
Natural Science with laboratory	4	4	4
Health or Physical Education	—	1-3	—
Total Credits	18	18-20	17
(Second Year)			
Foreign Language	4	4	4
Literature (American, English, or World)	3	3	3
Social Science	3	3	3
Speech		3	
Electives	6	3	0-6
Health or Physical Education	1-3	1-3	—
	17-19	17-19	10-16
Total Minimum Credits for Degree	97		

¹Students who have completed two years of a foreign language in high school may petition for advanced placement into the second year of the foreign language at the college

*Math courses chosen should fulfill requirement of four-year college or university the student plans to attend.

BUSINESS ADMINISTRATION

ASSOCIATE IN SCIENCE DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in business administration. **Students are urged to acquaint themselves with the requirements of the major department in the institution to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.**

Special Curriculum Admission Requirements: 4 units of English; 3 units of mathematics (algebra and geometry); 1 unit of laboratory science; and 1 unit of social studies. Students with deficiencies will require Developmental Studies.

Business Administration Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
HIST 111-112-113 United States History (or HIST 101-102-103)	3	3	3
MATH 161-162-163 College Mathematics	3	3	3
Natural Science with laboratory	4	4	4
¹ Electives	3	3	3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-18	17-19	17-19
(Second Year)			
ACCT 211-212-213 Principles of Accounting	3	3	3
² ECON 211-212-213 Principles of Economics	3	3	3
Literature/Speech	3	3	3
¹ Electives	6	6	6
Total Credits	15	15	15
Total Minimum Credits for Degree	97		

¹Electives must be selected from Humanities, Natural Sciences, Social Sciences

²In addition to the Economics requirement for the community colleges, students are advised to complete a Government and Psychology course, or a full year of a sophomore social science if required by the four-year college or university to which they plan to transfer.

EDUCATION

ASSOCIATE IN SCIENCE DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in Teacher Education, or Early Childhood Education. Students who are considering certification in Early Childhood Education should consult the Early Childhood staff of the Virginia Western Community College. **Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.**

Special Curriculum Admission Requirements: 4 units of English; 2 units of college preparatory mathematics; 1 unit of laboratory science; and 1 unit of social science. Students with deficiencies will require Developmental Studies. Eligible students may qualify for the State Teachers' Scholarships.

Education Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ENGL 111-112-113 English Composition	3	3	3
GENL Orientation	1		
HIST 111-112-113 United States History (or Hist 101-102-103 West Civ ¹)	3	3	3
MATH 154-155 Modern Math for Elementary Teachers	3	3	
MATH 157 Modern Math for Elementary Teachers-Methods & Applications			5
Natural Science with laboratory	4	4	4
¹ Electives	<u>3</u>	<u>3</u>	<u>3</u>
Total Credits	17	16	18
(Second Year)			
Literature (American, English, World)	3	3	3
² PSYC 201-202-203 General Psychology	3	3	3
Social Science Electives	3-6	3	3
SPDR 137 Public Speaking	3		
Electives	3	6	3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	16-18	16-18	16-18
Total Minimum Credits for Degree	99		

¹Math courses and electives chosen should fulfill requirement of four-year college or university the student plans to attend

²In addition to the Psychology requirements, students should complete a full year of sophomore level social science if required by the four-year college or university to which they plan to transfer

ENGINEERING

ASSOCIATE IN SCIENCE DEGREE

Purpose: The curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in one of the following engineering fields:

Aerospace	Chemical	Mechanical
Agriculture	Civil	Metallurgical
Building	Electrical	Mining
Construction	Industrial	Nuclear
Ceramics		

Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.

Special Curriculum Admission Requirements: 4 units of English; 4 units of mathematics (2 units of algebra, 1 unit of plane geometry, 1 unit

of advanced math or trigonometry and solid geometry); 1 unit of laboratory science; and 1 unit of social studies. Students with deficiencies will require Developmental studies.

Engineering Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
CHEM 111-112-113 General Inorganic Chemistry	4	4	4
ENGL 111-112-113 English Composition	3	3	3
ENGR 101-102 Introduction to Engineering Methods	2	2	
ENGR 103 Conceptual Design and Analysis			2
ENGR 121-122-123 Engineering Graphics	2	2	2
GENL 100 Orientation	1		
MATH 141-142-143 Introductory Mathematical Analysis	5	5	5
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	18-20	17-19	17-19
(Second Year)			
ENGR 201 Mechanics of Particles	5		
ENGR 202 Mechanics of Deformable Solids			5
ENGR 203 Dynamics of Rigid Bodies		3	
ENGR 206 Engineering Economy	3		
MATH 241-242-243 Advanced Mathematical Analysis	4	4	4
PYHS 222-223 General University Physics		4	4
Humanities and Social Science Electives	<u>6</u>	<u>6</u>	<u>3-6</u>
Total Credits	18	17	16-19
Total Minimum Credits for Degree	103		

¹GENERAL STUDIES

ASSOCIATE IN SCIENCE DEGREE

Purpose: The curriculum is designed for students who are uncertain about their vocational or educational goals. It offers sufficient flexibility so that students may take courses which are accepted in most four-year colleges and universities in a wide number of baccalaureate degree programs. It also provides greater opportunity than that offered in other college transfer programs for the student to take courses which emphasize areas of academic strength and interest. In addition, it provides for students who want a broad two-year education experience in a degree program but who do not intend to transfer.

Special Curriculum Admission Requirements: 4 units of English; 2 units of college preparatory mathematics; 1 unit of laboratory science; and 1 unit of social science. Students with deficiencies will require Developmental Studies.

¹Pending Approval

General Studies Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ENGL 111-112-113 English Com- position	3	3	3
GENL 100 Orientation	1		
HIST 111-112-113 American his- tory (or HIST 101-102-103	3	3	3
¹ MATH 161-162-163 College Mathe- matics (or MATH 181-182- 183)	3	3	3
Natural Science with laboratory	4	4	4
Elective	3	3	3
Health or Physical Education	—	1-3	1-3
Total Credits	17	17-19	17-19
(Second Year)			
Humanities or Social Science Electives	3	3	3
Literature (American, English, or World)	3	3	3
PSYC 201-202-203 General Psy- chology	3	3	3
SPDR 137 Public Speaking	3		
Electives	6	6	6
Health or Physical Education	—	1-3	—
Total Credits	18	16-18	15
Total Minimum Credits for Degree	97		

¹Math courses chosen should fulfill requirement of four-year college or university the student plans to attend

SCIENCE

ASSOCIATE IN SCIENCE DEGREE

Purpose: The curriculum is designed for persons who are interested in a pre-professional or scientific program and who plan to transfer to a four-year college or university to complete a baccalaureate degree program with a major in one of the following fields:

Agriculture	Pre-Medicine
Biology	Nursing
Chemistry	Pharmacy
Pre-Dentistry	Physical Therapy
Forestry	Physics
Geology	Science Education
Home Economics	Pre-Veterinary
Mathematics	

Students are urged to acquaint themselves with the requirements of the major department in the college or university to which transfer is contemplated and also to consult with the counseling office of the community college in planning their program and selecting electives. In order to prepare for junior class standing at a four-year college or university, the student usually must complete a program at the community college which is comparable in length and course content to the first two years of the program at the four-year institution.

Special Curriculum Admission Requirements: 4 units of English, 3 units of college preparatory mathematics, 1 unit of laboratory science, and 1 unit of social science. Students with deficiencies will require Developmental Studies.

Science Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ENGL 111-112-113 English Com- position	3	3	3
GENL 100 Orientation	1		
HIST 101-102-103 History of Western Civilization (or HIST 111-112-113)	3	3	3
MATH 161-162-163 College Mathe- matics (or MATH 141-142- 143)	3-5	3-5	3-5
¹ Science with laboratory	4	4	4
² Electives		3	3
Health or Physical Education	1-3	1-3	1-3
Total Credits	15-19	17-21	17-21
(Second Year)			
² English, Humanities or Speech Elective	3		
MATH 261-262-263 Calculus (or MATH 241-242-243 or elective)	3-4	3-4	3-4
Science with laboratory	4	4	4
Social Science	3	3	3
² Electives	3-4	6-7	6-7
Total Credits	16-18	16-18	16-18
Total Minimum Credits for Degree	97		

¹Science with laboratory must be a full year in sequence

²Electives must be proper transfer level courses

COMMERCIAL ART

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed primarily for persons who seek full-time employment in the commercial art field upon completion of the community college program.

Occupational Objectives:

Advertising	Photographer
Illustrating	Related Occupations
Printing	

Special Curriculum Admission Requirements: Proficiency in high school English and a satisfactory aptitude for drawing. Applicants may be required to submit several sample drawings for approval before final admission is granted. Students with deficiencies will require Developmental Studies.

Commercial Art Curriculum

	(First Year)	Quarter Credit Hours		
		1st	2nd	3rd
ARTS 111-112-113 History and Appreciation of Art		3	3	3
ARTS 121-122-123 Theory and Practice of Drawing		3	3	3
ARTS 151-152 Fundamentals of Design		3	3	
ARTS 166 Fundamentals of Lettering				3
ARTS 180 Introduction to Photography				2
¹ ECON 160 Survey of American Economics		3		
ENGL 111-112 English Composition English or Speech		3	3	3
GENL 100 Orientation		1		
¹ GOVT 180 American Constitutional Government			3	
¹ PSYC 128 Human Relations Health or Physical Education				3
Total Credits		16	16-18	17
(Second Year)				
ARTS 266-267-268 Illustration		4	4	4
ARTS 231-232-233 Theory and Practice of Painting		3	3	3
ARTS 261-262-263 Advertising Design		3	3	3
ARTS 271-272-273 Graphic Techniques		3	3	3
ARTS 281-282-283 Photography Workshop		1	1	1
ARTS 298 Seminar and Project Arts Elective		3	3	1-5
Health or Physical Education		<u>1-3</u>	<u>1-3</u>	
Total Credits		18-20	18-20	18-20
Total Minimum Credits for Degree		97		

¹A year sequence in social science may be substituted.

ACCOUNTING

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed for persons who seek full-time employment in the Accounting field.

Occupational Objectives. Technician or trainee in Accounting, Auditing or Management.

Special Curriculum Admission Requirements: Minimum of two units of high school mathematics, one of which must be algebra or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Accounting Curriculum

	(First Year)	Quarter Credit Hours		
		1st	2nd	3rd
ACCT 111-112-113 Accounting (or ACCT 211-212-213)		3-4	3-4	3-4
¹ BUAD 100 Introduction to Business		3		
¹ BUAD 164 Principles of Business Management			3	
¹ DAPR 106 Principles of Data Processing				3
¹ ECON 160 Survey of American Economics		3		
ENGL 111-112 English Composition		3	3	
GENL 100 Orientation		1		
¹ MATH 151-152-153 Introduction to Business Math		3	3	3
¹ PSYC 128 Human Relations				3
² SECR 111 Typewriting I (or English or Speech Health or Physical Education)			3	3
Total Credits		17-20	16-19	16-19
(Second Year)				
¹ ACCT 221-222-223 Intermediate Accounting		4	4	4
¹ ACCT 229 Auditing (or Business Elective)				3
¹ ACCT 234 Cost Accounting I		3		
¹ ACCT 244 Business Taxes I			3	
¹ ACCT 245 Business Taxes II (or Accounting elective)				3
ACCT 298 Seminar and Project				3
¹ BUAD 241-242 Business Law		3	3	
¹ BUAD 246 Business Finance (or Business elective)				3
¹ BUAD 254 Applied Business Statistics			3	
¹ DAPR 144 Computer Concepts		3		
¹ ENGL 180 Business English		3		
¹ GOVT 180 American Constitutional Government			3	
Total Credits		16	16	16
Total Minimum Credits for Degree		97		

¹A year sequence in Social Science may be substituted

²Students who have completed prior training in typewriting may petition for credit by examination

DATA PROCESSING TECHNOLOGY

(Computer Programming)

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to provide the types of education and training that would be required by both business and industry.

Occupational Objectives:

- Computer Programming Technician or Trainee
- Related Data Processing Occupations

Special Curriculum Admission Requirements: Minimum of two units of high school mathematics, one of which must be algebra or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Data Processing Technology Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111-112-113 Accounting (or Acct 211-212-213)	3-4	3-4	3-4
BUAD 164 Principles of Business Management		3	
DAPR 106 Principles of Data Processing	3		
DAPR 130 Operating Systems			3
DAPR 144 Computer Programming (Computer Concepts)		3	
DAPR 147 Computer Programming (Cobol)			3
ENGL 111-112 English Composition English or Speech	3	3	3
GENL 100 Orientation	1		
MATH 151-152-153 Introduction to Business Math (or MATH 161-162-163)	3	3	3
'PSYC 128 Human Relations Health or Physical Education	3	3	3
	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	17-20	16-19	16-19
(Second Year)			
ACCT 234 Cost Accounting	3		
BUAD 241 Business Law	3		
BUAD 254 Applied Business Statistics		3	
DAPR 256 Computer Programming (Advanced Cobol)	4		
DAPR 266 Computer Programming (Fortran)			4
DAPR 269 Computer Programming (Assembler)		4	
DAPR 281-282-283 Systems Analysis	3	3	3
Data Processing Elective			4
'ECON 160 Survey of American Economics	3		
'GOVT 180 American Constitutional Government		3	
Electives in ACCT, BUAD, or MKTG Electives		3	<u>6</u>
Total Credits	16	16	17
Total Minimum Credits for Degree	97		

*A year sequence in Social Science may be substituted

HOTEL, RESTAURANT AND INSTITUTIONAL MANAGEMENT

(Food Service)

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed primarily for persons who seek full-time employment in the public hospitality industry upon completion of the community college curriculum.

Occupational Objectives: Training and management positions with:

- | | |
|--------------------|------------------------------|
| Hotels and Motels | Resorts |
| Recreation Centers | Private Clubs |
| Hospitals | Other Hospitality Industries |

Special Curriculum Admission Requirements: One year of science and a minimum of two units of high school Math, one of which must be algebra, or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Hotel, Restaurant and Institutional Management Curriculum

	Quarter Credit Hours			
	1st	2nd	3rd	4th
(First Year)				
BUAD 164-165 Principles of Business Management		3	3	
ENGL 111-112 English Composition	3	3		
GENL 100 Orientation	1			
HLTH 110 Concepts of Personal & Community Health	3			
HRIM 111-112 Food Science		3	3	
HRIM 124-125 Principles of Food Preparation	4	4		
HRIM 140 Principles of Banking			4	
HRIM 197 Cooperative Education				5
MATH 151-152-153 Introduction to Business Mathematics	3	3	3	
NASC 100 Survey of Science English or Speech	4		<u>3</u>	<u>—</u>
Total Credits	18	16	16	5
(Second Year)				
BUAD 241 Business Law	3			
DRFT 111 Technical Drafting (or Elective)	2-3			
'ECON 160 Survey of American Economics	3			
'GOVT 180 American Constitutional Government				3
HRIM 221-222-223 Quality Food Preparation	5	5	5	
HRIM 236 Sanitation	3			
HRIM 264 Food & Beverage Cost Control		3		
HRIM 266 Food Purchasing		3		
HRIM 286 Catering			3	
INDT 127 Safety & Health Standards, Regulations & Codes				3
'PSYC 128 Human Relations		3		
SECR 111 Typewriting (or elective)				3
SECR 138 Office Record Keeping		<u>3</u>	<u>—</u>	<u>—</u>
Total Credits	16-17	17	17	
Total Minimum Credits for Degree	105			

*A year sequence in Social Science may be substituted.

MANAGEMENT

(Management, Banking and Finance,
Real Estate)

**ASSOCIATE IN APPLIED
SCIENCE DEGREE**

Purpose: The curriculum is designed for persons who seek full-time employment in business and industry upon completion of the community college curriculum. Both persons who are seeking initial employment in a managerial position and those presently in management who are seeking promotion may benefit from the curriculum.

Occupational Objectives:

- Management Training
- Supervision
- Real Estate Sales and Finance
- Retail Credit

Special Curriculum Admission Requirements: Minimum of two units of high school math, one of which must be algebra, or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Management Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111-112-113 Accounting (or ACCT 211-212-213)	3-4	3-4	3-4
BUAD 100 Introduction to Business	3		
BUAD 164-165 Principles of Business Management		3	3
*ECON 160 Survey of American Economics	3		
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152-153 Introduction to Business Mathematics	3	3	3
MKTG 100 Principles of Marketing			3
*SECR 111 Typewriting I (or Business Elective)		3	
English or Speech			3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-20	16-19	16-19

(Second Year)

ACCT 244 Business Taxes		3	
BUAD 241-242 Business Law	3	3	
BUAD 246 Business Finance			3
BUAD 254 Applied Business Statistics		3	
BUAD 276 Personnel Management			3
BUAD 298 Seminar and Project			3
DAPR 106 Principles of Data Processing	3		
DAPR 144 Computer Concept I (or Business Elective)		3	
ENGL 180 Business English	3		
*GOVT 180 American Constitutional Government	3		
*PSYC 128 Human Relations			3
Business Electives	3	3	
Electives			6
Total Credits	15	15	18
Total Minimum Credits for Degree	97		

Management Curriculum

(Banking and Finance)

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111-112-113 Accounting (or ACCT 211-212-213)	3-4	3-4	3-4
BUAD 100 Introduction to Business	3		
BUAD 164-165 Principles of Business Management		3	3
*ECON 160 Survey of American Economics	3		
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152-153 Introduction to Business Mathematics	3	3	3
MKTG 100 Principles of Marketing			3
*SECR 111 Typewriting I (or Business Elective)		3	
English or Speech			3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-20	16-19	16-19

(Second Year)

ACCT 244 Business Taxes		3	
BUAD 117 Principles of Security Investments	3		
BUAD 157 Principles of Bank Operation		3	
BUAD 241-242 Business Law	3	3	
BUAD 246 Business Finance			3
BUAD 254 Applied Business Statistics		3	
BUAD 256 Trust Functions (or Business Elective)			3
BUAD 258 Installment Credit (or Business Elective)		3	
BUAD 276 Personnel Management			3
BUAD 298 Seminar and Project			3
DAPR 106 Principles of Data Processing	3		
ECON 246 Money and Banking			3
ENGL 180 Business English	3		
*GOVT 180 American Constitutional Government	3		
*PSYC 128 Human Relations			3
Total Credits	15	15	18
Total Minimum Credits for Degree	97		

*A year sequence in Social Science may be substituted

*Students who have completed prior training in typewriting may petition for credit by examination

Management Curriculum

(Real Estate)

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111-112-113 Accounting (or ACCT 211-212-213)	3-4	3-4	3-4
BUAD 100 Introduction to Business	3		
BUAD 164-165 Principles of Business Management		3	3
*ECON 160 Survey of American Economics	3		
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152-153 Introduction to Business Mathematics	3	3	3
MKTG 100 Principles of Marketing			3
MKTG 164-165 Principles of Real Estate		3	3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-20	16-19	16-19

*A Year sequence in Social Science may be substituted

*Students who have completed prior training in typewriting may petition for credit by examination

(Second Year)			
ACCT 244 Business Taxes			3
BUAD 241-242 Business Law	3		3
BUAD 246 Business Finance			3
BUAD 254 Applied Business Statistics			3
BUAD 276 Personnel Management			3
BUAD 298 Seminar and Project			3
DAPR 106 Principles of Data Processing	3		
ENGL 180 Business English	3		
¹ GOVT 180 American Constitutional Government	3		
MKTG 150 Insurance (or Marketing Elective)			3
MKTG 268 Property Management (or Marketing Elective)		3	
MKTG 277 Real Estate Law (or Marketing Elective)			3
¹ PSYC 128 Human Relations			3
² SECR 111 Typewriting I (or Business Elective)	3		
English or Speech		3	
Total Credits	15	15	18
Total Minimum Credits for Degree			97

¹A year sequence in Social Science may be substituted

²Students who have completed prior training in typewriting may petition for credit by examination

MERCHANDISING

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is a middle management program designed for persons who seek full-time employment in merchandising and related occupations upon completion of the curriculum.

Occupational Objectives:

- Management technician or trainee
- Sales Supervisor or Representative
- Purchasing Agent
- Other related occupations

Special Curriculum Admission Requirements: Minimum of two units of high school math, one of which must be algebra or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Merchandising Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111-112-113 Accounting (or ACCT 211-212-213)	3-4	3-4	3-4
BUAD 100 Introduction to Business	3		
BUAD 164 Principles of Business Management		3	
¹ ECON 160 Survey of American Economics	3		
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152-153 Introduction to Business Math	3	3	3
MKTG 100 Principles of Marketing			3
MKTG 136 Retail Organization and Management			3
² SECR 111 Typewriting I (or Business Elective)		3	
English or Speech			3
Health or Physical Education	1-3	1-3	1-3
Total Credits	17-20	16-19	16-19

(Second Year)

ACCT 244 Business Taxes (or Business Elective)		3	
BUAD 241-242 Business Law	3	3	
BUAD 254 Applied Business Statistics		3	
BUAD 276 Personnel Management			3
BUAD 298 Seminar and Project			3
DAPR 106 Principles of Data Processing	3		
¹ GOVT 180 American Constitutional Government	3		
Marketing Elective			3
MKTG 109 Salesmanship	3		
MKTG 225 Principles of Advertising	3		
MKTG 226 Merchandising Buying and Control (or Marketing Elective)		3	
³ MKTG 290 Coordinated Internship		1-5	1-5
¹ PSYC 128 Human Relations			3
Total Credits	15	13-17	13-17
Total Minimum Credits for Degree			97

¹A year sequence in Social Science may be substituted

²Students who have completed prior training in typewriting may petition for credit by examination

³Students who have completed sufficient and appropriate occupational experience or who may be unable to participate in the cooperative phase of this curriculum may substitute appropriate courses in the fifth and sixth quarters

SECRETARIAL SCIENCE
(Executive, Legal, Medical)
ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to prepare persons for full-time employment upon completion of the community college program. Both persons who are seeking initial employment in an office position and those who are seeking promotion may benefit from this curriculum.

Occupational Objectives:

- Executive Secretary Stenographer
- Legal Secretary Administrative Assistant
- Medical Secretary Related Office Occupations

Special Curriculum Admission Requirements: Minimum of two units of high school mathematics, one of which must be algebra or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Secretarial Science Curriculum
(Executive Secretary)

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111 Accounting I (or ACCT 211)			3-4
BUAD 100 Introduction to Business	3		
BUAD 164 Principles of Business Management		3	
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152 Introduction to Business Math	3	3	
¹ SECR 111-112-113 Typewriting	3	3	3
¹ SECR 121-122-123 Shorthand	4	4	4
SECR 136 Filing and Records Management			3
English or Speech			3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	18-20	17-19	17-20

(Second Year)			
BUAD 241 Business Law			3
² ECON 160 Survey of American Economics			3
ENGL 180 Business English	3		
² GOVT 180 American Constitutional Government			3
MATH 153 Business Math by Machines	3		
² PSYC 128 Human Relations	3		
SECR 216 Executive Typewriting	3		
SECR 217 Skill Building (or Business Elective)			3
SECR 221-222-223 Transcription	3	3	3
SECR 241-242-243 Secretarial Procedures	3	3	3
³ SECR 256 Machine Transcription		3	
SECR 298 Seminar and Project			<u>3</u>
Total Credits	18	15	15
Total Minimum Credits for Degree	97		

¹Students who have completed prior training in typewriting and/or shorthand may petition for credit by examination.
²A year sequence in Social Science may be substituted.
³Students must have completed SECR 113 or be enrolled concurrently.

Secretarial Science Curriculum
(Legal Secretary)

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111 Accounting I (or ACCT 211)			3-4
BUAD 100 Introduction to Business	3		
BUAD 164 Principles of Business Management		3	
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152 Introduction to Business Math	3	3	
¹ SECR 111-112-113 Typewriting	3	3	3
¹ SECR 121-122-123 Shorthand	4	4	4
SECR 136 Filing and Records Management			3
English or Speech			3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	18-20	17-19	17-20
BUAD 241-242 Business Law	3	3	
BUAD 243 Business Law III (or Business Elective)			3
² ECON 160 Survey of American Economics	3		
ENGL 180 Business English	3		
² GOVT 180 American Constitutional Government			3
² PSYC 128 Human Relations			3
SECR 216 Executive Typewriting	3		
SECR 221 Transcription	3		
SECR 224-225 Legal Transcription (or SECR 222-223)			3
SECR 241 Secretarial Procedures	3	3	3
³ SECR 256 Machine Transcription		3	
SECR 264-265 Legal Secretarial Procedures (or SECR 242-243)		3	3
SECR 298 Seminar and Project			<u>3</u>
Total Credits	18	15	15
Total Minimum Credits for Degree	97		

¹Students who have completed prior training in typewriting and/or shorthand may petition for credit by examination.
²A year sequence in Social Science may be substituted.
³Students must have completed SECR 113 or be enrolled concurrently.

Secretarial Science Curriculum (Medical Secretary)

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111 Accounting I (or ACCT 211)			3-4
BUAD 100 Introduction to Business	3		
BUAD 164 Principles of Business Management		3	
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
MATH 151-152 Introduction to Business Math	3	3	
¹ SECR 111-112-113 Typewriting	3	3	3
¹ SECR 121-122-123 Shorthand	4	4	4
SECR 136 Filing and Records Management			3
English or Speech			3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	18-20	17-19	17-20
(Second Year)			
BIOL 154 Human Anatomy and Physiology (or HLTH 124)	3-4		
BUAD 241 Business Law		3	
² ECON 160 Survey of American Economics			3
ENGL 180 Business English		3	
² GOVT 180 American Constitutional Government	3		
MATH 153 Business Math by Machines	3		
² PSYC 128 Human Relations		3	
SECR 221-222 Transcription	3	3	
SECR 227 Medical Transcription (or SECR 223)			3
SECR 241 Secretarial Procedures	3		
³ SECR 256 Machine Transcription		3	
SECR 274-275 Medical Secretarial Procedures (or SECR 242-243)		3	3
SECR 298 Seminar and Project Elective			3
Total Credits	15-16	18	15
Total Minimum Credits for Degree	97		

¹Students who have completed prior training in typewriting and/or shorthand may petition for credit by examination

²A year sequence in Social Science may be substituted

³Students must have completed SECR 113 or be enrolled concurrently.

TRAFFIC AND TRANSPORTATION MANAGEMENT

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed both for persons who seek full-time employment in transportation upon completion of the community college curriculum and for those already employed who seek promotion.

Occupational Objectives:

Traffic Representative
Dispatcher
Rate Analyst
Operational Supervisor
Other related traffic and transportation occupations

Special Curriculum Admission Requirements: Minimum of two units of high school mathematics, one of which must be algebra or the equivalent, and proficiency in high school English. Students with deficiencies will require Developmental Studies.

Traffic and Transportation Management Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ACCT 111 Accounting I (or ACCT 211)			3-4
BUAD 100 Introduction to Business	3		
BUAD 164 Principles of Business Management		3	
¹ ECON 160 Survey of American Economics			3
ENGL 111-112 English Composition	3	3	
DAPR 106 Principles of Data Processing (or DAPR elective)			3
GENL 100 Orientation	1		
MATH 151 Introduction to Business Math	3		
MKTG 100 Principles of Marketing			3
MKTG 131-132-133 Traffic and Transportation	3	3	3
² MKTG 134 Economics of Transportation			3
³ SECR 111 Typewriting I (or Business Elective)		3	
English or Speech			3
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	17-20	16-18	16-18

(Second Year)

BUAD 254 Applied Business Statistics	3		
BUAD 276 Personnel Management (or Business Elective)		3	
¹ GOVT 180 American Constitutional Government		3	
MKTG 135 Economics of Transportation	3		
MKTG 231-232-233 Interstate Commerce Law	3	3	3
MKTG 236 Physical Distribution (or Business Elective)	3		
MKTG 238 Traffic Management		3	
MKTG 239 Problems of Transportation			3
MKTG 298 Seminar and Project			3
¹ PSYC 128 Human Relations		3	
Electives	3	3	6
Total Credits	15	18	15
Total Minimum Credits for Degree	97		

¹A year sequence in Social Science may be substituted
²Students should have taken Economics as a prerequisite.
³Students who have completed prior training in typewriting may petition for credit by examination.

ARCHITECTURAL TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to develop qualified engineering technicians. Graduates may seek immediate employment or consider opportunities available for transfer to appropriate Bachelor of Technology Programs offered by some four-year universities.

Occupational Objectives: Varied job opportunities in architectural offices, with building contractors, and with industries related to architectural technology.

Special Curriculum Admission Requirements: Proficiency in high school English and 3 units of Mathematics (2 units of Algebra and 1 unit of Geometry or Trigonometry). Students with deficiencies will require developmental studies.

Architectural Technology Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ARCH 100 Introduction to Architecture	3		
ARCH 111-112-113 Architectural Drafting	3	3	3
ARCH 141-142 Materials and Methods of Construction		3	3
ENGL 111-112 English Composition	3	3	
ENGLISH or SPEECH			3
ENGR 100 Introduction to Engineering Technology	2		
GENL 100 Orientation	1		
MATH 121-122-123 Engineering Technical Mathematics (or MATH 141-142-143 or MATH 161-162-163)	3-5	3-5	3-5
PHYS 111-112 Technical Physics (or PHYS 121-122)		4	4
Health or Physical Education	1-3	1-3	1-3
Total Credits	16-20	17-21	17-21

(Second Year)

ARCH 211-212-213 Architectural Drafting	3	3	3
ARCH 276 Construction Estimating	3		
ARCH 278 Building Codes, Contract Documents and Professional Office Practice			3
ARCH 298 Seminar and Project (or ARCH 290)			3-5
CIVIL 181 Surveying I	4		
¹ ECON 160 Survey of American Economics			3
ENGR 151-152 Mechanics (Statics & Str. of Matr.)	4	3	
ENGR 154 Mechanics Laboratory			1
¹ GOVT 180 American Constitutional Government			3
MATH 221-222 Adv. Engr. Tech. Mathematics (or Technical Electives) ²		3-4	3-4
¹ PSYC 128 Human Relations			3
² Technical Elective		3-4	
Total Credits	17-18	16-17	15-18
Total Minimum Credits for Degree	98		

¹A year sequence in Social Science may be substituted.
²Departmental Approval required for Technical Electives



CIVIL ENGINEERING TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to develop qualified engineering technicians. Graduates may seek immediate employment or consider opportunities available for transfer to appropriate Bachelor of Technology Programs offered by some four-year universities.

Occupational Objectives: Varied job opportunities with construction industries and State Highway Departments.

Special Curriculum Admission Requirements: Proficiency in high school English and 3 units of Mathematics (2 units of Algebra and 1 unit of Geometry or Trigonometry). Students with deficiencies will require developmental studies.

Civil Engineering Technology Curriculum

		Quarter Credit Hours		
(First Year)		1st	2nd	3rd
CIVL 124-125	Civil Engineering Drafting		2	2
CIVL 140	Construction Planning	3		
DRFT 111	Technical Drafting	2		
ENGL 111-112	English Composition	3	3	
ENGLISH or SPEECH				3
ENGR 100	Intro. to Engineering Technology	2		
ENGR 151	Mechanics (Statics)			4
GENL 100	Orientation	1		
¹ GOVT 180	American Constitutional Government		3	
MATH 121-122-123	Engr. Tech. Mathematics	5	5	5
PHYS 111-112	Technical Physics Health or Physical Education	<u>2-3</u>	<u>1-3</u>	—
Total Credits		18-19	18-20	18
(Second Year)				
CIVL 181-182	Surveying	4	4	
CIVL 217	Structural Steel Design			4
CIVL 218	Reenforced Concrete Design			4
CIVL 230	Structural Analysis		3	
CIVL 246	Soil Mechanics		3	
CIVL 247	Soil Mechanics Laboratory		1	
CIVL 254	Civil Materials I (concrete)	3		
CIVL 257	Concrete Laboratory	1		
CIVL 284	Route Surveying & Highway Design (or Technical Elective) ²			3-4
¹ ECON 160	Survey of American Economics		3	
ENGR 152	Mechanics (Strengths of Materials)	3		
ENGR 154	Mechanics Laboratory	1		
MATH 221-222	Adv. Engr. Tech. Mathematics (or Technical Electives) ²		3-4	3-4
MECH267	Fluid Mechanics	4		
¹ PSYC 128	Human Relations	—	—	3
Total Credits		16	17-18	17-19
Total Minimum Credits for Degree		104		

¹A year sequence in Social Science may be substituted
²Departmental approval required for Technical Electives

ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to develop qualified engineering technicians. Graduates may seek immediate employment or consider opportunities available for transfer to appropriate Bachelor of Technology Programs offered by some four-year universities.

Occupational Objectives:

- Communication Electronics
- Industrial Electrical/Electronics

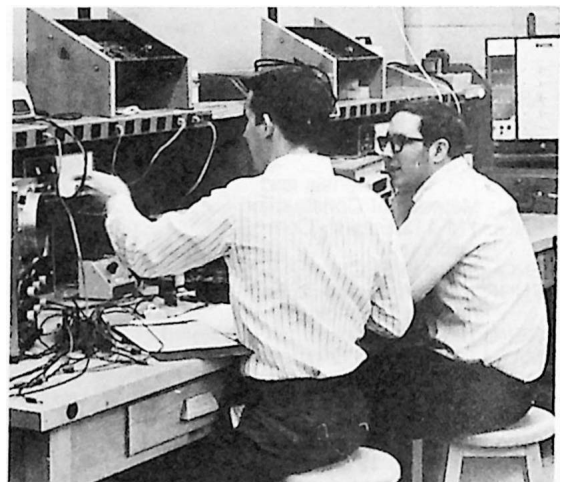
Special Curriculum Admission Requirements: Proficiency in high school English and 3 units of Mathematics (2 units of Algebra and 1 unit

of Geometry or Trigonometry). Students with deficiencies will require Developmental Studies.

Electrical/Electronic Engineering Technology Curriculum

		Quarter Credit Hours		
(First Year)		1st	2nd	3rd
ELEC 111-112	Introduction to Electrical Circuits	5	5	
ELEC 125	Introduction to Electronics			5
ENGL 111-112	Composition English or Speech	3	3	3
ENGR 100	Introduction to Engineering	2		
GENL 100	Orientation		1	
¹ GOVT 180	American Constitutional Government	3		
MATH 121-122-123	Engineering Technical Mathematics	5	5	5
PHYS 111-112	Technical Physics Health or Physical Education	—	—	<u>1-3</u>
Total Credits		18	18	18-20
(Second Year)				
DRFT 158	Electrical/Electronics Drafting	2		
¹ ECON 160	Survey of American Economics	1	1	3
ELEC 118-119	Electrical Shop			
ELEC 201-202-203	Electrical Engineering Technology	6	7	6
ELEC 276	Instruments and Measurements	4		
ELEC 298	Seminar & Project			1
MATH 221-222	Advanced Engineering Technical Mathematics (or Technical Electives) ³		3-4	3-4
¹ PSYC 128	Human Relations		3	
² Technical Option		4	4	4
Health or Physical Education		<u>1-3</u>	—	<u>1-3</u>
Total Credits		18-20	18-19	18-21
Total Minimum Credits for Degree		108		

¹A year sequence in Social Science may be substituted.
²ELEC 211-212-213 Electrical Machines and Controls or ELEC 241-242-243 Electronic Communications
³Departmental approval required for Technical Electives.



MECHANICAL ENGINEERING TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to develop qualified engineering technicians. Graduates may seek immediate employment or consider opportunities available for transfer to appropriate Bachelor of Technology Programs offered by some four-year universities.

Occupational Objectives: The Mechanical Engineering Technician usually serves as a liaison between the engineering and production departments working with the design and development of engineering plans. Responsibilities may include estimating, inspecting and testing engineering equipment; operating, maintaining, and repairing engineering plants; research and development; sales and representation; training and education.

Special Curriculum Admission Requirements: Proficiency in high school English and 3 units of Mathematics (2 units of Algebra and 1 unit of Geometry or Trigonometry). Students with deficiencies will require developmental studies.

Mechanical Engineering Technology Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
DRFT 111-112-113 Technical Drafting	2	2	2
ENGL 111-112 English Composition English or Speech	3	3	3
ENGR 100 Introduction to Engr. Technology	2		
ENGR 151 Mechanics I (Statics)			4
GENL 100 Orientation	1		
INDT 111-112 Mat. & Processes of Industry	3	3	
MATH 121-122-123 Engr. Tech. Mathematics	5	5	5
PHYS 111-112 Technical Physics Health or Physical Education	2-3	4	4
Total Credits	18-19	18-19	18

(Second Year)

'ECON 160 Survey of American Economics	3		
ELEC 111 Introduction to Electrical Circuits	5		
ENGR 152 Mechanics II (Strength of Materials)	3		
ENGR 154 Mechanics Laboratory	1		
'GOVT 180 American Constitutional Government			3
MATH 221-222 Adv. Engr. Tech. Mathematics (or Technical Electives) ²		3-4	3-4
MECH 131-132 Machine Laboratory	2	2	
MECH 176 Intro. to NC Machining (or Technical Elective) ²			3-4
MECH 237-238 Machine Design		4	4
MECH 264-265 Thermodynamics		4	4
MECH 267 Fluid Mechanics	4		
'PSYC 128 Human Relations		3	
WELD 100 Fundamentals of Welding		2	
Total Credits	18	18-19	17-19
Total Minimum Credits for Degree	107		

¹A year sequence in Social Science may be substituted

²Departmental approval required for Technical Electives

DENTAL HYGIENE

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to prepare selected students to serve in a dynamic and growing health service by becoming valuable members of the Dental Health team. At the successful completion of the program, a student will be eligible to take the National Board and State Board Examinations in Dental Hygiene leading to licensure as a Registered Dental Hygienist (R.D.H.).

Occupational Objectives:

- Private Dental Practice
- Group Dental Practice
- Dental Speciality Practice
- Hospital Dental Service
- Government Service
- Dental Hygiene Education

Special Curriculum Admission Requirements: 4 units English, 1 unit Biology, 2 units Social Studies, 1 unit Chemistry, 2 units Algebra and/ or Geometry, Dental Hygiene Aptitude Test, ACT—American College Test. A personal interview by the Counseling Department and the Dental Hygiene full-time faculty will be required before being accepted into the curriculum. Upon notification of acceptance to the curriculum, applicants are required to submit medical and dental reports indicating good general health. The program is open to both male and female applicants. Students with academic deficiencies will require Developmental Studies. Students who plan to apply for admission are encouraged to apply early in the fall semester of their senior year in high school. A later application may find enrollment quotas filled.

Special Curriculum Completion Requirements: Students who receive a final grade lower than "C" in any of the courses in the Dental Hygiene sequence must obtain permission from the Program Head to continue the major in Dental Hygiene prior to repeating the course. The student will be responsible for transportation to and from agencies utilized for clinical experience, and the purchase of student uniforms and accessories, complete instrument kit and Dental Liability Insurance.

Dental Hygiene Curriculum

	Quarter Credit Hours			
	1st	2nd	3rd	4th
(First Year)				
DENT 116 Dental Laboratory Materials				4
DENT 126 Oral Anatomy	3			
DENT 127 General & Oral Histology		3		
DENT 128 Head and Neck Anatomy			2	
DENT 140 Introduction to Dental Hygiene	1			
DENT 144-145 Dental Hygiene		5	5	
DENT 146 Oral Radiology			3	
DENT 150 General and Oral Pathology				3
DENT 154 Periodontics for Dental Hygiene I				2
DENT 261 Dental Hygiene III				6
BIOL 154-155 Human Anatomy and Physiology	4	4		
BIOL 176 Microbiology			4	
CHEM101-102-103 General Chemistry	4	4	4	
ENGL 111-112 English Composition	3	3		
GENL 100 Orientation	1			
HLTH 100 Orientation to Allied Health Careers	1	—	—	—
Total Credits	17	19	18	15
(Second Year)				
DENT 136 Pharmacology		2		
DENT 138 Community Dental Hygiene	4			
DENT 139 Dental Assisting for Dental Hygienists		2		
DENT 147 Nutrition	3			
DEI T 148 Office Practice and Ethics			2	
DENT 155 Periodontics for Dental Hygiene II	2			
DENT 262-263-264 Dental Hygiene	5	5	5	
ECON 160 Survey of American Economics		3		
GOVT 180 American Constitution Government			3	
HLTH 104 First Aid I			2	
PSYC 110 Principles of Psychology		3		
SOCI 101 Introduction to Sociology			3	
SPDR 137 Public Speaking	3	—	—	
Total Credits	17	15	15	
Total Minimum Credits for Degree	116			

*A year sequence in Science may be substituted

MENTAL HEALTH TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to prepare selected students to qualify as contributing members to the mental health team as human services workers who counsel and guide patients/clients through educational, therapeutic and rehabilitative treatment activities.

Occupational Objectives: Staff positions in community mental health centers, consultation and education programs, day care programs, halfway houses, institutions for the mentally ill and retarded, etc.

Special Curriculum Admission Requirements: Applicants will be given priority who have higher academic averages, and who possess the intellectual, emotional and physical capacity indicative of successful performance as a mental health worker and who have an interest in or an aptitude for relating comfortably to others in a therapeutic manner. Satisfactory performance on an appropriate test battery may be required. Students with academic deficiencies will require Developmental Studies. The program is open to both male and female applicants. Applicants are required to have a personal interview with mental health faculty prior to acceptance. Upon notification of acceptance to the curriculum, applicants are required to submit a medical report indicating good general health. Students who plan to apply for admission are encouraged to apply early in the fall semester of their senior year in high school. A later application may find enrollment quotas filled.

Special Curriculum Completion Requirements: Any student who receives a final grade lower than "C" in First Aid I (Health 100) cannot begin coordinated clinical practice. Students who receive a final grade lower than "C" in any of the courses in the Mental Health Technology sequence must obtain permission from the Program Head to continue the major in Mental Health Technology prior to repeating the course. The student will be responsible for transportation to health agencies utilized for clinical experiences and the purchase of identification pins and Mental Health Liability Insurance.

Mental Health Technology Curriculum

		Quarter Credit Hours		
		1st	2nd	3rd
(First Year)				
BIOL	154-155 Human Anatomy and Physiology	4	4	
'ECON	160 Survey of American Economics		3	
ENGL	111-112-113 English Composition	3	3	3
GENL	100 Orientation	1		
'GOVT	180 American Constitutional Government			3
HLTH	100 Orientation to Allied Health Careers	1		
HLTH	104 First Aid I	2		
MENT	101-102-103 Introduction to Mental Health	3	3	3
MENT	116 Activities Therapies			3
MENT	190 Coordinated Practice		3	3
'PSYC	128 Human Relations	3		
PSYC	130 Child Growth and Development			3
	Total Credits	17	16	18
(Second Year)				
MENT	221-222-223 Mental Health	3	3	3
MENT	236 Problems in Adolescence	3		
MENT	237 Problems in Aging		3	
MENT	290 Coordinated Practice	3	4	5
MENT	298 Seminar and Project			4
SOCI	101 Introductory Sociology	3		
SOCI	236 Marriage and the Family			3
SOCI	246 Cultural Anthropology		3	
	Elective	3	3	—
	Total Credits	15	16	15
	Total Minimum Credits for Degree			97

*A year sequence in Psychology may be substituted

try, and Algebra I will be offered by the college during the summer quarter so certain students may complete such requirements prior to starting the fall quarter. Students taking prerequisite college courses must maintain a 2.5 GPA. Satisfactory performance on an appropriate test battery may be required and applicants with deficiencies will require Developmental Studies. The curriculum is open to both male and female applicants who demonstrate the intellectual, emotional and physical capacity indicative of successful performance as a professional nurse. Applicants are required to have a personal interview with nursing faculty prior to acceptance. Upon notification of acceptance to the curriculum, applicants are required to submit medical and dental reports indicating good general health.

The student will be responsible for transportation to and from agencies utilized for clinical experience; and the purchase of student uniforms-accessories, and Student Nursing Liability Insurance.

Special Curriculum Completion Requirements: Students who receive a final grade lower than "C" in any required Nursing or Natural Science courses must obtain permission from the program head to continue the major in Nursing prior to repeating the course.

Special Accreditation Status: The curriculum is accredited by the Virginia State Board of Nurse Examiners.

NURSING

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: The curriculum is designed to prepare selected students to qualify as contributing members of the health team rendering direct patient care as beginning practitioners in a variety of health service facilities. At the successful completion of the program, students will be eligible to take the State Board examination leading to licensure as a registered nurse (R.N.).

Occupational Objectives: Employment opportunities for the Registered Nurse include staff positions in hospitals, nursing homes, health departments, physicians' offices, clinics, day care centers and civil service.

Special Curriculum Admission Requirements: One unit each of Biology, Chemistry, and Algebra; 4 units of English. Priority will be given to applicants with high class standings and a 2.5 average or higher on required prerequisite courses. Enrollment quotas are limited and applicants are encouraged to apply early in the fall semester of their senior year in high school. Equivalent courses in Biology, Chemis-

Nursing Curriculum

		Quarter Credit Hours			
		1st	2nd	3rd	4th
(First Year)					
BIOL	154-155 Anatomy and Physiology	4	4		
BIOL	176 Microbiology				4
ENGL	111-112-113 English Composition	3	3	3	
GENL	100 Orientation	1			
NURS	111-112-113 Fundamentals of Nursing	5	6	8	
NURS	199 Supervised Study		1		
NURS	221 Nursing in Major Health Problems				8
PSYC	201-202-203 General Psychology	3	3	3	
'Elective					3
	Total Credits	16	17	18	11
(Second Year)					
NURS	222-223-224 Nursing in Major Health Problems	8	8	8	
NURS	299 Supervised Study				3
SOCI	101-102-103 Introductory Sociology	3	3	3	
'ECON	160 Survey of American Economics	3			
'GOVT	180 American Constitutional Government		3		
	Total Credits	14	14	14	
	Total Minimum Credits for Degree				104

*A year sequence in Social Science may be substituted

RADIOLOGIC TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE
DEGREE

Purpose: The curriculum is designed to prepare selected students to qualify as contributing members of the allied health team who will care for patients under the supervision of qualified physicians. Successful completion of the program and experience will qualify the student to gain employment as a Radiologic Technologist. Upon completion of the curriculum and the six-month internship the student is eligible to write the National Registry Examination leading to certification as a Registered Radiologic Technologist.

Occupational Objectives: Positions are available in hospitals, education, industry, government agencies and radiologists offices.

Special Curriculum Admission Requirements: Applicant must be a high school graduate or the equivalent, and must reflect a "C" average in academic courses. To meet the general requirements, the applicant must have 2 units of science (Biology, Chemistry, or Physics), and 2 units of Mathematics (Algebra I, Algebra II, or Geometry). Special consideration will be given to students who have higher academic grades and scores. Students who have deficiencies will require Developmental Studies. Satisfactory performance on an appropriate test battery may be required. Applicants are required to have a personal interview with the Radiologic Technology faculty before being considered for acceptance into the curriculum. Upon notification of acceptance to the curriculum, applicants are required to submit a medical report indicating good general health. Students who plan to apply for admission are encouraged to apply early in the fall semester of their senior year in high school. A later application may find enrollment quotas filled.

Special Curriculum Completion Requirements: Students who receive a final grade lower than "C" in any of the courses in the Radiologic Technology sequence must obtain permission from the Program Head to continue the major in Radiology Technology prior to repeating the course. Selected learning experiences will be provided at the cooperating hospitals within the geographic area served by the college for a total of 2400 hours of practicum and the student is expected to provide transportation to such facilities.

The purchase of items such as student uniforms and accessories and Liability Insurance are the financial responsibility of the individual student. **Upon satisfactory completion of the seven-quarter program, the graduate must satisfactorily complete an additional 16 quarter hours of coordinated practice to be eligible to write the National Registry**

Examination. This internship will be supervised by the Radiologic Technology faculty and will consist of an additional six months of coordinated practice at affiliated hospitals. To fulfill this requirement, interested students must register for and successfully complete two additional quarters of RADL 290 for eight credits each quarter.

Special Accreditation Status: The curriculum has been approved by the authority of the Joint Review Committee on Education in Radiologic Technology, Council on Medical Education of the AMA, representing the ACR and the ASRT.

Radiologic Technology

		Quarter Credit Hours			
		1st	2nd	3rd	4th
(First Year)					
BIOL	154-155 Human Anatomy and Physiology	4	4		
BUAD	110 Human Relations and Leadership Training				3
ENGL	111, 112, 113 English Composition	3	3	3	
GENL	100 Orientation	1			
HLTH	100 Orientation to Allied Health Careers	1			
HLTH	124-125 Medical Terminology	3			2
MATH	111, 112, 113 Technical Mathematics	3	3	3	
RADL	110 Introduction to Radiology; Protection; Patient Care	3			
RADL	114-115 Principles of Exposure		4	4	
RADL	124-125 Radiographic Positioning		4	4	
RADL	190 Coordination Practice			3	5
RADL	298 Seminar and Project				3
SPDR	137 Public Speaking				0-3
	Total Credits	18	18	17	13-16
Second Year					
PHYS	101-102 Introductory Physics	4	4		
PSYC	201, 202, 203 General Psychology	3	3	3	
RADL	210 Protection and Patient Safety	2			
RADL	216 Radiation Physics				4
RADL	250 Radiologic Specialties		3		
RADL	256 Special Procedures	3			
RADL	290 Coordinated Practice	5	5	5	
RADL	298 Seminar and Project	1	3	3	
	Total Credits	18	18	15	

1AUTOMOTIVE TECHNOLOGY**ASSOCIATE IN APPLIED
SCIENCE DEGREE**

Purpose: The curriculum is primarily designed to train persons for full-time employment.

Occupational Objectives:

Automotive Diagnostician
Sales and Service
Service Manager
Tune-up Specialist

Special Curriculum Admission Requirements: Proficiency in high school English and mathematics. Students with deficiencies will require developmental studies. The purchase of hand tools and personal safety equipment are the financial responsibility of the individual student.

*Pending approval

Automotive Technology Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
AUTO 111-112 Automotive Engines	4	4	
AUTO 121-122 Automotive Fuel Systems		4	4
AUTO 136 Lubrication and Cooling Systems	3		
AUTO 154 Automotive Power Trains			4
AUTO 199 Supervised Study			2
ENGL 111-112 English Com- position	3	3	
ENGLISH or SPEECH			3
GENL 100 Orientation	1		
MATH 118-119 Intro. to Tech. Mathematics	5	5	
MECH 131 Machine Laboratory			2
PHYS 131 Applied Physics			3
WELD 100-101 Welding	2	2	
Total Credits	18	18	18
(Second Year)			
AUTO 238 Automotive Air Con- ditioning			3
AUTO 241-242 Automotive Elec- tricity	4	4	
AUTO 254-255 Automotive Trans- missions	4	4	
AUTO 267 Suspension and Braking Systems	4		
AUTO 268 Automotive Alignment			2
AUTO 284-285 Service Procedures & Tune-up		3	3
AUTO 287-288 Shop Management	3	3	
AUTO 290 Coordinated Internship (or AUTO 298)			3
*ECON 160 Survey of American Economics		3	
*GOVT 180 American Constitutional Government	3		
*PSYC 128 Human Relations			3
Health or Physical Education			3
Total Credits	18	17	17
Total Minimum Credits for Degree	106		

*A year sequence in Social Science may be substituted.

POLICE SCIENCE**ASSOCIATE DEGREE IN
APPLIED SCIENCE**

Purpose: The curriculum is designed to prepare individuals for career services in law enforcement and related occupations. Supported by a broad general education, training is given to develop professional competence in the fields of law enforcement administration, police science, the prevention and control of delinquency and crime, correctional administration, industrial security administration, and traffic administration. The curriculum is applicable to both the preparatory student and the experienced officer.

Occupational Objectives:

Commercial and Industrial Security
Officer
Local, State, and Federal Enforcement
Officers
Police Officer
Private or Government Investigator

Special Curriculum Admission Requirements: Students entering the curriculum should be aware that law enforcement agencies usually have special requirements for employment. Below are listed some of the most common special requirements: (a) Excellent physical condition free from any physical or mental condition which might adversely affect acceptance or performance as a law enforcement officer; (b) Normal hearing, color vision, and eye functions with visual acuity not less than 20/40 in either eye without correction; (c) Weight in proportion to height. (Very few law enforcement agencies will accept male applicants who are less than 5'8" in height); and (d) Excellent moral character—no convictions in any crime involving moral turpitude or any felony and no excessive number of traffic citations. (Background investigation will be conducted by the employing agency to confirm the foregoing.) Students with deficiencies will require Developmental Studies.

Police Science Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
ADJU 100 Introduction to Law Enforcement	3		
ADJU 114-115 Police Organization and Administration		3	3
ADJU 126 Prevention & Control of Juvenile Delinquency		3	
ADJU 134-135 Criminal Law	3	3	
ADJU 240 Constitutional Law for Police			3
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
GOVT 281-282-283 U. S. Government	3	3	3
SOCI 101-102-103 Introductory Sociology	3	3	3
¹ Elective			<u>3</u>
Total Credits	16	18	18
(Second Year)			
ADJU 110 Patrol Administration	3		
ADJU 120 Introduction to Corrections		3	
ADJU 176 Criminology	3		
ADJU 228 Law Enforcement & the Community	3		
ADJU 246 Principles of Criminal Investigation		3	
ADJU 247 Advanced Criminal Investigation			3
ADJU 298 Seminar & Project			3
HLTH 110 Concepts of Personal and Community Health	3		
Psychology Elective		3	
Science with laboratory		4	4
SPDR 137 Public Speaking			3
¹ Electives	<u>3</u>	<u>3</u>	<u>3</u>
Total Credits	15	16	16
Total Minimum Credits for Degree	99		

¹Departmental approval required for electives.

RADIO AND TELEVISION PRODUCTION TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Purpose: With the growth of commercial and educational broadcasting in Virginia, the need for personnel trained in radio and television is expanding. The curriculum is designed primarily for persons seeking employment in radio and television upon graduation.

Occupational Objectives:

- Advertising Agency Assistant
- Radio Program Producer
- Script and Continuity Writer
- Television Director/Producer
- Television Studio Technician

Special Curriculum Admission Requirements: Proficiency in high school English. It is recommended that applicants have a personal interview with the broadcasting faculty to discuss their educational goals and occupational objectives. Students with deficiencies will require developmental studies.

Radio and Television Production Technology Curriculum

	Quarter Credit Hours		
	1st	2nd	3rd
(First Year)			
BCST 110 Introduction to Radio/Television	3		
BCST 121-122-123 Radio/TV Production	3	3	3
BCST 134-135 Speech for Radio/TV		3	3
BCST 138 TV Studio Art		3	
BCST 198 Seminar & Project	1		
¹ ECON 160 Survey of American Economics		3	
ENGL 111-112-113 English Composition	3	3	3
GENL 100 Orientation	1		
¹ GOVT 180 American Constitutional Government			3
¹ PSYC 128 Human Relations			3
SECR 111 Typewriting (or approved elective)	3		
SOCI 101 Introductory Sociology (or approved elective)		3	
SPDR 141 Voice and Diction	3		
ELECTIVE			<u>3</u>
Total Credits	17	18	18
(Second Year)			
ARTS 180 Introduction to Photography		2	
BCST 214-215 Technical Problems of Radio/TV		3	3
BCST 216 Radio/TV Management and Operation	3		
BCST 217 Radio/TV News			3
BCST 226 Writing for Radio/TV	3		
BCST 236 Broadcast Advertising and Sales		3	
BCST 257 Social Problems in American Broadcasting			3
BCST 281-282-283 Advanced Radio/TV Production	5	5	5
BCST 298 Seminar and Project			1
BUAD 100 Introduction to Business		3	
ENGL 121 Journalism (or approved elective)	3		
Health or Physical Education	<u>1-3</u>	<u>1-3</u>	<u>1-3</u>
Total Credits	15-17	17-19	16-18
Total Minimum Credits for Degree	101		

¹A year sequence in Social Science may be substituted.

¹AIR CONDITIONING AND REFRIGERATION

(Certificate)

Purpose: The curriculum is primarily designed to train persons for full-time employment.

Occupational Objectives:

- Service Technician
- Installation Technician

Special Curriculum Admission Requirements: Proficiency in high school English and mathematics. Students with deficiencies will require developmental studies.

Air Conditioning and Refrigeration Curriculum

		Quarter Credit Hours		
(First Year)		1st	2nd	3rd
AIRC 11-12-13	Air Conditioning	3	3	3
ELEC 11-12	Electricity		4	4
MATH 41	Air Conditioning Mathematics	4	—	—
Total Credits		7	7	7
(Second Year)				
AIRC 14-15-16	Air Conditioning	3	3	3
ELEC 21	Electronics I			4
ELEC 74-75	Electrical Power and Control Systems	4	4	—
Total Credits		7	7	7

Additional required courses that may be taken any quarter:

English Elective	3
² ECON 160 Survey of American Economics	3
² GOVT 180 American Constitutional Government	3
² PSYC 128 Human Relations	3
Total Minimum Credits for Certificate	54

¹Requires part-time enrollment over a two-year period.
²A year sequence in Social Science may be substituted.

¹ARCHITECTURAL DRAFTING (CERTIFICATE)

Purpose: The curriculum is primarily designed to train persons for full-time employment.

Occupational Objectives:

- Architectural Aide
- Architectural Draftsman

Special Curriculum Admission Requirements: Proficiency in high school English and mathematics. Students with deficiencies will require developmental studies.

¹Architectural Drafting Curriculum

		Quarter Credit Hours		
(First Year)		1st	2nd	3rd
ARCH 111-112-113	Architectural Drafting	3	3	3
MATH 31-32-33	Algebra (or advanced sequence)	3-5	3-5	3-5
Total Credits		6-8	6-8	6-8
(Second Year)				
ARCH 211-212-213	Architectural Drafting	3	3	3
Technical Elective		<u>3-4</u>	<u>3-4</u>	<u>3-4</u>
Total Credits		6-7	6-7	6-7

Additional required courses that may be taken any quarter:

English Elective	3
² ECON 160 Survey of American Economics	3
² GOVT 180 American Constitutional Government	3
² PSYC 128 Human Relations	3
Total Minimum Credits for Certificate	48

¹Requires part-time enrollment over a two-year period.
²A year sequence in Social Science may be substituted.

CHILD CARE—EARLY CHILDHOOD EDUCATION (CERTIFICATE)

Purpose: The curriculum is designed to introduce interested persons, including parents, to the field of Early Childhood Education and to provide opportunities for individuals presently working in this field or allied professions to improve the knowledge and skills necessary to foster growth in young children—intellectual, social, physical and emotional.

Occupational Objectives: Positions in Day Care Centers, nurseries, playground programs, foster homes, hospital playrooms, family day care facilities, home-training programs and other facilities offering services for pre-school children. Virginia Western Community College operates a half-day Nursery School as a laboratory school for the Child Care Program.

Special Curriculum Admission Requirements: Evidence that the applicant possesses the intellectual, emotional, and physical capacities and the interest and aptitude necessary for relating successfully to young children. Students with deficiencies will require Developmental Studies.



Child Care—Early Childhood Education—Curriculum

(One Year)	Quarter Credit Hours		
	1st	2nd	3rd
² ECON 160 Survey of American Economics		3	
EDUC 106 Language Arts for Pre-School		3	
EDUC 110 Introduction to Child Care	3		
EDUC 121-122 Childhood Education		3	3
EDUC 137 Creative Activities for Children	3		
¹ EDUC 186 Child Study			3
EDUC 190 Coordinated Internship	3-5	3-5	3-5
ENGL 111 English Composition	3		
² GOVT 180 American Constitutional Government			3
HLTH 104 First Aid			2
HLTH 156 Child Health and Nutrition			3
² PSYC 110 Principles of Applied Psychology		3	
PSYC 130 Child Growth and Development	3		
SOCI 166 School and Community Relations		3	
Total Credits	15-17	18-20	17-19
³ Total Minimum Credits for Certificate	47		

¹Prerequisite to EDUC 186 Child Study is PSYC 130.
²A year sequence in Social Science may be substituted.
³Additional credit may be granted for EDUC 199 Supervised Study under the direction of Child Care faculty.

CLERK TYPIST (CERTIFICATE)

Purpose: The curriculum is primarily designed to train persons for full-time employment following graduation.

Occupational Objectives:

- Typist
- Receptionist
- File Clerk
- Related Office Work

Special Curriculum Admission Requirements: Applicant must meet the general requirements for admission to the College. Students with deficiencies will require Developmental Studies.

Clerk-Typist Curriculum

(One Year)	Quarter Credit Hours		
	1st	2nd	3rd
BUAD 100 Introduction to Business	3		
BUAD 108 Business Machines (or MATH 153)			2-3
DAPR Elective (or BUAD/SECR elective)			3
¹ ECON 160 Survey of American Economics		3	
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
¹ GOVT 180 American Constitutional Government	3		
MATH 50 Business Math I (or MATH 151)	3		
¹ PSYC 128 Human Relations		3	

² SECR 111-112-113 Typewriting	3	3	3
SECR 136 Filing & Records Management			3
SECR 138 Office Record Keeping		3	
SECR 139 Clerical Procedures			3
SECR 157 Machine Transcription			3
SPDR 137 Public Speaking		3	
Total Credits	16	18	17-18
Total Minimum Credits for Certificate	51		

¹A year sequence in Social Science may be substituted.
²Students who have completed prior training in typewriting may petition for credit by examination.

DENTAL ASSISTANT (CERTIFICATE)

Purpose: The curriculum is primarily designed to train persons for full-time employment as qualified dental assistants. Students receive training in specialized clinical science courses as well as training in clinical facilities where they will work with dentists to learn the newer techniques of four-handed dentistry and expanded duties.

Occupational Objectives:

- Private Dental Practice
- Group Dental Practice
- Dental Specialty Practice
- Hospital Dental Service
- Government Service
- Dental Assisting Education

Special Curriculum Admission Requirements: 4 units English, 1 unit Mathematics, 2 units Social Studies, 1 unit of laboratory science (preferably Biology). One unit of high school Chemistry is strongly recommended. Satisfactory performance on an appropriate test battery may be required and students with deficiencies will require developmental studies. Applicants are required to have a personal interview with the dental faculty. Upon notification of acceptance to the curriculum, applicants are required to submit medical and dental reports indicating good general health.

Special Curriculum Completion Requirements: The student will be responsible for transportation to health agencies utilized for clinical practice and the purchase of uniforms, accessories, and Dental Liability Insurance. Students accepted into the program must achieve a final grade of "C" or higher in Dent 190 Coordinated Practice.

Special Accreditation Status: The curriculum has been approved by the Commission on Dental Education of the American Dental Association.

Dental Assistant Curriculum

(Certificate)	Quarter Credit Hours			
	1st	2nd	3rd	4th
DENT 100 Introduction to Dental Auxiliaries	3			
DENT 101-102-103 Dental Science	4	4	4	
DENT 110 Introduction to Dental Materials	4			
DENT 111-112 Clinical Procedures		4	4	
DENT 121-122 Chairside Assisting		4	4	
DENT 190 Coordinated Practice				5
DENT 198 Seminar & Project				3
¹ ECON 160 Survey of American Economics				3
ENGL 111 English Composition	3			
GENL 100 Orientation	1			
¹ GOVT 180 American Constitutional Government		3		
HLTH 100 Orientation to Allied Health Careers	1			
HLTH 110 Personal and Community Health	3			
¹ PSYC 128 Human Relations			3	
² SECR 111 Typewriting				3
SECR 138 Office Recordkeeping			3	
SECR 139 Clerical Procedures				3
SPDR 137 Public Speaking		3		
Total Credits	19	18	18	17
Total Minimum Credits for Certificate				72

¹A year sequence in Social Science may be substituted.
²With typing proficiency demonstrated, elective may be substituted.



ENGINEERING/TECHNICAL ASSISTANT (CERTIFICATE)

Purpose: The curriculum is designed to provide an opportunity for the student to specialize in specific engineering/technical areas.

Occupational Objectives: Graduates may consider a wide array of job opportunities in industry or receive a maximum of transfer credit and continue their education in a similar associate degree level curriculum offered by the college.

Special Curriculum Admission Requirements: Proficiency in high school English and Mathematics. Students with deficiencies will require Developmental Studies.

Engineering/Technical Assistant Curriculum

(One Year)	Quarter Credit Hours		
	1st	2nd	3rd
DRFT 111-112-113 Technical Drafting (or Technical Electives) ²	2-3	2-3	2-3
¹ ECON 160 Survey of American Economics	3		
ENGL 111-112 English Composition English or Speech	3	3	3
ENGR 100 Introduction to Engineering Technology			2
¹ GOVT 180 American Constitutional Government		3	
MATH 31-32-33 Algebra (or advanced sequence)	3-5	3-5	3-5
¹ PSYC 128 Human Relations			3
² Technical Electives	3-4	3-4	3-4
Total Credits	14-18	14-18	16-20
Total Minimum Credits for Certificate			44

¹A year sequence in Social Science may be substituted
²Departmental approval required for Technical Electives

FIRE FIGHTING AND PREVENTION (CERTIFICATE)

Purpose: The curriculum is designed for practitioners in fire science occupations who wish to upgrade and broaden their professional abilities and for others who are preparing themselves to enter the fire science field.

Special Curriculum Admission Requirements: Proficiency in high school English and mathematics. Students with deficiencies may require Developmental Studies.

Fire Fighting and Prevention

(One Year)	Quarter Credit Hours		
	1st	2nd	3rd
¹ ECON 160 Survey of American Economics			3
ENGL 111 English Composition	3		
FIRE 106 Fire Protection Organization	3		
FIRE 107 Blueprint Reading for Firemen		3	
FIRE 108 Fundamentals of Fire Suppression	3		
FIRE 111 Hazardous Materials I		3	
FIRE 137 Fire Fighting Tactics and Strategy		3	
FIRE 146 Fire Administration and Law			3
FIRE 216 Fire Hydraulics and Equipment			4
FIRE 237 Arson Detection and Investigation			3
GENL 100 Orientation	1		
¹ GOVT 180 American Constitutional Government	3		
¹ PSYC 128 Human Relations		3	
² Electives	<u>3</u>	<u>3</u>	<u>3</u>
Total Credits	16	15	16
Total Minimum Credits for Certificate	47		

¹A year sequence in Social Science may be substituted.

²Departmental approval required for electives.

Stenographic Curriculum

(One Year)	Quarter Credit Hours		
	1st	2nd	3rd
BUAD 100 Introduction to Business	3		
¹ BUAD 108 Business Machines (or MATH 153)			2-3
² ECON 160 Survey of American Economics		3	
ENGL 111-112 English Composition	3	3	
GENL 100 Orientation	1		
² GOVT 180 American Constitutional Government			3
MATH 50 Business Mathematics I (or MATH 151)	3		
² PSYC 128 Human Relations		3	
³ SECR 111-112-113 Typewriting	3	3	3
³ SECR 121-122-123 Shorthand	4	4	4
SECR 136 Filing and Records Management		3	
SECR 139 Clerical Office Procedures			3
SECR 157 Machine Transcription			<u>3</u>
Total Credits	17	19	18-19
Total Minimum Credits for Certificate	54		

¹Student is required to have MATH 50 or MATH 151 as prerequisite.

²A year sequence in Social Science may be substituted.

³Students who have completed prior training in typewriting and/or shorthand may petition for credit by examination.

STENOGRAPHIC

(CERTIFICATE)

Purpose: The curriculum is designed to provide training in the art and skills of clerical and stenographic practice.

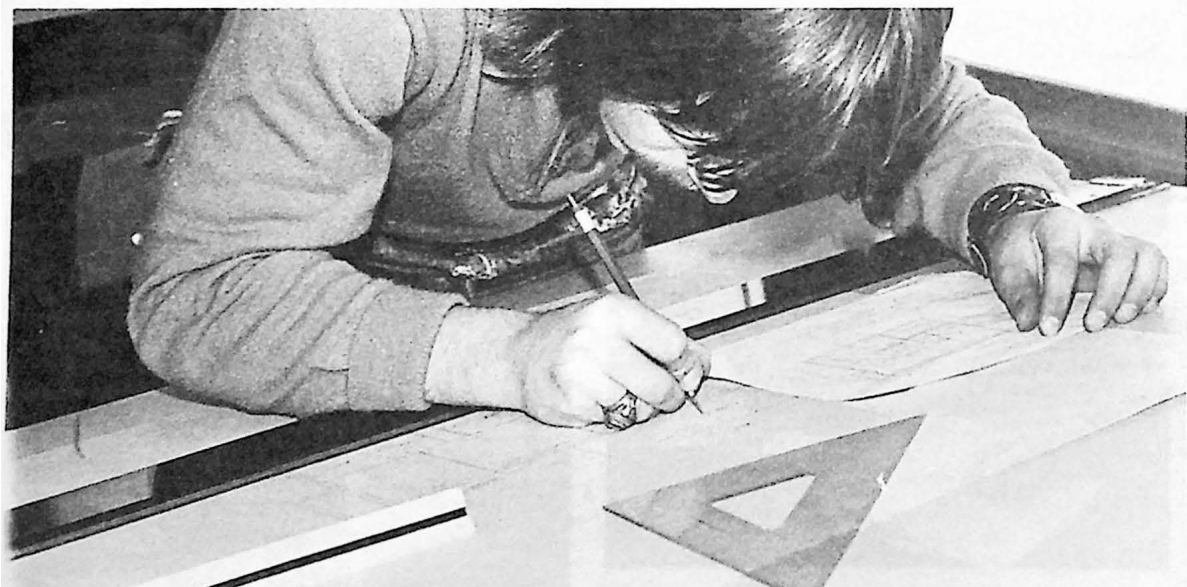
Occupational Objectives:

- Stenographer
- Typist
- File Clerk
- General Office Work

Special Curriculum Admission Requirements:

Applicants must meet the general requirements for admission to the College. Students with deficiencies will require Developmental Studies.





PART V

DESCRIPTIONS OF COURSES

CONTINUING EDUCATION AND COMMUNITY SERVICES PROGRAMS

In order to provide the widest possible diversification of educational opportunity, Virginia Western Community College schedules credit and non-credit courses and programs to meet educational and training needs outside the realm of traditional college studies. These include classes, institutes, forums, workshops, lectures, and courses to provide: (1) individual cultural enrichment; (2) individual job skill improvement; (3) hobby and leisure time activity training; (4) service to commerce and industry in upgrading employee skills; (5) special services focused on societal and community development.

State general fund tax dollars are not used to support non-credit community service programs.

GENERAL COURSE INFORMATION

Course Numbers

Courses numbered 01-09 are courses for Developmental Studies. The credits earned in these courses are not applicable toward associate degree programs; however, upon approval of the Dean of Instruction, some developmental courses may provide credit applicable to basic occupational diploma or certificate programs. Students may re-register for these courses in subsequent quarters as necessary until the course objectives are completed.

Courses numbered 10-99 are basic occupational courses for diploma and certificate programs. The credits earned in these courses are applicable toward diploma and certificate programs but are not applicable toward an associate degree.

Courses numbered 100-199 are freshman courses applicable toward an associate degree, and/or certificate and diploma programs.

Courses numbered 200-299 are sophomore courses applicable toward an associate degree, and/or certificate and diploma programs.

Course Credits

The credit for each course is indicated after the title in the course description. One credit is equivalent to one collegiate quarter hour credit or two-thirds of a collegiate semester hour credit.

Course Hours

The number of lecture hours in class each week (including lecture, seminar and discussion hours) and/or the number of laboratory hours in class each week (including laboratory, shop, supervised study, and cooperative work experiences) are indicated for each course in the course description. The number of lecture and laboratory hours in class each week are also "contact" hours because it is time spent under the direct supervision of a faculty member. In addition to the lecture and laboratory hours in class each week, as listed in the course description, each student also must spend some time on out-of-class assignments under his own direction. Usually each credit hour per course requires an average of three hours of in-class and out-of-class study each week.

Course Prerequisites

If any prerequisites are required before enrolling in a course, these prerequisites will be identified in the course description. Courses in special sequences (usually identified by the numerals I-II-III) require that prior courses or their equivalent be completed before enrolling in the advanced courses in the sequence. When corequisites are required for a course, usually the corequisites must be taken at the same time. The prerequisites or their equivalent must be completed satisfactorily before enrolling in a course unless special permission is obtained from the Dean of Instruction and instructional department.

ACCOUNTING

ACCT 114-115 APPLIED ACCOUNTING I-II (3 cr. (3 cr.)—Practical accounting as applied to retail stores, professional individuals in firms, and to personal service occupations; accounting forms and practical accounting procedures. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

ACCT 211-212-213 PRINCIPLES OF ACCOUNTING I-II-III (3 cr.) (3 cr.) (3 cr.)—Accounting principles and their application to various forms of business inventory valuation, internal control systems, manufacturing processes, budgeting, and analysis of financial statements. Lecture 3 hours per week.

ACCT 221-222-223 INTERMEDIATE ACCOUNTING I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite ACCT 211-212-213. Extensive analysis of the principle elements of accounting systems and statements. Lecture 4 hours per week.

ACCT 227 MANAGERIAL ACCOUNTING (3 cr.)—Prerequisite Acct. 222. Preparation, analysis, and interpretation of accounting and financial data for managerial purposes. Lecture 3 hours per week.

ACCT 229 AUDITING (3 cr.)—Prerequisite ACCT 211-212-213. Purposes of audit, relationships of auditor and client, kinds of audits, working papers, internal controls and examination of accounting systems, audit reports. Lecture 3 hours per week.

ACCT 234-235 COST ACCOUNTING I-II (3 cr.) (3 cr.)—Prerequisite ACCT 211-212-213. Studies in accounting systems, methods and statements involved in process

and job cost accounting; use of standards and cost controls. Lecture 3 hours per week.

ACCT 224 TAXES I (3 cr.)—Principles of federal taxation relating to individual income taxes with emphasis on minimization of personal tax burden and preparation of personal tax returns; single preparation form and tax problems. Lecture 3 hours per week.

ACCT 245 TAXES II (3 cr.)—Prerequisite Acct. 244. Federal taxation principles and theories concerning partnership and corporation income tax concepts and problems. Emphasis on evaluation of business transactions from a tax point of view, partnership and corporate tax minimization and tax return preparation. Lecture 3 hours per week.

ACCT 298, 299—See **General Usage Courses** page 154.

ADMINISTRATION OF JUSTICE

ADJU 100 INTRODUCTION TO LAW ENFORCEMENT (3 cr.)—The philosophy and history of law enforcement; overview of crime and police problems; organization and jurisdiction of local, state, and federal law enforcement agencies, survey of professional career opportunities and qualifications required. Lecture 3 hours per week.

ADJU 110 PATROL ADMINISTRATION (3 cr.)—The theories, history, and development of police patrol. Methods and techniques of the various types of patrol and their importance to the overall police function. The responsibilities of patrol officers and supervisors in identifying police hazards, preventing crime, providing police services, establishing sound public relations; practical exercises. Lecture 3 hours per week.

ADJU 114-115 POLICE ORGANIZATION AND ADMINISTRATION I-II (3 cr.) (3 cr.)—Prerequisite ADJU 100. Police functioning at the administrative level. The organization and management of line operations, staff and auxiliary services, including investigative, juvenile, and vice units. The organization and management of personnel, internal control, planning and research, and housing and material functions. Lecture 3 hours per week.

ADJU 117 SPECIAL ENFORCEMENT PROBLEMS (3 cr.)—Crowd control during civil demonstrations, picketing, rioting, and other emergency situations; the police role in civil defense; police problems caused by narcotics addiction; the handling of mentally or emotionally disturbed persons. Lecture 3 hours per week.

ADJU 126 PREVENTION AND CONTROL OF JUVENILE DELINQUENCY (3 cr.)—Survey of youth crime, stressing the police role in community programs of prevention and control. The philosophy and functioning of the juvenile courts as related to the juvenile problems. Lecture 3 hours per week.

ADJU 127 CRIMINAL OFFENSES (3 cr.)—The study of particular types of crime with emphasis on the pathology of criminals. Lecture 3 hours per week.

ADJU 128 CRIMINAL BEHAVIOR (3 cr.)—Analysis of relationship of society socialization, and deviancy. Social responses to deviancy and criminal offenders. Lecture 3 hours per week.

ADJU 134-135 CRIMINAL LAW I-II (3 cr.) (3 cr.)—Major crimes; their classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses. Emphasis on the common law and Virginia adaptation. Lecture 3 hours per week.

ADJU 136 LEGAL EVIDENCE (3 cr.)—Kinds, degrees, and admissibility of evidence; methods and techniques of its acquisition, use in criminal proceedings, moot court activities. Lecture 3 hours per week.

ADJU 150 INTRODUCTORY POLICE PHOTOGRAPHY (2 cr.)—Fundamental photographic skills; uses of photography in law enforcement and in courtroom presentation; practical exercises. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

ADJU 166 POLICE COMMUNICATIONS AND RECORDS (3 cr.)—Principles of organization and administration as applied to records and communications, custody, central services, and police logistics; police applications of electronic data processing and the collection of performance data. Lecture 3 hours per week.

ADJU 176 CRIMINOLOGY (3 cr.)—Volume and scope of crime, the background of criminal behavior in the American setting; organized crime and its affiliated problems; subjective theories and explanation of crime; the control, treatment and rehabilitation of the criminal offender. Lecture 3 hours per week.

ADJU 187 TRAFFIC ADMINISTRATION AND CONTROL (3 cr.)—Modern methods of traffic facilitation and control; Virginia traffic offenses, techniques of selective enforcement and of accident investigation, police responsibilities in special situations; practical exercises. Lecture 3 hours per week.

AIR CONDITIONING AND REFRIGERATION

AIRC 11 AIR CONDITIONING I (3 cr.)—Designed to introduce and explain basic principles of refrigeration and systems. Deals with the composition and state of matter, liquid vapor, equilibrium, pressure, density, pressure-volume-temperature relationship. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

AIRC 12 AIR CONDITIONING II (3 cr.)—The law of gases, temperature scales, heatwork, power, energy, heat transfer and elementary refrigeration systems. Included is a thorough study of types of systems used in refrigeration. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

AIRC 13 AIR CONDITIONING III (3 cr.)—The theory and application of compressors, condensers, evaporators, expansion valves and capillary tubes used in refrigeration systems. Freezing process of foods and refrigeration load calculators are included. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

AIRC 14 AIR CONDITIONING IV (3 cr.)—Study of properties of air temperature, relative humidity, specific heat, condensation, evaporation, psychometrics, basic parts of systems, functions, problems, principles of operation, air-cooling, water cooling, load calculation, and estimating procedures. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

AIRC 15-16 AIR CONDITIONING V-VI (3 cr.) (3 cr.)—Psychometric properties of air, heat, load and gain calculation, heated and chilled water systems, duct design, pipe sizing, air distribution, and air comfort requirements. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

ARCHITECTURAL TECHNOLOGY

ARCH 100 INTRODUCTION TO ARCHITECTURE (3 cr.)—An intensive course outlining the history and impact of architecture. Emphasis on the dynamics and social aspects of architecture and society. Lecture 3 hours per week.

ARCH 111 ARCHITECTURE DRAFTING I (3 cr.)—Designed to provide the fundamental knowledge of the principles of drafting. Skills and techniques of drafting including the use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, and orthographic drawing. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 112 ARCHITECTURAL DRAFTING II (3 cr.)—Prerequisite ARCH 111 or equivalent. An introduction to complex one and two-point perspectives, basic techniques of shade and shadow construction in orthographic drawings, development of construction details using appropriate materials, indications and symbols, study of model construction, and drafting techniques with

pen and ink. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 113 ARCHITECTURAL DRAFTING III (3 cr.)—Prerequisite ARCH 112. An approach in depth to the study of architectural drafting. Development of techniques in architectural lettering, dimensioning, freehand sketching and instrument drawing. Drawings of construction details, using appropriate material symbols and conventions. Working drawings including plans, elevations, sections, scale details and full size details prepared from preliminary sketches. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 141 MATERIALS AND METHODS OF CONSTRUCTION I (3 cr.)—Designed to introduce the materials used in erection of structures, the physical properties and the architecture and characteristics of steel, concrete, timber, glass, related materials and the methods used in testing materials. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

ARCH 142 MATERIALS AND METHODS OF CONSTRUCTION II (3 cr.)—Prerequisite ARCH 141. Designed to introduce the practical use of materials and methods of structures. The architectural and structural relationship of concrete, steel, and timber structures are analyzed with an introduction to cost analysis and the economic aspect involved in construction. Lecture 3 hours per week.

ARCH 211 ARCHITECTURAL DRAFTING IV (3 cr.)—Prerequisite ARCH 113. Preparation of structural plans, elevations, wall sections, and details for building construction with emphasis on structural components. Appropriate details and drawings necessary for construction. Reference materials provide skills and knowledge in locating data and in using handbooks. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 212 ARCHITECTURAL DRAFTING V (3 cr.)—Prerequisite ARCH 211. Preparation of plans and details for building construction with emphasis on mechanical equipment such as air conditioning, plumbing and electrical systems using appropriate symbols and conventions. Coordination of mechanical and electrical features with structural and architectural components. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 213 ARCHITECTURAL DRAFTING VI (3 cr.)—Prerequisite ARCH 212. Preparation of a complete set of working drawings for the architectural structure including structural components, mechanical equipment, and millwork drawings. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

ARCH 276 CONSTRUCTION ESTIMATING (3 cr.)—Interpretation of working drawings for a project; preparation of material and labor quantity surveys for plans and specifications; approximate and detailed estimates of cost, and bid and contract procedures. Detailed inspection of the construction by comparing the finished work to the specifications. Lecture 3 hours per week.

ARCH 278 BUILDING CODES, CONTRACT DOCUMENTS AND PROFESSIONAL OFFICE PRACTICES (3 cr.)—The professional role of the architectural technician with regard to clients and employer. Building codes and their effect in relation to specifications and drawings. The purpose and writing of specifications with their legal and practical application to working drawings. Contract documents analyzed for client-architect contractor responsibilities, duties and mutual protection. Lecture 3 hours per week.

ARCH 290, 298—See General Usage Courses on page 154.

ARTS

ARTS 111-112-113 HISTORY AND APPRECIATION OF ART I-II-III (3 cr.) (3 cr.) (3 cr.)—The history and interpretation of architecture, sculpture and painting beginning with prehistoric art and following the main stream of western civilization to the present. Lecture 3 hours per week.

ARTS 121-122-123 THEORY AND PRACTICE OF DRAWING I-II-III (3 cr.) (3 cr.) (3 cr.)—Representational and non-representational drawings in charcoal, wash, pencil, and varied combinations of media. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 151-152 FUNDAMENTALS OF DESIGN I-II (3 cr.) (3 cr.)—Experimentation and practice on design problems relating to visual communications with emphasis on techniques and solution. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 166-167 FUNDAMENTALS OF LETTERING I-II (3 cr.) (3 cr.)—Calligraphy as an introduction to script and the constructed letter; creative, freehand, and mechanical lettering; other forms of letters used in today's graphic layout and design. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 180 INTRODUCTION TO PHOTOGRAPHY (2 cr.)—An introduction to the basic principles of photography with laboratory work related to the student's major field of interest. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ARTS 187 COLOR PHOTOGRAPHY (2 cr.)—Prerequisite ARTS 180 or equivalent. Introduction to color photography which includes general color theory, developing color slide film and negatives. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ARTS 221-222-223 ADVANCED DRAWING I-II-III (2 cr.) (2 cr.) (2 cr.)—The structure and forms of the environment (nature and human) memorized as a language to free the student's interpretation for creative graphic illustration. Laboratory 6 hours per week.

ARTS 231-232-233 THEORY AND PRACTICE OF PAINTING I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite ARTS 103 or 123. Abstract and representational painting in watercolor, oil, and tempera with emphasis on design, color composition and value. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 241-242-243 THEORY AND PRACTICE OF SCULPTURE I-II-III (3 cr.) (3 cr.) (3 cr.)—The fundamental processes in the creation of form by work with various materials such as clay, plaster, wood, stone, and metal. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

ARTS 261-262-263 ADVERTISING DESIGN I-II-III (3 cr.) (3 cr.) (3 cr.)—A study of the principles of visual communications as applied to advertising design in newspaper, magazine, direct mail advertising, house organs, etc. Analysis of the influence on layout by contemporary art. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

ARTS 271-272-273 GRAPHIC TECHNIQUES I-II-III (3 cr.) (3 cr.) (3 cr.)—The use of drawing instruments and materials; introduction to engraving processes; and the mechanics of reproduction for printing. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 274 INTRODUCTION TO ART PRINTMAKING (3 cr.)—A lecture workshop designed to introduce the student or print collector to printmaking from an historical and technical point of view from early wood block through the more contemporary modes of intaglio printing. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 275-276 ART PRINTMAKING WORKSHOP I-II (3 cr.) (3 cr.)—The full range of art printmaking; beginning with wood block and progressing to serigraph, photo silk screen intaglio and lithography. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

ARTS 281-282-283 PHOTOGRAPHY WORKSHOP I-II-III (1 cr.) (1 cr.) (1 cr.)—Prerequisite ARTS 180. Advanced practical study in the photography laboratory. Black and white photography and color slides. Laboratory 3 hours per week.

ARTS 298—See General Usage Courses on page 154.

AUTOMOTIVE TECHNOLOGY

AUTO 106 AUTO MECHANICS FOR THE LAYMAN (2 cr.)—A brief study of the automobile with emphasis on operation and maintenance. Topics include tires, brakes, cooling, lubrication, ignition, fuel system, and suspension. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

AUTO 111-112-113 AUTOMOTIVE ENGINES I-II-III (4 cr.) (4 cr.) (4 cr.)—Analysis of power, cylinder condition, valves, and bearings in the automotive engine to establish the present condition, repairs or adjustments. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

AUTO 121-122-123 AUTOMOTIVE FUEL SYSTEMS I-II-III (4 cr.) (4 cr.) (4 cr.)—Analysis of automotive fuel systems to include carburetors, fuel injection, superchargers, fuel pumps, filters, instruments, tanks and connecting lines. Complete overhaul, repairs and adjustment of fuel system components. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

AUTO 136 AUTOMOTIVE LUBRICATION AND COOLING SYSTEMS (3 cr.)—Testing and analysis of lubrication systems to include lubricants, pumps, lines, filter, and vents. Analysis of cooling systems, coolants, pumps, fans, lines and connections. Estimating repairs, adjustments needed and their costs. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

AUTO 154-155 POWER TRAIN I-II (4 cr.) (4 cr.)—Analysis of transmission, propeller shaft, joints, differential and rear axle, identification of repairs and adjustments. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

AUTO 199—See General Usage Courses on page 154

AUTO 238 AUTOMOTIVE AIR CONDITIONING (3 cr.)—Principles of refrigeration, air conditioning controls, and the adjustment and general servicing of automotive air conditioning systems. Lecture 3 hours per week.

AUTO 241-242-243 AUTOMOTIVE ELECTRICITY I-II-III (4 cr.) (4 cr.) (4 cr.)—Electricity and magnetism, symbols and circuitry as applies to the automotive electrical system. Includes the storage battery, generators, alternators, regulators, starters, lighting systems, instruments and gauges. Troubleshooting through use of modern test equipment. Lecture 3 hours, laboratory 3 hours. Total 6 hours per week.

AUTO 254-255 AUTOMATIC TRANSMISSIONS I-II (4 cr.) (4 cr.)—A study of the several types of automatic transmissions, fluid couplings, converters, and their principles of operation. Includes adjustment, servicing, and repair. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

AUTO 267 AUTOMOTIVE SUSPENSION & BRAKING SYSTEMS (4 cr.)—Operation, design, construction, repair and servicing of braking and suspension systems; use of tools and test equipment, evaluation of test results, estimation of repair cost, front and rear suspension alignment, power and standard steering, and power, standard and disc brakes. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

AUTO 268 AUTOMOTIVE ALIGNMENT (2 cr.)—Use of alignment equipment in diagnosing, adjusting, and repairing suspension problems. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

AUTO 284-285 AUTOMOTIVE SERVICE PROCEDURES & TUNE-UP I-II (3 cr.) (3 cr.)—Diagnostic and service procedures for automatic electrical and mechanical systems; use of tools and test equipment, evaluation of test results, estimation of repair cost, and performance of required service. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

AUTO 287-288 SHOP MANAGEMENT AND CUSTOMER RELATIONS I-II (3 cr.) (3 cr.)—A study of shop layout, personnel management, cost analysis, record keeping and quality control. The shop manager, service

salesman, and service writer's role in customer relations. Lecture 3 hours per week.

AUTO 290, 298—See General Usage Courses on page 154.

BIOLOGY

BIOL 101-102-103 GENERAL BIOLOGY I-II-III (4 cr.) (4 cr.) (4 cr.)—Fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Diversity of living organisms, their structure, physiology and evolution. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 114-115 GENERAL BOTANY I-II (4 cr.) (4 cr.)—Prerequisite BIOL 101 (not open to students who have completed BIOL 102 and 103). A study of the seedless plants, algae, fungi, mosses and liverworts, and ferns and their "allies" with emphasis on life cycles, morphology and taxonomy. A study of the seed plants, conifers and flowering plants with emphasis on anatomy, morphology, taxonomy, and evolution; principles of genetics, ecology, and physiology are considered. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 124-125 GENERAL ZOOLOGY I-II (4 cr.) (4 cr.)—Prerequisite BIOL 101 (not open to students who have completed BIOL 102 and 103). Introduction to the invertebrates and vertebrates, presenting basic biological principles, and emphasizing evolutionary relationships, life histories, and economic importances. Cellular structure and physiology are considered. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 154-155 HUMAN ANATOMY AND PHYSIOLOGY I-II (4 cr.) (4 cr.)—Structure and functioning of the normal human body. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 176 MICROBIOLOGY (4 cr.)—The characteristics and activities of microorganisms, showing their essential relation to diagnosis, treatment, and prevention of disease. Fundamentals of bacteriology, mycology, and parasitology, emphasizing their relationships to individual community health. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 198, 199—See General Usage Courses on page 154.

BIOL 206 BIOLOGICAL PROBLEMS IN CONTEMPORARY SOCIETY (3 cr.)—Prerequisite BIOL 103 or divisional permission. Designed to develop soundly-based understanding of some of the major problems of today's living. Contemporary readings will include such topics as overpopulation, pollution, drug abuse, famine, ecology, conservation, and others. Lecture 3 hours per week.

BIOL 214 INTRODUCTION TO NON-VASCULAR PLANTS (4 cr.)—Prerequisites BIOL 103 or equivalent (not open to students having had BIOL 114). Designed to cover the lower plants including the algae, fungi, and bryophytes. Studies of major taxonomic groups—their morphology, life cycles, ecology, physiology, economic importance. Sight recognition and collections may be required. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 215 INTRODUCTION TO VASCULAR PLANTS (4 cr.)—Prerequisites BIOL 103 or equivalent (not open to students having had BIOL 114). Designed to cover the higher plants beginning with those that have vascular tissue, and including flowering and non-flowering plants. Studies of major taxonomic groups—their morphology, life cycles, ecology, physiology, economic importance. Sight recognition and collection may be included. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 220 INTRODUCTORY VERTEBRATE ZOOLOGY (4 cr.)—Prerequisite BIOL 103 or equivalent (not open to students having had BIOL 124). Fundamentals of vertebrate anatomy, physiology, embryology, classification and

evolution. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 226 INTRODUCTORY INVERTEBRATE ZOOLOGY (4 cr.)—Prerequisite BIOL 103 or the equivalent (not open to students having had BIOL 124). The biology of invertebrate animals with special reference to structure, embryology, function, ecology, classification, and evolution. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 251-252 HUMAN ANATOMY AND PHYSIOLOGY I-II (4 cr.) (4 cr.)—Prerequisites BIOL 103 and one year of college chemistry, or divisional permission. Consideration of basic biological principles as revealed by anatomical and physiological studies. An integrated study of the systems of the human body including gross and microscopic structures and their physiology. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

BIOL 256 INTRODUCTORY GENETICS (5 cr.)—Prerequisite BIOL 103 or equivalent, or departmental permission. History and development of the science of genetics, with emphasis on Mendelian concepts, their modification, and application to human problems. Lecture 4 hours, Laboratory 3 hours, Total 7 hours per week.

BIOL 267 GENERAL ECOLOGY (5 cr.)—Prerequisite BIOL 103 or divisional permission. This course is a study of the interrelationships between organisms and the natural and cultural environments with emphasis on human influences on ecological structures, survey of populations, communities and ecosystems. Lecture 4 hours, Laboratory 3 hours, Total 7 hours per week.

BIOL 268 MICROBIOLOGY (6 cr.)—Prerequisites BIOL 103 and one year of college chemistry or divisional permission. Introduction to microbiology, morphology and activities of microorganisms. Control of microorganisms, infection, immunity and other antibody reactions; study of infections and infectious diseases. Lecture 3 hours, Laboratory 6 hours, Total 9 hours per week.

BIOL 276 REGIONAL FLORA (3 cr.)—Family characteristics of vascular plants including principal phylogeny and classifications based principally on local flora. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

BIOL 298, 299—See **General Usage Courses** on page 154.

BROADCASTING

BCST 110 INTRODUCTION TO RADIO/TV (3 cr.)—An historical overview of broadcasting; pioneer radio to television. The forces that have shaped broadcasting and its influence on society. Lecture 3 hours per week.

BCST 121-122-123 RADIO/TV PRODUCTION I-II-III (3 cr.) (3 cr.) (3 cr.)—Radio and television production and direction through sequentially arranged studio exercises. Laboratory 6 hours per week.

BCST 134-135 SPEECH FOR RADIO/TV I-II (3 cr.) (3 cr.)—Prerequisites BCST 121 and SPDR 137. Broadcast announcing including technical problems, techniques and modes of articulatory expression in varied broadcast situations. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

BCST 138-139 TV STUDIO ART I-II (3 cr.) (3 cr.)—Designed for the prospective producer-director; the design and use of graphics, scenery and props, the use of color, special effects and animation. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

BCST 214-215 TECHNICAL PROBLEMS OF RADIO/TV I-II (3 cr.) (3 cr.)—Prerequisite BCST 123. A study of radio and television technical problems. Equipment operating characteristics including transmission, the audio board, camera, audio and video tape recording, editing and splicing; special purpose equipment such as reverb units and special effects; sound control, effect of color intensity, chroma and hue, FCC license requirements. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

BCST 216 RADIO/TV STATION MANAGEMENT AND OPERATION (3 cr.)—Prerequisite BCST 123. Broadcast management responsibility; simulated decision making; the roles of government, public interest and programming in radio and television management and operation. Lecture 3 hours per week.

BCST 217 RADIO/TV NEWS (3 cr.)—Prerequisite BCST 226. The principles and techniques of news organization; to provide experience in writing, editing and reporting news; and to develop an understanding of broadcast ethics and responsible news in a free society. Lecture 3 hours per week.

BCST 226 WRITING FOR RADIO/TV (3 cr.)—Prerequisites BCST 123 and ENGL 102. The written communications process; writing and planning of continuity for radio and television; documentary writing. Lecture 3 hours per week.

BCST 236 BROADCAST ADVERTISING & SALES (3 cr.)—Prerequisites BCST 123 and BCST 216. The role of advertising in Broadcasting today. Emphasis on the structure of sales departments, rating systems, rate cards and the purpose of time brokers on network levels. Concentration also on the structure of advertising agencies and their relationship with broadcast installations. Lecture 3 hours per week.

BCST 257 SOCIAL PROBLEMS IN AMERICAN BROADCASTING (3 cr.)—Prerequisite BCST 123. The dominant issues in contemporary broadcasting including the role of pressure groups, violence and the mass media, the influence of advertising, censorship, and broadcasting's enormous potential. Lecture 3 hours per week.

BCST 281-282-283 ADVANCED RADIO/TV PRODUCTION I-II-III (5 cr.) (5 cr.) (5 cr.)—Prerequisite BCST 123. Advanced radio and television program production and direction: production environment and organization; producer-director responsibilities and techniques; practical exercises in student production and direction. Lecture 3 hours, Laboratory 6 hours, Total 9 hours per week.

BCST 290, 298, 299—See **General Usage Courses** on page 154.

BUSINESS MANAGEMENT AND ADMINISTRATION

BUAD 100 INTRODUCTION TO BUSINESS (3 cr.)—The role and function of business enterprise within our economic framework. Includes organization, finance, marketing, personnel administration, production and economics. Designed primarily to help students select their field of business specialization. Lecture 3 hours per week.

BUAD 108 BUSINESS MACHINES (2 cr.)—A course to develop proficiency in the use of office machines such as calculator and adding machines. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

BUAD 110 HUMAN RELATIONS & LEADERSHIP TRAINING (3 cr.)—The task of management involved in getting things done through people: understanding of human motivation and behavior patterns, performance, and analysis of manpower growth in an organization. Lecture 3 hours per week.

BUAD 117 PRINCIPLES OF SECURITIES INVESTMENT (3 cr.)—Designed to aid the student in developing a broad perspective in the area of stocks and bonds. Mechanics of stock exchanges, types of securities, types of orders, and specific investment objectives. Lecture 3 hours per week.

BUAD 157 PRINCIPLES OF BANK OPERATIONS (3 cr.)—The economic importance of banks, the receiving functions, processing of cash items, bookkeeping operations, posting systems, paying teller operations, collection services, legal relationship with depositors, characteristics of negotiable instruments, the savings and time deposit function, management of bank funds, loans and investments, general bank accounting, account analysis and

service charges, internal controls, international financial services, trust services, safe deposit services, growth of the American banking system, the Federal Reserve System, government supervision, banking and public service. Lecture 3 hours per week.

BUAD 164 PRINCIPLES OF BUSINESS MANAGEMENT I (3 cr.)—Management and management functions; planning, organizing, staffing, directing, and controlling. Management examined as both a science and art with emphasis on both the body of knowledge and the personal abilities required to be successful as a manager. Lecture 3 hours per week.

BUAD 165 PRINCIPLES OF BUSINESS MANAGEMENT II (3 cr.)—Prerequisite BUAD 164. The application of management principles to realistic management situations. The case method of study in analyzing management problems with emphasis on application to various types of business enterprises. Lecture 3 hours per week.

BUAD 166 MANAGEMENT PRINCIPLES SEMINAR (3 cr.)—Topics include management of personal time, contributions of the individual manager, management planning, effective decisions, and staffing for strength. Also included will be problem cases for practical applications. Lecture 3 hours per week.

BUAD 174-175 SMALL BUSINESS MANAGEMENT I-II (3 cr.) (3 cr.)—A study of management problems which relate to the small-scale entrepreneur. Includes problems in initiating the business, financial, and administrative control, marketing programs and policies, management of business operations, legal and governmental relationships, case studies involving actual business situations. Lecture 3 hours per week.

BUAD 176 ADMINISTRATIVE OFFICE MANAGEMENT (3 cr.)—Prerequisite BUAD 164. Principles of office management. The study of office organization and layout; work flow, office procedures, standards, personnel and supervision, equipment; centralized services; and current office management trends. Lecture 3 hours per week.

BUAD 241 BUSINESS LAW I (3 cr.)—An introduction to the field of law, how it developed and how it operates as a method of control; study of the purpose of law in our present-day complex society, the law of contracts, and the agency. Lecture 3 hours per week.

BUAD 242 BUSINESS LAW II (3 cr.)—Prerequisite BUAD 241. A continuation of BUSINESS LAW I (BUAD 241). The main topic to be studied is the Uniform Commercial Code as adopted in the various states. Lecture 3 hours per week.

BUAD 243 BUSINESS LAW III (3 cr.)—Prerequisite BUAD 241-242. Continuation of BUSINESS LAW I & II (BUAD 241-242). Employment, bailment, partnership, corporations, property, and the Uniform Commercial Code. Lecture 3 hours per week.

BUAD 246 BUSINESS FINANCE (3 cr.)—Prerequisite ACCT 211-212-213. Problems involved in the acquisition and use of funds necessary to the conduct of business. Sources and instruments of capital and finance, financial organizations, and financing of operations and adjustment. Lecture 3 hours per week.

BUAD 251 BUSINESS STATISTICS I (3 cr.)—Prerequisite MATH 183 or MATH 163. Aspects of statistical methodology such as the collection, organization, presentation and analysis of data; specific concentration with measures of central tendency, dispersion, probability concepts, the normal distribution, and basic hypothesis testing such as T-test, Z-test, and Chi-Square. Lecture 3 hours per week.

BUAD 252 BUSINESS STATISTICS II (3 cr.)—Prerequisite BUAD 251. Estimation of parametric values, advanced methods and techniques of hypothesis testing and experiment design. Statistical quality control, analysis of variance, linear regression and correlation analysis both simple and multiple measurement of business and economics activity through index numbers, seasonal and

secular variation; computer application where practical. Lecture 3 hours per week.

BUAD 253 BUSINESS STATISTICS III (3 cr.)—Prerequisite BUAD 252. The applications of statistical techniques and methodology in business. Includes expedited payoff, game theory, linear programming, transportation models, queuing theory, and demand estimations. Lecture 3 hours per week.

BUAD 254 APPLIED BUSINESS STATISTICS I (3 cr.)—Prerequisite MATH 152. An introductory course in statistics. Collection, presentation, and analysis of data through ratios, percentages, and averages. Emphasis on the practical application of statistical measures to business situations. Lecture 3 hours per week.

BUAD 258 INSTALLMENT CREDIT (3 cr.)—The techniques of installment lending including establishment of credit, obtaining and checking information, servicing the loan, and collecting amounts due. Lecture 3 hours per week.

BUAD 269 PURCHASING AND MATERIALS MANAGEMENT (3 cr.)—Principles of purchasing and management of inventories including determination of requirements, pricing, source selection, and inventory policy and control. Lecture 3 hours per week.

BUAD 276 PERSONNEL MANAGEMENT (3 cr.)—The problems and issues in the administration of personnel actions. Includes organization and tasks of personnel development, significant personnel considerations and an appraisal of the position of labor in business today. Lecture 3 hours per week.

BUAD 287 PUBLIC RELATIONS IN MANAGEMENT (3 cr.)—A survey of public relations as a management responsibility. Includes philosophy and techniques of public relations; application to employee, public customer, and stockholder relations; lecture, demonstrations, and problem cases for practical application. Lecture 3 hours per week.

BUAD 288 COMMUNICATIONS IN MANAGEMENT (3 cr.)—Functions of communication in management. Methods of communicating purposefully with emphasis on gathering, organizing and transmitting facts and ideas. Review of basic techniques of effective oral and written communications. Lecture 3 hours per week.

BUAD 289 PRACTICES AND PHILOSOPHIES OF MANAGEMENT (3 cr.)—Provides an opportunity to develop an understanding of appropriate attitudes related to human situations so that the individual may become a more useful and responsible member of an organization and prepare for positions of greater administrative responsibility. Analysis and discussion of cases to develop the ability to think and act responsibly. Consideration of principles; philosophies and ethical values to broaden the scope and growth of the administrator. Management development deals with men, motivation, and morale designed for managers, foremen, supervisors, and department heads. Lecture 3 hours per week.

BUAD 298, 299—See General Usage Courses on page 154.

CHEMISTRY

CHEM 50 HEALTH SCIENCE CHEMISTRY (4 cr.)—Introduction to the basic principles of organic and inorganic chemistry with emphasis on application in the health sciences. A nontransfer course intended to provide a basic background in chemistry usually taught during summer quarter. Lecture 3 hrs., Lab 3 hrs., Total 6 hrs. per week.

CHEM 101-102-103 GENERAL CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)—This is a beginning course for the non-science major, intended for students who will take no further chemistry courses. The experimental and theoretical aspects of the various branches of chemistry are discussed and emphasis is placed on the concepts and ideas of the science. Particular attention is given to

introductory organic and biochemistry and the role of chemistry in human affairs is treated.

CHEM 111-112-113 GENERAL INORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)—Fundamental principles and laws underlying chemical action with special emphasis on the non-metals, their compounds, theories and problems. Laboratory for the first two quarters deals with the non-metallic elements and their compounds. The last quarter deals with the theories of qualitative analysis. Lecture 3 hours, Laboratory 3 hours. Total 6 hours per week.

CHEM 114-115 GENERAL INORGANIC CHEMISTRY I-II (6 cr.) (6 cr.)—Two quarter sequence covering CHEM 111-112-113. Lecture 4-5 hours, Laboratory 6-3 hours, Total 10-8 hours per week.

CHEM 198, 199—See General Usage Courses on page 154.

CHEM 241-242-243 ORGANIC CHEMISTRY I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite CHEM 103 or 113, or equivalent. The fundamentals of organic chemistry. The structure, physical properties, synthesis, and typical reactions of the various series of aliphatic, alicyclic and aromatic compounds with attention to reaction mechanisms. Representative carbon compounds are synthesized with emphasis on basic laboratory techniques. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

CHEM 298, 299—See General Usage Courses on page 154.

CIVIL ENGINEERING TECHNOLOGY

CIVL 124 CIVIL ENGINEERING DRAFTING I (2 cr.)—Prerequisite DRFT 111 or equivalent. Introduction to terminology and drafting procedures related to structural steel, reinforced concrete, and timber detailing. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

CIVL 125 CIVIL ENGINEERING DRAFTING II (2 cr.)—Drafting problems relating to highways and surveys. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

CIVL 140 CONSTRUCTION PLANNING (3 cr.)—Introduction to civil engineering construction and the principles and economics of construction planning. Lecture 3 hours per week.

CIVL 181-182 SURVEYING I-II (4 cr.) (4 cr.)—Prerequisite Algebra, Plane Geometry, Basic Trigonometry, or MATH 121. Introduction to surveying, chaining and pacing, direct and profile leveling, measurements of angles, transit-tape traversing, traverse analysis, calculation of areas, adjustment of instruments. Basic and complex circular curves, stadia surveying, topographic surveying analysis and preparation of topographic maps. Field work parallels classroom instruction. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

CIVL 217 STRUCTURAL STEEL DESIGN (4 cr.)—Prerequisite ENGR 152 or equivalent. Design, investigation, and detailing of basic structural steel members of steel frame structures. Lecture 4 hours per week.

CIVL 218 REINFORCED CONCRETE DESIGN (4 cr.)—Prerequisite ENGR 152 or equivalent. Design, investigation and detailing of reinforced concrete structural members used in the construction of concrete framed structures. Lecture 4 hours per week.

CIVL 230 STRUCTURAL ANALYSIS (3 cr.)—Prerequisite ENGR 152 or equivalent. Analysis of statically determinate and indeterminate structures based on both the principles of statics and geometric conditions. Lecture 3 hours per week.

CIVL 246 SOIL MECHANICS (3 cr.)—Soil and its relationship to engineering construction. Includes soil weight-volume relationships, stress, shear and strain, bearing capacity, sampling procedures, consolidation,

settlement, slope stability, with introduction to retaining walls, piles, underground conduits, and earthdams. Lecture 3 hours per week.

CIVL 247 SOIL MECHANICS LABORATORY (1 cr.)—Corequisite CIVL 246 or equivalent. Practical soil sampling, classification by Unified Soil Classification System and by ASTM and AASHTO specifications for classifying soils. Laboratory testing of soils to predict engineering performance. Laboratory 3 hours per week.

CIVL 254 CIVIL MATERIALS I (CONCRETE) (3 cr.) Properties of portland cement concrete, methods of mix design, use and placement of concrete. Lecture 3 hours per week.

CIVL 257 CONCRETE LABORATORY (1 cr.)—Corequisite CIVL 254. Mixing, curing, testing and quality control of concrete. Laboratory 3 hours per week.

CIVL 268 WATER AND SEWAGE SYSTEMS (3 cr.)—Sources, collection methods, treatment and distribution of water and collection, treatment and disposal of sewage. Field trips to local water and sewage treatment plants. Lecture 3 hours per week.

CIVL 284 ROUTE SURVEYING AND HIGHWAY DESIGN (4 cr.)—Prerequisite CIVL 181. Principles of route surveying; simple, compound and transition curves; grades and vertical curves; earthwork and haul quantities. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

CIVL 290, 298—See General Courses on page 154.

DATA PROCESSING

DAPR 106 PRINCIPLES OF DATA PROCESSING (3 cr.)—Prerequisite one year of high school algebra. An introduction to methods, techniques, and systems of manual, mechanical, and electronic data processing. History and development of punch card data processing, and electronic or automatic data processing. Lecture 3 hours per week.

DAPR 130 INTRODUCTION TO COMPUTER OPERATIONS (3 cr.)—Prerequisite DAPR 106 or equivalent. Study of computer operation environment and hardware. Includes types of computer and peripheral equipment, operator use of data files, program libraries, utility routines, console use in controlling computer system manually, correcting errors, determining status of machine circuits and registers, and procedures for using input and output devices. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DAPR 144 COMPUTER PROGRAMMING (COMPUTER CONCEPTS I) (3 cr.)—Prerequisite DAPR 106 or equivalent. Programming techniques and the various characteristics of computers. Practical experience in programming a series of problems in machine, assembler, or manufacturer's higher level language. Course objective is to provide a proper foundation for materials in subsequent courses rather than providing specific skills in any computer language. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DAPR 147 COMPUTER PROGRAMMING (COBOL) (3 cr.)—Prerequisite DAPR 144. Experience in using programming techniques with a high level language. Students will be required to program, debug, and test specified business oriented problems using Cobol. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DAPR 236 DATA PROCESSING MANAGEMENT (3 cr.)—Prerequisite DAPR 106 or equivalent. Survey of ADP management, covering staff and operating functions; ADP planning, analysis of requirements, system selection, contractual considerations, lease/purchase studies, costing of tangible and intangible benefits. Lecture 3 hours per week.

DAPR 256 COMPUTER PROGRAMMING (ADVANCED COBOL) (4 cr.)—Prerequisite DAPR 147. Experience in programming in an operating system environment. The characteristics of OS, use of job control language, files,

utility programs, and analysis of error messages. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

DAPR 266 COMPUTER PROGRAMMING (FORTRAN) (4 cr.)—Prerequisite DAPR 144 or equivalent. The business applications of Fortran including input/output, floating point arithmetic, loop control, and functions. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

DAPR 267 COMPUTER PROGRAMMING (RPG) (4 cr.)—Prerequisite DAPR 144 or equivalent. The study and development of programming capabilities in the business computer language Report Program Generator (RPG). Includes program logic, block diagramming, coding techniques, documentation, advantages and disadvantages of RPG as a high-level language in small and medium scale installations. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

DAPR 268 COMPUTER PROGRAMMING (P/L 1) (4 cr.)—Prerequisite DAPR 144. The study and development of programming capability in the IBM System 360 computer language P/L 1. Processes student capability to program in this language. Includes relative advantages and disadvantages of this higher level language in installations using medium scale and large scale computer systems and continuation of the study of magnetic tape and random access programming. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

DAPR 269 COMPUTER PROGRAMMING (ASSEMBLER) (4 cr.)—Prerequisite DAPR 144 or equivalent. The study and development of a manufacturer's assembly language. The student will write and debug programs in an assembler language, and also be capable of employing this language in a total programming system. The principles of debugging and core-dump reading will be given major emphasis. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

DAPR 281 SYSTEMS ANALYSIS I (3 cr.)—Prerequisite DAPR 256 or equivalent. A study of the overall computer based systems analysis and design process; information problems of business organization and the interrelationships of functions; nature of business problem isolation and definition; initial phase of systems analysis and evaluation. Lecture 3 hours per week.

DAPR 282 SYSTEMS ANALYSIS II (3 cr.)—Prerequisite DAPR 281. The systems design and implementation phases relating to initial automation; upgrading or revision of business data processing systems; system documentation including summaries for management schedules and cost analysis; equipment selection, acquisition and detailed review of pre- and post-installation considerations. Lecture 3 hours per week.

DAPR 283 SYSTEMS ANALYSIS III (3 cr.)—Prerequisite DAPR 282. A comparison of presently available hardware and software system from major vendors; comparative study of features and capabilities; data processing modes and selection of criteria; study of techniques such as Pert, Decision and Logic Tables; simulation and their importance. Lecture 3 hours per week.

DAPR 298, 299—See General Usage Courses on page 154.

DENTAL

DENT 100 INTRODUCTION FOR DENTAL AUXILIARIES (3 cr.)—Introduction to dentistry and dental auxiliaries; history and development of dentistry and its related fields; the roles of the dental auxiliaries in practice and in relation to other members of the dental health team; dental ethics and jurisprudence; professional and educational opportunities. Introduction to dental instruments and equipment. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DENT 101-102-103 DENTAL SCIENCE I-II-III (4 cr.) (4 cr.)—Bacteriology, anatomy and physiology, gross and oral dental anatomy, oral pathology, pharmacology, diet and nutrition, and first aid and dental emergencies,

and dental health education as related to dental science and the role of the dental assistant. Lecture 2 hours, Laboratory 4 hours, Total 6 hours per week.

DENT 110 INTRODUCTION TO DENTAL MATERIALS (4 cr.)—Introduction to the physical and chemical characteristics, uses, and manipulation of materials used in dental procedures, clinical and laboratory. Emphasis on the general principles of physical properties and the specifications program of the American Dental Association. Lecture 2 hours, Laboratory 4 hours, Total 6 hours per week.

DENT 111-112 CLINICAL PROCEDURES I-II (4 cr.) (4 cr.)—Prerequisites DENT 100, 110, 101-102 or corequisite. Principles and procedures related to radiology, dental instruments and equipment; role of the dental assistant in general and specialty practice, and expanded duties limited to dental assistants. Lecture 2 hours, Laboratory 4 hours, Total 6 hours per week.

DENT 116 DENTAL LABORATORY MATERIALS (4 cr.)—A study of the chemical composition, physical properties, and uses of metallic and nonmetallic dental materials, denture and tooth resins, porcelain, waxes and duplicating materials. The laboratory exercises are designed to illustrate the properties and uses of the materials studied including their inherent limitations. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

DENT 121-122 CHAIRSIDE ASSISTING I-II (4 cr.) (4 cr.)—Prerequisites DENT 100, 110, 101-102 or corequisite. The proper procedures of reception and preparation of the patient; care of dental equipment and instruments, charting of teeth, seating of patient, adjustment of dental chair, preparation of trays and instrument stands, layout and exchange of instruments and materials, and expanded duties limited to dental assistants. Lecture 2 hours, Laboratory 6 hours, Total 8 hours per week.

DENT 126 ORAL ANATOMY (3 cr.)—The study of the anatomy, structure, morphology and function of the oral structures including primary and permanent dentition. Laboratory procedures to include identification eruption sequence, reproduction of tooth form through drawings, study of skulls, principles of occlusion and root anatomy with correlation of tooth form and position to intra-oral arch. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DENT 127 GENERAL AND ORAL HISTOLOGY (3 cr.)—The study of the minute structure of the tissues of the body with particular reference to the teeth and the supporting tissues. Morphology of different tissues, early embryonic development, histologic features of the structures of the oral cavity. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DENT 128 HEAD AND NECK ANATOMY (2 cr.)—A detailed study of the anatomy and physiology of the structures of the head and neck. Lecture 2 hours per week.

DENT 136 PHARMACOLOGY (2 cr.)—The chemical therapeutic agents used in dentistry, including their preparation, effectiveness, and specific applications. Lecture 2 hours per week.

DENT 138 COMMUNITY DENTAL HEALTH (4 cr.)—Introduction of the dental hygienist to community health problems, public health, and related institutions. An opportunity will be provided for student teaching in dental education at various grade levels in area public schools. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

DENT 139 DENTAL ASSISTING (2 cr.)—Dental Hygiene Students will receive instruction in phases of chairside assisting as members of the dental health team. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

DENT 140 INTRODUCTION TO DENTAL HYGIENE (1 cr.)—Introduction to the dental hygiene profession through seminar and laboratory. A review of the role of the dental hygienist in dentistry; dental history, ethics, and professional organizations. Students will be oriented in the basic

skills of dental hygiene prevention and nomenclature appropriate to the dental profession. Lecture 0 hours, Laboratory 2 hours, Total 2 hours per week.

DENT 144 DENTAL HYGIENE I (5 cr.)—The introduction to clinical knowledge and skills for the performance of dental hygiene services, and medical and dental emergencies, basic skill components, lab manikins, and patient practice. Lecture 3 hours, Laboratory 6 hours, Total 9 hours per week.

DENT 145 DENTAL HYGIENE II (5 cr.)—Prerequisite DENT 144. Clinical performance of dental hygiene services; includes the use and techniques of dental radiology. Lecture 2 hours, Laboratory 9-12 hours, Total 11-14 hours per week.

DENT 146 ORAL RADIOGRAPHIC TECHNIQUES (3 cr.)—A study of the nature, physical behavior, biological effects, methods of control, safety precautions, and techniques for exposing, processing and mounting x-rays. Laboratory procedures will include the application of these techniques. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

DENT 147 NUTRITION (3 cr.)—Study of nutrition as it relates to dentistry and general health. The principles of nutrition as applied to the clinical practice of dental hygiene. Lecture 3 hours per week.

DENT 148 OFFICE PRACTICE AND ETHICS (2 cr.)—The principles of dental ethics and economics as they relate to the dental hygienist. The course will also include a study of jurisprudence and office procedures. Lecture 2 hours per week.

DENT 150 GENERAL AND ORAL PATHOLOGY (3 cr.)—Introduction to general pathology with consideration of the common diseases affecting the human body. Particular emphasis is given to the study of pathological conditions of the mouth, teeth and their supporting structures. Lecture 3 hours per week.

DENT 154-155 PERIODONTICS FOR DENTAL HYGIENE I-II (2 cr.) (2 cr.)—Introduction of periodontics to the dental hygienist—anatomy and physiology, periodontal pathology and clinical determination of cases. Techniques in prevention and management of periodontics and special patient problems. Lecture 2 hours per week.

DENT 190, 199—See General Usage Courses on page 154.

DENT 261 DENTAL HYGIENE III (6 cr.)—Lecture to include oral surgery, anesthesia, endodontics, and seminars. Laboratory—dental prophylaxis and oral hygiene preventive procedures to be performed on both children and adults in supervised clinic facilities. Care of patients with specific needs, and plaque controls. Lecture 2 hours, Laboratory 12-15 hours, Total 14-17 hours per week.

DENT 262 DENTAL HYGIENE IV (5 cr.)—Lecture to include oral diagnosis, orthodontics and seminar. Laboratory—dental prophylaxis and oral hygiene preventive procedures to be performed on both children and adults in supervised clinic facilities care of patients with specific needs, nutrition counseling and plaque control. Expanded duties limited to dental hygiene. Lecture 1 hour, Laboratory 12-15 hours, Total 13-16 hours per week.

DENT 263 DENTAL HYGIENE V (5 cr.)—Lecture to include pedodontics and seminars. Laboratory dental prophylaxis and oral hygiene preventive procedure to be performed on both children and adults in supervised clinic facilities. Care of patients with specific needs, nutrition counseling and plaque control. Expanded duties limited to dental hygiene. Lecture 1 hour, Laboratory 12-15 hours, Total 13-16 hours per week.

DENT 264 DENTAL HYGIENE VI (5 cr.)—Lecture to include dental research and seminars. Laboratory—dental prophylaxis and oral hygiene preventive procedures to be performed on both children and adults in supervised clinic facilities. Care of patients with specific needs, nutrition counseling and plaque control. Expanded duties limited to

dental hygiene. Lecture 1 hour, Laboratory 12-15 hours, Total 13-16 hours per week.

DRAFTING

DRFT 111 TECHNICAL DRAFTING I (2 cr.)—Introduction to the techniques and instruments required for success as a draftsman in industry. Use of instruments, lettering, simple descriptive and analytic geometry principles as applied to drafting and freehand sketching, basic principles of orthographic projection in the preparation of simple drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 112 TECHNICAL DRAFTING II (2 cr.)—Prerequisite DRFT 111 or equivalent. Sections and conventions, threads and fasteners, pictorial drawings, auxiliaries and revolutions. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 113 TECHNICAL DRAFTING III (2 cr.)—Prerequisite DRFT 112 or equivalent. Assembly and detail drawings, working from the simple to the complex. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 158 ELECTRICAL-ELECTRONICS DRAFTING (2 cr.)—Applications of drafting procedures with emphasis on working and functional drawings and direct applications to electrical and electronic components and circuits. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

DRFT 171 BLUEPRINT READING I (2 cr.)—The purpose of blueprints, designing of the product and its production; review and application of basic principles, visualization, orthographic projection, detail of drafting shop process and terminology, assembly drawings and exploded views. Lecture 1 hour, Laboratory 3 hours, Total 4 hours.

DRFT 172 BLUEPRINT READING II (2 cr.)—Prerequisite DRFT 171. Dimensioning, review and application techniques, changes and corrections, classes of fits, tolerances and allowances, sections and convention in blueprint reading, auxiliary views, pictorial drawings, simplified drafting procedures. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ECONOMICS

ECON 160 SURVEY OF AMERICAN ECONOMICS (3 cr.)—A survey of the history, principles, and policies of the American economic system. Some comparison with alternative economic systems. Lecture 3 hours per week.

✓ **ECON 211-212-213 PRINCIPLES OF ECONOMICS I-II-III (3 cr.) (3 cr.) (3 cr.)**—The principles of economics and the bearing of these principles on present American conditions; structural and functional aspects of the economy. Analysis, problems and issues, relating to the organization of business, labor, and government institutions and their economic stability and growth. Measurements of economic activity. Private enterprise, economic growth and stabilization policies, monetary and fiscal policy. International economic relationships, alternative economic systems. Lecture 3 hours per week.

ECON 214-215 PRINCIPLES OF ECONOMICS I-II (5 cr.) (4 cr.)—Two quarter sequence covering ECON 211-212-213. Lecture 5 hours per week in ECON 214 and Lecture 4 hours per week in ECON 215.

✓ **ECON 241-242-243 MONEY AND BANKING I-II-III (3 cr.) (3 cr.) (3 cr.)**—Monetary standards; the role of money in the performance of an economic system; operation and evolution of the commercial and central banking systems; developments in the theory of money and income; application of theory to analysis of policy questions including government finance and debt management. Lecture 3 hours per week.

ECON 246 MONEY AND BANKING (3 cr.)—A review of the history of American banking institutions; banking theories, principles and practices; emphasis is placed on relationship of finances to business structure, operations

and organization; present-day financial structures, agents, problems and institutions are examined in depth. Lecture 3 hours per week.

ECON 298, 299—See **General Usage Courses** on page 154.

EDUCATION

EDUC 106 LANGUAGE ARTS FOR YOUNG CHILDREN (3 cr.)—The techniques and methods for encouraging the development of language skills in the young child. Improvement of vocabulary, speech and discussion stimulation will be emphasized. Surveys the best prose and verse, examines techniques of story telling, and stresses use of audio-visual materials. Lecture 3 hours per week.

EDUC 110 INTRODUCTION TO CHILD CARE (3 cr.)—A course designed to instill in students the knowledge, attitude, and motivation requisite to successful participation and preparation for child-care functioning. Stresses awareness of the effect upon the child of adjusting to institutional life, family and cultural background factors, and understanding of the physical, social, and emotional needs of children. Lecture 3 hours per week.

EDUC 136 MATERIALS AND EQUIPMENT FOR INSTRUCTIONAL AIDES (3 cr.)—The preparation of view graphs, the construction of graphic charts, and other aids; how to select slides and develop materials for classroom presentation, the operation, care, and use of instructional equipment, including audio-visual equipment most used in the classroom. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

EDUC 186 CHILD STUDY (3 cr.)—Prerequisite PSYC 130. An advanced course in child development including methods of child study, theories of child development, implications for direct work with children, and a case study of an individual child. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

EDUC 187 ACTIVITY PROGRAMMING FOR CHILDREN (2 cr.)—Recreational and creative activities as factors which change patterns of behavior in children. Techniques and methods for devising appropriate activities depending upon individual and group variables. Lecture 2 hours per week.

ELECTRICITY AND ELECTRONICS

ELEC 11-12-13 ELECTRICITY I-II-III (4 cr.) (4 cr.) (4 cr.)—Principles of electricity covering resistance, current, and voltage in both AC and DC circuits. Lecture 4 hours per week.

ELEC 17 ELECTRONIC CONTROLS (4 cr.)—Applied air conditioning technology; fundamental devices and circuits, basic electronic instrumentation control devices and circuits; experiments to develop testing and trouble shooting techniques. Lecture 4 hours per week.

ELEC 21-22-23 ELECTRONICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite ELEC 12 or equivalent. Introduction to vacuum tube, semiconductor principles and circuitry. Lecture 4 hours per week.

ELEC 74 ELECTRICAL POWER (4 cr.)—Prerequisite ELEC 12 or equivalent. Circuit elements, direct current circuits and motors, single and three-phase circuits and motors, power distribution systems and protective devices. Lecture 4 hours per week.

ELEC 75 ELECTRICAL AND CONTROL SYSTEMS (4 cr.)—Prerequisite ELEC 74. Trouble shooting and servicing electrical controls, electric motors, motor controls, motor starters, relays, overloads, instruments and control circuits. Lecture 4 hours per week.

ELEC 111-112 INTRODUCTION TO ELECTRICAL CIRCUITS I-II (5 cr.) (5 cr.)—Corequisites ENGR 100, MATH 121-122 respectively. The study of resistance, magnetism, inductance, capacitance, and the transient state. An

introduction to circuit theorems as applied to direct current circuits. Electrical circuits employing complex algebra, equivalent circuit theorems and modern techniques for the solution of complex circuit problems. Lecture 4 hours, Laboratory 3 hours, Total 7 hours per week.

ELEC 118-119 INTRODUCTION TO ELECTRICAL SHOP I-II (1 cr.) (1 cr.)—Use of hand tools commonly found in the electrical and electronics industry. A variety of projects requiring fabrication of electrical-mechanical equipment are developed, tested and reports written. Laboratory 3 hours per week.

ELEC 125 INTRODUCTION TO ELECTRONICS (5 cr.)—Prerequisite ELEC 112. The theory, properties, and application of vacuum tube and solid state devices. Lecture 4 hours, Laboratory 3 hours, Total 7 hours per week.

ELEC 141-142 REVIEW FOR FCC RADIO TELEPHONE LICENSE I-II (3 cr.) (3 cr.)—Requirements for the second class and the first class examinations. Lecture 3 hours per week.

ELEC 201-202-203 ELECTRICAL ENGINEERING TECHNOLOGY I-II-III (6 cr.) (7 cr.) (6 cr.)—Prerequisite ELEC 125 and MATH 123. The concepts of electron and solid-state physics, application of vacuum, gas, and semiconductor diodes and triodes to electronic circuits. Advanced semiconductor and tube theory; amplifier operating characteristics and design considerations; laboratory experiments demonstrate the application of vacuum tubes and transistors to various circuits. Application of principles to complex electronic systems; laboratory experiments demonstrate the operating characteristics of single-stage circuits. Lecture 5 hours, Laboratory 3-6-3 hours, Total 8-11-8 hours per week.

ELEC 211 ELECTRICAL MACHINES (4 cr.)—Prerequisite ELEC 125. Construction, theory operation and application of direct current machinery. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 212 ELECTRICAL MACHINES AND INDUSTRIAL CONTROLS (4 cr.)—Prerequisite ELEC 211. Construction, theory of operation, characteristics, and application of alternator, synchronous motors, induction motors, and fractional horsepower motors. Introduction to the principles of industrial control, circuit diagram functions and symbols to "traditional" motor control, the principles of operation and application of the devices used for control and protection. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 213 ADVANCED INDUSTRIAL CONTROLS (4 cr.)—Prerequisite ELEC 212. A survey of principles and "building blocks" of industrial controls. Analyzing involved control circuits, principles of operation and application of special electro-magnetic and electronic devices, feedback circuits, and static control including devices, logic symbols, and Boolean algebra. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 241-242-243 COMMUNICATIONS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite ELEC 125 and MATH 123. The study of modulation and power in modulated waves, sinusoidal oscillations and oscillators, RF amplifiers and detectors, and AM receivers. The study of transmitters and receivers; FM receivers, RF power amplification, AM, SSB, and FM transmitters, and an introduction to transmission lines and antennas, measurements, microwave frequencies; introduction to radar and television systems. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 248 MICROWAVE TECHNIQUES (3 cr.)—Prerequisite ELEC 125. Microwave techniques to introduce the special requirements when using very high frequency equipment as klystrons, cavity resonators, slotted lines and waveguide type transmission devices. Lecture 3 hours per week.

ELEC 276 INSTRUMENTS AND MEASUREMENTS (4 cr.)—Prerequisite ELEC 125 or equivalent. A study of circuits used in electronic measurements and application of these circuits in testing instruments such as oscillos-

copies, vacuum tube voltmeters, and bridges; the accuracy of measurements, how instruments work, proper use of instruments, and calibration technique. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

ELEC 298, 299—See **General Usage Courses** on page 154.

ENGINEERING

ENGR 100 INTRODUCTION TO ENGINEERING TECHNOLOGY (2 cr.)—Corequisite MATH 111, 112, or 161. Professional fields of engineering technology: work of the engineering technologist, requirements of training and character, professional ethics, and division of industrial practice and competition, engineering problems with slide-rule applications. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

ENGR 101 INTRODUCTION TO ENGINEERING (2 cr.)—Professional fields of engineering; work of the engineer, requirements and character, professional problems from the various schools of engineering and slide-rule applications. Lecture 1 hour, Laboratory 2 hours. Total 3 hours per week.

ENGR 102 INTRODUCTION TO ENGINEERING METHODS (2 cr.)—Prerequisite ENGR 101. An introduction to electronic computation and programming of the digital computer; field trips to a nearby computer center. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

ENGR 103 CONCEPTUAL DESIGN AND ANALYSIS (2 cr.)—Prerequisite ENGR 102. Engineering fundamentals and concepts in designing for production, prototype and laboratory models, automation, tape programming and verification; design problems, class reports, and visits to nearby four-year colleges. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

ENGR 121 ENGINEERING GRAPHICS I (2 cr.)—Drawing and theories of projection. Multiview drawings, pictorial drawings and sketching, geometrical construction, sectioning, lettering, dimensioning, auxiliary views, revolutions, assembly drawings. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGR 122 ENGINEERING GRAPHICS II (2 cr.)—Prerequisite ENGR 121. Graphical methods used in engineering design, layout and calculation, study of vector geometry, properties and types of graphs for engineering and scientific purposes. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGR 123 ENGINEERING GRAPHICS III (2 cr.)—Prerequisite ENGR 122. A study of the analysis and graphic presentation of the space relationship of fundamental geometric elements: point, line, planes, curved surfaces, development and vectors. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

ENGR 151 MECHANICS I (STATICS) (4 cr.)—Corequisite MATH 122. Principles of statics; resultants and equilibrium of force systems; trusses and frames; structures containing three-force members; centroids; moments of inertia; dry friction. Lecture 4 hours per week.

ENGR 152 MECHANICS II (STRENGTH OF MATERIALS) (3 cr.)—Prerequisite ENGR 151. Strength of material concepts, stress and strain analysis, both elastic and plastic, with emphasis on elastic analysis of axially loaded members, connectors, beams, and columns. Lecture 3 hours per week.

ENGR 154 MECHANICS LABORATORY (1 cr.)—Prerequisite or corequisite ENGR 152. Tension, compression, torsion, bending, fatigue, and hardness of materials. Static and dynamic stresses and strains, stress concentration factors, and statistical evaluation of data. Experiments and/or demonstrations. Laboratory 3 hours per week.

ENGR 201 MECHANICS OF PARTICLES (5 cr.)—Corequisite MATH 241. Vector treatment of concepts of force, mass, space, time; gravitational systems of mea-

surements; equilibrium of discrete force systems; centroids, dry friction, planar and three dimensional kinematics and kinetics of particles, relative motion, mass moments of inertia, Newton's laws, work and energy, impulse and momentum. Lecture 5 hours per week.

ENGR 202 MECHANICS OF DEFORMABLE SOLIDS (5 cr.)—Corequisite MATH 242. Structural mechanics applied to trusses, frames; introductory mechanics of continuous media: concepts of stress, strain, stress-strain relations; stress and deformation due to longitudinal loads, torsion, and bending; eccentric loads on short posts, Euler column theory. Lecture 5 hours per week.

ENGR 203 DYNAMICS OF RIGID BODIES (3 cr.)—Prerequisite ENGR 201. Corequisite MATH 242. Vector treatment of planar and three-dimensional kinematics and kinetics of rigid bodies; mass moments of inertia, Newton's laws, work and energy, impulse and momentum, vibration applied to rigid bodies. Lecture 3 hours per week.

ENGR 206 ENGINEERING ECONOMY (3 cr.)—Economic decision process in the engineering design environment. Investment, financing, depreciation, manufacturing costs, economic selection replacement. Lecture 3 hours per week.

ENGLISH

ENGL 01 VERBAL STUDIES LABORATORY (1-5 cr.)—A developmental course in composition designed for students who need help in all areas of writing to bring their proficiency to the level necessary for entrance into their respective curricula. Emphasis on individual instruction. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Variable hours.

ENGL 05 ENGLISH AS A SECOND LANGUAGE (1-5 cr.)—A developmental course in the English language for persons whose native language is not standard English. Emphasis on production of English phonemes, intonation patterns, structural patterns, grammar, vocabulary, and idioms. Students are expected to spend a minimum of 3 hours weekly in the language laboratory. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Variable hours.

ENGL 08 READING IMPROVEMENT (1-5 cr.)—A developmental course using modern techniques, equipment, and materials to increase the student's comprehension, skill, and speed in reading. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Variable hours.

ENGL 101-102-103 COMMUNICATION SKILLS I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory score on appropriate English proficiency examination. Designed to teach the student to use the English language correctly and effectively and to develop skill in the preparation of reports, articles, essays, and correspondence related to technical fields. Attention to sentence structure and paragraph development to express thoughts in lucid, coherent, well-developed form. Reading selections provide material for discussion and supply topics for frequent writing assignments. Lecture 3 hours per week.

ENGL 111-112-113 ENGLISH COMPOSITION I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory score on appropriate English proficiency examinations and 4 units of high school English or equivalent. Expository and argumentative writing, ranging from single paragraphs to essays of some length and complexity. Study of logical, rhetorical, and linguistic structures; the methods and conventions of preparing research papers; and the practical criticism of literary types. Lecture 3 hours per week.

ENGL 114-115 ENGLISH COMPOSITION I-II (5 cr.) (4 cr.)—Two quarter sequence covering ENGL 111-112-113. Lecture 5-4 hours per week.

ENGL 118 ADVANCED READING AND STUDY DEVELOPMENT (3 cr.)—A multi-level reading course with

emphasis on structural analysis, critical reading, and study techniques for the development of individual skills; laboratory provides enrichment and application of techniques. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

ENGL 121-122-123 JOURNALISM I-II-III (3 cr.) (3 cr.) (3 cr.)—Instruction and classroom practices in gathering, evaluating, and writing news. Techniques of page layout, newspaper make-up, rewriting, and editing. Lecture 3 hours per week.

ENGL 137 TECHNICAL WRITING (3 cr.)—Prerequisite ENGL 102 or departmental approval. Designed to develop writing proficiency in technical fields. Emphasis on collecting, organizing, and presenting materials applicable to various specialized areas. Lecture 3 hours per week.

ENGL 180 FUNDAMENTALS OF BUSINESS ENGLISH (3 cr.)—Prerequisite ENGL 102. An intensive study of the qualities and techniques required in the preparation of business correspondence, reports, articles, and memoranda. A practical course in the reading and writing of business-related materials with emphasis on comprehension, analysis, and organization of ideas in a logical pattern. Lecture 3 hours per week.

ENGL 199—**See General Usage Courses** on page 154.

ENGL 251-252-253 SURVEY OF AMERICAN LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite ENGL 113 or departmental approval. American Literature from Colonial times to the present. Emphasis on the ideas, themes, and characteristics of our national literature. Lecture 3 hours per week.

ENGL 261-262-263 SURVEY OF ENGLISH LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite ENGL 113 or departmental approval. A survey of major English writings from early times to the modern period. Emphasis on the ideas, themes, and characteristics of English literature. Lecture 3 hours per week.

ENGL 271-272-273 SURVEY OF WORLD LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite ENGL 113 or equivalent. A course designed to familiarize the student with master works of world literature. Analytical reading and critical writing toward understanding of the periods, the writers, the literary works. Lecture 3 hours per week.

ENGL 299—**See General Usage Courses** on page 154.

FIRE SCIENCE

FIRE 106 FIRE PROTECTION ORGANIZATION (3 cr.)—History and philosophy of fire service at the local, state and national level with emphasis on the organization of the individual fire department; analysis of the overall fire problem, communications, maintenance, training, company fire fighting capabilities, apparatus and equipment. Lecture 3 hours per week.

FIRE 107 BLUEPRINT READING FOR FIREMEN (3 cr.)—Blueprint reading with emphasis on building construction, fire prevention and preplanning fire tactics and strategy. Lecture 3 hours per week.

FIRE 108 FUNDAMENTALS OF FIRE SUPPRESSION (3 cr.)—Basic concepts involved in fire suppression including fire behavior, principles of fire fighting as applied to small and large scale fires, problems involving the use of tactics, size-up, strategy and employment of equipment and manpower at various echelons. Lecture 3 hours per week.

FIRE 111 HAZARDOUS MATERIALS I (3 cr.)—Identification and characteristics of materials contributing to fire hazards including chemicals, gases, flammable liquids, and radiological materials, and an examination of their storage, handling and transportation, and related fire science problems. Lecture 3 hours per week.

FIRE 137 FIRE FIGHTING TACTICS AND STRATEGY (3 cr.)—Prerequisite FIRE 106 and FIRE 108. Review of combustion and extinguishment. The problems during

size-up; developing and implementing tactics and strategy during fires; and the leadership required on the fire ground. Lecture 3 hours per week.

FIRE 146 FIRE ADMINISTRATION AND LAW (3 cr.)—Application of guideposts relative to firemen and law. Includes introduction to law, the judicial system, city's liability for acts of the fire department, fire prevention bureaus, and general liabilities of firemen. Lecture 3 hours per week.

FIRE 216 FIRE HYDRAULICS AND EQUIPMENT (4 cr.)—Prerequisite FIRE 106. Review of basic mathematics; laws and formulas applied to fire service hydraulics, development of mental ability to solve fire flow requirements, water supply needs, and consideration of equipment standards. Lecture 3 hours. Laboratory 2 hours, Total 5 hours per week.

FIRE 237 ARSON DETECTION AND INVESTIGATION (3 cr.)—Prerequisite FIRE 106. Introduction to arson laws and types of incendiary fires. Determining fire causes, recognizing and preserving evidence; interrogation of adults and juveniles; court procedures. Lecture 3 hours per week.

FRENCH

FREN 101-102-103 INTRODUCTORY FRENCH I-II-III (4 cr.) (4 cr.) (4 cr.)—The understanding, speaking, reading and writing of French with emphasis on manipulation of the structure of the language. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

FREN 199—**See General Usage Courses** on page 154.

FREN 202-202-203 INTERMEDIATE FRENCH I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite FREN 103 or successful completion of two years of high school French and departmental permission. Advanced study in the understanding, speaking, reading, and writing of French. French used in the classroom. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

FREN 231-232-233 INTRODUCTION TO FRENCH CIVILIZATION AND LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite FREN 203 or equivalent. An introduction to the background of French life and culture and to the outstanding contributions of France to world civilization from medieval times to the present. Reading is in the original French and French is used in the classroom. Lecture 3 hours per week.

FREN 299—**See General Usage Courses** on page 154.

GENERAL STUDIES COURSES

GENL 100 ORIENTATION (1 cr.)—Orientation is a course designed to aid Virginia Western students in their personal, social, and academic adjustment to the college community. Orientation is an exploratory course with major emphasis placed on self-awareness, career awareness, individual goal setting, and career decision making.

GENL 198 STUDY SKILLS (1-2 cr.)—Study Skills is a course designed to aid the student in clarifying attitudes toward education as they apply to future goals, assist the student in understanding expectations of educators, and assist the student in becoming aware of and defining barriers which prevent successful study habits and skills. Study Skills will also assist the student in planning strategies to overcome nonproductive study habits, and assist the student in implementing positive study behaviors.

GENL 298 PERSONAL DEVELOPMENT (2 cr.)—Personal Development is a counseling course in student life skills. The dynamics and contents of the course seek to integrate human relations training, problem solving skills, decision making, and goal setting. Major emphasis is placed on assisting the students toward a better under-

standing of themselves and their educational experience in preparation for adult roles in society. Emphasis is placed on examining personal and environmental factors which limit or enhance one's personal development. Emphasis is also placed on the acquisition of more effective communication skills for personal learning and development.

GENL 299 JOB ENTRY TECHNIQUES (1 cr.)—Job Entry Techniques is a course designed to give the student experience in resume writing, preparation of applications, letters of application, and in successfully preparing for and completing a job interview. The course places major emphasis on the development of desirable work attitudes and habits.

GENL 298 CAREER DEVELOPMENT (2 cr.)—Career Development is a course designed to assist students in understanding themselves, their values, interest and aptitudes as these personal characteristics relate to career choice and the world of work. A major component of the Course is career exploration and the application of decision-making skills to career choice.

GENL 298 PERSONAL CAREER DEVELOPMENT FOR MATURE WOMEN (2 cr.)—Personal Career Development for Mature Women is a counseling course designed specifically to meet the psychological and educational adjustment needs of the mature female college student. The course is an exploratory course seeking to aid the student in defining and resolving situational and personal factors which may impede intellectual and personal growth and development. Major emphasis is placed on self-exploration, career exploration, decision making and the development of a career self-identity.

GENERAL USAGE COURSES

(Insert Appropriate Prefix) 90, 190, 290 **COORDINATED PRACTICE IN** (Insert Appropriate Discipline) (1-5 cr.)—Supervised practice in selected health agencies coordinated by the College. Credit/Practice Ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

(Insert Appropriate Prefix) 90, 190, 290 **COORDINATED INTERNSHIP IN** (Insert Appropriate Discipline) (1-5 cr.)—Supervised on-the-job training in selected business, industrial or service firms coordinated by the College. Credit/Work Ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

(Insert Appropriate Prefix) 97, 197, 297 **COOPERATIVE EDUCATION IN** (Insert Appropriate Discipline) (1-5 cr.)—Supervised on-the-job training for pay in approved business, industrial and service firms coordinated by the College's Cooperative Education Office. Applicable to all occupational-technical curricula at the discretion of the College. Credit/Work Ratio not to exceed 1.5 hours. May be repeated for credit. Variable hours.

(Insert Appropriate Prefix) 98, 198, 298 **SEMINAR AND PROJECT IN** (Insert Appropriate Discipline) (1-5 cr.)—Completion of a project or research report related to the student's occupation and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

(Insert Appropriate Prefix) 99, 199, 299 **SUPERVISED STUDY IN** (Insert Appropriate Discipline) (1-5 cr.)—Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

GEOGRAPHY

GEOG 240 PHYSICAL GEOGRAPHY (3 cr.)—A study of the major elements of the natural environment such as land forms, weather and climate, native vegetation, and soils: including their origins and distribution patterns. Provides a framework for understanding interrelationships of man and his physical setting in today's world. (college transfer) **NO PREREQUISITE.**

GEOG 250 CULTURAL GEOGRAPHY (3 credits)—A study of human interrelationships and cultural diversity: the distribution of lands, peoples, and cultures. Considers the complex forces responsible for events in the world today. (college transfer) **NO PREREQUISITE.**

GEOG 260 ECONOMIC GEOGRAPHY (3 credits)—A study of the production, movement, exchange, and consumption of goods and services and of the world distribution patterns of these activities. Stresses the physical setting and its limitations on the current, complex economic situation of the world we live in. (college transfer) **NO PREREQUISITE.**

GEOLOGY

GEOL 101-102-103 GENERAL GEOLOGY I-II-III (4 cr.) (4 cr.) (4 cr.)—Physical geology, the various modifying agencies at work upon the earth, and their effects. The composition and structure of the earth as a whole. Historical geology, the history of the earth and its plants and animals from the beginning to the present, with emphasis on the principles involved in interpreting geologic evidence. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

GEOL 104-105 GENERAL GEOLOGY I-II (6 cr.) (6 cr.)—Two quarter sequence covering GEOL 101-102-103. Lecture 4-5 hours, Laboratory 6-3 hours, Total 10-8 hours per week.

GEOL 128 FOSSILS (4 cr.)—The history of life as preserved in the fossil record: beginnings of life and changes through geologic time, including a section on the human fossil record. Use of fossils as indicators of relative time, environments of the past, and evolution. A general interest course for non-science majors. Three lectures and one 3-hour laboratory or field trip per week. **NO PREREQUISITE.**

GEOL 228 FOSSILS (4 cr.)—The history of life as preserved in the fossil record: beginnings of life and changes through geologic time, including a section on the human fossil record. Use of fossils as indicators of relative time, environments of the past, and evolution. An interest course for science majors. Three lectures and one 3-hour laboratory or field trip per week. Prerequisite: second-year students.

GEOL 198, 199—See General Usage Courses on page 154.

GERMAN

GERM 101-102-103 INTRODUCTORY GERMAN I-II-III (4 cr.) (4 cr.) (4 cr.)—The understanding, speaking, reading, and writing of German with emphasis on manipulation of the structure of the language. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

GERM 199 See General Usage Courses on page 154.

GERM 201-202-203 INTERMEDIATE GERMAN I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite GERM 103 or successful completion of two years of high school German and departmental permission. Advanced study in the understanding, speaking, reading and writing of German. German is used in the classroom. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

GERM 231-232-233 INTRODUCTION TO GERMAN LITERATURE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite GERM 203 or equivalent. Readings in selected works of German literature. German is used in the classroom. Lecture 3 hours per week.

GERM 299—See General Usage Courses on page 154.

GOVERNMENT

GOVT 180 AMERICAN CONSTITUTIONAL GOVERNMENT (3 cr.)—An introductory course in American gov-

ernment including fundamental concepts and principles of our constitutional system at the national level. Lecture 3 hours per week.

GOVT 256 INTRODUCTION TO INTERNATIONAL POLITICS (3 cr.)—A study of principles and factors, affecting current international politics to promote an understanding of nations' behavior with one another. Lecture 3 hours per week.

GOVT 257 CONTEMPORARY INTERNATIONAL PROBLEMS (3 cr.)—Analysis of selected contemporary issues illustrating basic problems in international relations. Some representative topics are the Middle East, Southeast Asia, East-West conflict, the rise of nationalism, and the quest for peace. Lecture 3 hours per week.

GOVT 258 CONTEMPORARY NATIONAL PROBLEMS (3 cr.)—Prerequisites GOVT 281 or permission of instructor. Selected issues illustrating basic problems in public affairs in the United States in such areas as national, state, and local politics, governmental theory and civil rights. Lecture 3 hours per week. (Note: This would be a parallel to GOVT 257, in the area of domestic problems.)

GOVT 281-282-283 UNITED STATES GOVERNMENT I-II-III (3 cr.) (3 cr.) (3 cr.)—Elements of political science, powers, organization, and functions of the legislative, executive, and judicial branches of the national, state and local governments in the United States; democracy, federalism, the Constitution, and civil liberties. Lecture 3 hours per week.

GOVT 284-285 UNITED STATES GOVERNMENT I-II (5 cr.) (4 cr.)—Two quarter sequence covering GOVT 281-282-283. Lecture 5-4 hours per week.

GOVT 298, 299—See General Usage Courses on page 154.

HEALTH

HLTH 100 ORIENTATION TO ALLIED HEALTH CAREERS (1 cr.)—An orientation to the interrelated roles and functions of various members of the health team. Lecture 1 hour per week.

HLTH 104 FIRST AID I (2 cr.)—The principle and techniques of safety and first aid according to the accepted content of a standard first aid course. Lecture 1 hour, Laboratory 2 hours, Total 3 hours per week.

HLTH 110 CONCEPTS OF PERSONAL AND COMMUNITY HEALTH (3 cr.)—A course designed to study the concepts related to the maintenance of health, principles of safety, and the prevention of illness at the personal and community level. Lecture 3 hours per week.

HLTH 124 MEDICAL TERMINOLOGY I (3 cr.)—Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, stem words, and technical terms with emphasis on proper spelling and usage. Lecture 3 hours per week.

HLTH 156 CHILD HEALTH AND NUTRITION (3 cr.)—Understanding the physical needs of the pre-school child and the methods by which these are met. Emphasis upon health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety as related to health growth and development. Lecture 3 hours per week.

HISTORY

HIST 101-102-103 HISTORY OF WESTERN CIVILIZATION I-II-III (3 cr.) (3 cr.) (3 cr.)—The development of western civilization from ancient times to the present. The last two quarters deal with a survey of the period since the close of the Reformation. Lecture 3 hours per week.

HIST 111-112-113 UNITED STATES HISTORY I-II-III (3 cr.) (3 cr.) (3 cr.)—A survey of United States history from its beginning in early colonial times to the present. Lecture 3 hours per week.

HIST 114-115 AMERICAN HISTORY I-II (5 cr.) (4 cr.)—Two quarter sequence covering HIST 111-112-113. Lecture 5-4 hours per week.

HIST 160 WOMEN IN HISTORY (3 cr.)—A survey of the role of women and attitudes toward women in the Western World, with emphasis on women in American history. An inquiry into the origins of these attitudes will be followed by a survey of the role of women in various societies. Finally, the contemporary women's movement will be examined in the light of historical perspective. Lecture 3 hours per week.

HIST 187-188-189 BLACK HISTORY I-II-III (3 cr.) (3 cr.) (3 cr.)—A survey of the history of the Afro-American, his relationships and contributions to the American society; the period of slavery; the period of caste subordination; the period of new mobility and growing Black protest. Lecture 3 hours per week.

HIST 198, 199—See General Usage Courses on page 154.

HIST 206 AMERICAN HISTORY SINCE WORLD WAR II (3 cr.)—An in-depth investigation of modern history from 1945 to the present with special emphasis on American involvement in international affairs. Lecture 3 hours per week.

HIST 221-222-223 AMERICAN ECONOMIC HISTORY I-II-III (3 cr.) (3 cr.) (3 cr.)—First quarter deals with economic history of the 19th century and early 20th century in the United States. The second quarter places emphasis on the 1920's and 1930's. The third quarter covers the period since 1930. Lecture 3 hours per week.

HIST 251-252-253 HISTORY OF MODERN EUROPE I-II-III (3 cr.) (3 cr.) (3 cr.)—The political, social, and economic developments from 1500 to the present. Lecture 3 hours per week.

HIST 261-262-263 HISTORY OF ENGLAND I-II-III (3 cr.) (3 cr.) (3 cr.)—The history of England from Roman times to the present. The first quarter encompasses the period from Roman and Anglo-Saxon times through the Wars of the Roses; the second quarter from 1485-1783; and the third quarter, from 1783 to the present. Lecture 3 hours per week.

HOTEL, RESTAURANT & INSTITUTIONAL MANAGEMENT

HRIM 111-112-113 FOOD SCIENCE I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite high school chemistry or biology. Interrelationship of the physical, biological and chemical principles of food, food preparation, food equipment, and food manufacturing processes. Lecture 3 hours per week.

HRIM 124-125 PRINCIPLES OF FOOD PREPARATION I-II (4 cr.) (4 cr.)—Applications of scientific principles and techniques to food preparation. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

HRIM 140 PRINCIPLES OF BAKING (4 cr.)—Application of scientific principles and techniques of baking. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

HRIM 146 HOTEL-MOTEL ORGANIZATION AND MANAGEMENT (3 cr.)—A study of the past, present and future of the hospitality industry; organization as a modern tool of management; and the organization of hotel operations. Lecture 3 hours per week.

HRIM 147 RESTAURANT—INSTITUTION ORGANIZATION AND MANAGEMENT (3 cr.)—A thorough analysis of the nature and scope of departmental functions in the food service industry. Emphasis placed on operational practices and problems. Lecture 3 hours per week.

HRIM 221-222-223 QUANTITY FOOD PREPARATION I-II-III (5 cr.) (5 cr.) (5 cr.)—Prerequisites HRIM 124-125. Principles, standards and practices of cooking and baking applied in large quantity food production. Lecture 3 hours, Laboratory 6 hours, Total 9 hours per week.

HRIM 236 SANITATION (3 cr.)—Prerequisite high school general science, biology, or chemistry. The moral and legal responsibilities involved in assuring sanitary conditions in the food service establishment. Emphasis on the causes and prevention of food poisoning. Lecture 3 hours per week.

HRIM 264 FOOD AND BEVERAGE COST CONTROL I (3 cr.)—Pre-cost, pre-control methods relative to the menu, production control, purchasing, receiving, inventory control, and profit of food service system. Lecture 3 hours per week.

HRIM 266 FOOD PURCHASING (3 cr.)—Methods and procedures for purchasing food for hotels, restaurants and institutions; markets, federal and trade grades, governmental regulations, packaging, comparative versus price buying, yields and quality control. Lecture 3 hours per week.

HRIM 286 CATERING (3 cr.)—The systematic study of special functions in the hospitality industry. Lecture and demonstrations in banquet layout, menus, services, sales and supervision. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

HRIM 289 HOTEL AND MOTEL LAW (3 cr.)—A study of the laws applicable to the ownership and operation of hotels and motels. The duties to guests, ejection of undesirables, liabilities for personal injuries, damage, arrest and detention of offenders. Lecture 3 hours per week.

HUMANITIES

HUMN 201-202-203 SURVEY OF WESTERN CULTURE I-II-III (3 cr.) (3 cr.) (3 cr.)—A survey of the Western world which correlates the art, music and literature of the following periods: Greek and Roman, Middle Ages, Renaissance, Elizabethan, Neo-Classical, and Modern. Lecture 3 hours per week.

INDUSTRIAL

INDT 111-112 MATERIAL AND PROCESSES OF INDUSTRY I-II (3 cr.) (3 cr.)—The materials and processes of modern industry from the drafting and design point of view. The physical properties of industrial materials such as ferrous, nonferrous metals, woods, plastics and clay products in terms of design application, processing and fabrication methods. Cutting, cold forming, hot working, welding, foundry and chipless manufacturing processes employed in contemporary industry; the science of precision measurement as applied to inspection practices. Lecture 3 hours per week.

INDT 127 SAFETY AND HEALTH STANDARDS, REGULATIONS AND CODES (3 cr.)—The development of safety standards and sources of standards, including an examination of government regulatory codes and an appraisal of consensus, advisory, and proprietary standards. Lecture 3 hours per week.

INDT 170 INDUSTRIAL MANAGEMENT (3 cr.)—A study of organizational structure; operational, financial, accounting and marketing activities, management responsibilities, planning, control, personnel, safety, labor relationships and factors essential to effective management in industry. Lecture 3 hours per week.

INDT 176 PRINCIPLES OF INDUSTRIAL SAFETY (2 cr.)—Principles and practices of accident prevention, analysis of accident causes, mechanical safe-guards, fire prevention, housekeeping, occupational diseases, first aid, safety organization, protection equipment and general safety principles and promotion. Lecture 2 hours per week.

ADJU 188 TRAFFIC ACCIDENT INVESTIGATION (3 cr.)—Prerequisite ADJU 187 or equivalent. Conduct at the scene of a traffic accident; required tests and measurements, collection and handling of evidence, interviewing and interrogations, note-taking, case preparation and

court appearances, practical exercises. Lecture 3 hours per week.

ADJU 198, 199—See **General Usage Courses** on page 154.

ADJU 216 MUNICIPAL POLICE ADMINISTRATION (3 cr.)—Police organization and management techniques with emphasis on the urban department; the application of sound management guidelines and techniques to police administration including the growing use of data processing. Lecture 3 hours per week.

ADJU 228 LAW ENFORCEMENT AND THE COMMUNITY (3 cr.)—The current efforts undertaken by the police to achieve an effective working relationship with the community; police image, crisis areas, public and police attitudes, and community relations activities. Lecture 3 hours per week.

ADJU 231-232-233 CRIMINAL LAW, EVIDENCE, AND PROCEDURES I-II-III (3 cr.) (3 cr.) (3 cr.)—Major crimes; their classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses. Emphasis on the common law and Virginia adaptations. Kinds, degrees, and admissibility of evidence; methods and techniques of its acquisition, use in criminal proceedings, moot court activities. Review of court systems with emphasis on procedures from incident to final disposition of the accused and on applicable principles of criminal and civil law. Intended to satisfy transfer requirements for one year of Criminal Law. Lecture 3 hours per week.

ADJU 236 CRIMINAL PROCEDURES (3 cr.)—Organization and jurisdiction of Virginia law enforcement agencies; selective review of the criminal code of Virginia, with emphasis on the most frequently occurring misdemeanors not covered in "Criminal Law." Limited to students who have completed all first-year Police Science courses or who have received departmental permission. Lecture 3 hours per week.

ADJU 237 ADMINISTRATION OF JUSTICE (3 cr.)—Review of court systems with emphasis on procedures from incident to final disposition of the accused and on applicable principles of criminal and civil law. Includes field trips and guest lectures by representatives of local agencies and tribunals. Limited to students who have successfully completed five quarters of the Associate in Applied Science Degree program in Police Science, or who have secured departmental permission. Lecture 3 hours per week.

ADJU 240 CONSTITUTIONAL LAW FOR POLICE (3 cr.)—A survey of the background and application of Constitutional provisions, both State and Federal, pertinent to the functions of law enforcement officers. Includes such topical areas as speech; press and assembly, arrest and detention, search and seizure; interrogations and confessions; self-incrimination and assistance to counsel; double jeopardy; speedy and fair trial; humane punishment; and civil rights. Lecture 3 hours per week.

ADJU 246 PRINCIPLES OF CRIMINAL INVESTIGATION (3 cr.)—Conduct at the crime scene; collection and handling of evidence; interviewing and interrogation; obtaining statements, admissions, and confessions; testifying in court, practical exercises. Lecture 3 hours per week.

ADJU 247 ADVANCED CRIMINAL INVESTIGATION (3 cr.)—Prerequisite ADJU 246. Continued study of the investigative process; introduction to scientific aids and examination; application of investigative techniques to specific offenses; practical exercises. Lecture 3 hours per week.

ADJU 248 SPECIAL INVESTIGATION TECHNIQUES (3 cr.)—The development and retention of unique information systems such as informants, surveillance, under-cover assignments, and use of electronic aids. Lecture 3 hours per week.

ADJU 254-255 CRIMINAL INVESTIGATION TECHNIQUES I-II (4 cr.) (4 cr.)—Crime scene searches, collection and preservation of evidence, interrogations,

and interviews, obtaining statements, admissions and confessions, testifying in court. Advanced laboratory study relating to investigations, introduction and use of scientific aids and examinations, applications of investigative techniques to specific offenses. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

ADJU 266 POLICE COMMUNICATIONS SYSTEMS (2 cr.)—Modern communications systems as they apply to daily operational requirements of a police organization. Includes basic methods and principles of communications with emphasis on procedures in an effective police communications system; practical exercises. Lecture 2 hours per week.

ADJU 276 INDUSTRIAL AND COMMERCIAL SECURITY (3 cr.)—Organization, methods, techniques and equipment for physical protection of industrial and commercial facilities and prevention of theft of merchandise and valuables by persons within and without those facilities. Practical exercises. Lecture 3 hours per week.

ADJU 298, 299—See **General Usage Courses** on page 154.

MARKETING

✓MKTG 100 PRINCIPLES OF MARKETING (3 cr.)—The principles, methods, and problems involved in the distribution and marketing of goods and services. The various marketing agents: wholesaler, broker, agent, cooperative, and trade associations. Discussions of present day problems and policies connected with the distribution and sale of commodities, pricing, advertising and promotion, and buyer motivation. Lecture 3 hours per week.

MKTG 109 PRINCIPLES OF SALESMANSHIP (3 cr.)—The development of selling standards, methods and buying motives. The organization and training processes necessary for a well coordinated sales plan through united efforts of the sales force. The training of sales personnel for maximum efficiency in selling. Lecture 3 hours per week.

MKTG 131-132-133 TRAFFIC AND TRANSPORTATION I-II-III (3 cr.) (3 cr.) (3 cr.)—The requirements for traffic managers and others concerned with such fields as railroading, trucking, and air travel. The course outlines the development of transportation, transportation regulations, tariffs and rates, and the regulations and applications of traffic management. Lecture 3 hours per week.

MKTG 134-135 ECONOMICS OF TRANSPORTATION I-II (3 cr.) (3 cr.)—Economic analysis and understanding of transportation systems. Rail, motor, water, air and pipeline carriers are examined for importance, cost, utility and inherent and comparative advantages. The economic basis for government regulation and for transportation pricing with emphasis on competition and coordination. Transport policy as reflected in current studies and legislation. Lecture 3 hours per week

✓MKTG 136 RETAIL ORGANIZATION & MANAGEMENT (3 cr.)—The organization of business to accomplish their goals in the most effective and efficient manner. Location, layout, internal management, policy development, methods of operation, merchandise control and protection, property maintenance, and analysis of results. Lecture 3 hours per week.

MKTG 150 PRINCIPLES OF INSURANCE (3 cr.)—A course in insurance principles and practices. Includes an examination of risks and applications in the principal fields of insurance including life, accident and health, fire, liability, surety, and property. Lecture 3 hours per week

MKTG 157 PRINCIPLES OF CASUALTY INSURANCE AND SURETY BONDING (3 cr.)—Prerequisite MKTG 150 or equivalent. Automobile liability insurance and policy terms, workmen's compensation and employer's liability, comprehensive liability, professional and personal liability, fidelity and surety bonds, theft coverages, miscellaneous casualty coverages, multiple-line trends and coverages, health insurance. Lecture 3 hours per week.

MKTG 164 PRINCIPLES OF REAL ESTATE I (3 cr.)—Practical applications of real estate management principles. Includes a study of contracts, deeds, mortgages, bonds, leases, search, real property leasing and appraisal. Lecture 3 hours per week.

MKTG 165 PRINCIPLES OF REAL ESTATE II (3 cr.)—Prerequisite MKTG 164. Continued examinations of marketing fundamentals. Emphasis on the techniques required for proper selection, analysis and listing of real estate properties. How to determine needed data, how to analyze forms and records for recording and presenting data. Lecture 3 hours per week.

✓MKTG 208 BANK PUBLIC RELATIONS AND MARKETING (3 cr.)—The basis of public relations, both internal and external; the why, what, and how of public relations and marketing. An overview in terms of what everyone in banking should know about the essentials of bank public relations and marketing. Lecture 3 hours per week.

✓MKTG 209 SALES MANAGEMENT (3 cr.)—From the viewpoint of management, study of the organization and operation of the sales division within the business enterprise. Planning, organizing, and controlling the total sales effort; use of the case method of learning. Lecture 3 hours per week.

✓MKTG 225 PRINCIPLES OF ADVERTISING (3 cr.)—Study of the functions, principles, and techniques of advertising, including the role of advertising in the marketing system. Lecture 3 hours per week.

MKTG 226 MERCHANDISE BUYING AND CONTROL (3 cr.)—The place of buying and inventory control in the merchandising cycle; the techniques used in developing merchandise plans, model stock, unit control and inventory systems, merchandise selection policy and pricing for profits. Lecture 3 hours per week

✓MKTG 228 SALES PROMOTION AND CUSTOMER RELATIONS (3 cr.)—The scope and total activities of a sales promotion program designed to coordinate advertising, display and publicity. Effective use of the sales forces and store policies to develop favorable customer relationships. Institutional practices which develop goodwill for the store. Lecture 3 hours per week.

✓MKTG 231-232-233 INTERSTATE COMMERCE LAW I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite MKTG 133 or equivalent. A study of transportation law including the Interstate Commerce Act. First quarter devoted to constitutional issues, nature of interstate commerce, franchises, and combinations of carriers. Second quarter devoted to finance, rates, and services. Third quarter concerned with procedure, loss and damage, and related statutes. Lecture 3 hours per week.

MKTG 236 PHYSICAL DISTRIBUTION (3 cr.)—Business firm's functions and activities in the evaluation, purchase, and direction of transportation services provided by various transportation media: selection of transportation media, private transportation and management of equipment, order processing, supply scheduling, inventory control and customer service in developing a total system approach to marketing logistics. Lecture 3 hours per week.

MKTG 238 TRAFFIC MANAGEMENT (3 cr.)—The purpose, function, and operation of traffic management, the differences in various areas of traffic; and the relationship to other business operations. Prerequisite MKTG 131. Lecture 3 hours per week.

MKTG 239 PROBLEMS IN TRANSPORTATION (3 cr.)—Prerequisite MKTG 231. Preparation and presentation of cases as Interstate Commerce Commission practitioner and witness; drafting of pleadings; briefs, and petitions, submission of testimony and exhibits in written and oral form with experience on the witness stand. Lecture 3 hours per week.

MKTG 266 REAL ESTATE SALES (3 cr.)—The fundamentals of sales principles as they apply to real estate. The prospect, his motives, his needs, and his abilities to buy

real estate. Relations of broker and salesman, salesman and client and community responsibilities. Writing contracts, closing and settlement, and followup relations. Lecture 3 hours per week.

MKTG 267 REAL ESTATE APPRAISAL (3 cr.)—Fundamental of Real Estate Evaluations; methods used in determining value; application of procedures and techniques by utilizing actual appraisals. Includes the opportunities available in the appraisal field of Real Estate Activity. Lecture 3 hours per week.

MKTG 268 PROPERTY MANAGEMENT (3 cr.)—Prerequisite MKTG 165. The field of property management, professional aspects of real estate brokerage, properties, neighborhood analysis, tenants and qualifications, aspects of maintenance and repair. Lecture 3 hours per week.

MKTG 269 REAL ESTATE FINANCE (3 cr.)—Principles and practices of financing real estate sales and properties, analysis of various types of mortgage payments and contracts, financing homes and industrial properties and buildings; loan application, relations between correspondent and investor, construction loans. Lecture 3 hours per week.

MKTG 277 LEGAL ASPECTS OF REAL ESTATE (3 cr.)—A study of Virginia real estate law including rights incident to property ownership and management, agency contract and application to real estate transfer, conveyancing, probate proceedings, trust transactions. Lecture 3 hours per week.

MKTG 278 REAL ESTATE ECONOMICS (3 cr.)—Nature and classification of Land Economics, the development of property, construction sub-division, economic values and Real Estate evaluation, Real Estate cycles and business fluctuations, residence market trends, Rural Property and special purpose property trends. Lecture 3 hours per week.

MKTG 279 REAL ESTATE INVESTMENT (3 cr.)—An examination of Real Estate Investment with emphasis on tax shelters, limited partnerships, syndications, exchanges and modern techniques of mortgage equity requirements and depreciation guidelines. Lecture 3 hours per week.

MKTG 298, 299—See General Usage Courses on page 154.

MATHEMATICS

MATH 01 DEVELOPMENTAL MATHEMATICS (5 cr.)—A developmental course which bridges the gap between a weak mathematical foundation and the knowledge necessary for the study of mathematical courses in technical and professional programs. Arithmetic, algebra, geometry and trigonometry will be covered. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Lecture 5 hours per week.

MATH 05 BASIC ARITHMETIC (1-5 cr.)—A developmental course in review of arithmetical principles and computations, designed to develop the mathematical proficiency necessary for selected curriculum entrance. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Variable hours.

MATH 31-32 ALGEBRA I-II (5 cr.) (5 cr.)—Fundamental algebraic calculations for students who need a survey of the basic principles of algebra. Includes the essential topics of the first two years of high school algebra. Lecture 5 hours per week.

MATH 39 TRIGONOMETRY (5 cr.)—Prerequisite MATH 32 or equivalent. Trigonometry functions, graphic representations, logarithms, laws of sines & cosines, trigonometric equations, inverse function, complex numbers. Lecture 5 hrs. per week.

MATH 41 AIR CONDITIONING MATHEMATICS I (4 cr.)—Fractions, decimals, sign of operation, equations,

Ohm's Law, subtraction, multiplication, and division of signed numbers, work and power problems. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

MATH 50 BUSINESS MATHEMATICS (3 cr.)—Review of the fundamentals of mathematics related to business activities. Emphasis on the use of percents, discounts, interest, depreciation, insurance calculations, and other practical business problems. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

MATH 99—See General Usage Courses on page 154.

MATH 111-112-113 TECHNICAL MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite satisfactory score on appropriate mathematics proficiency examinations and one unit of high school algebra and one unit of high school geometry or equivalent. Designed for the technical student. Slide rule, review of geometry, dimensional analysis, analytical geometry of the straightline, basic sketching, numerical trigonometry, introduction to analytical trigonometry, and an introduction to calculus to emphasize those techniques useful to the engineering student. Lecture 3 hours per week.

MATH 118-119 INTRODUCTION TO TECHNICAL MATHEMATICS I-II (5 cr.) (5 cr.)—Applications of arithmetic, algebra, geometry and trigonometry to technical problems. Lecture 5 hours per week.

MATH 121-122-123 ENGINEERING TECHNICAL MATHEMATICS I-II-III (5 cr.) (5 cr.) (5 cr.)—Prerequisite three units of high school mathematics other than general mathematics, and satisfactory score on appropriate mathematics proficiency examinations. Algebra, trigonometry, introduction to calculus, and some emphasis on graphical methods. The course sequence includes solutions of linear and quadratic equations, trigonometric functions, trigonometric curve sketching, logarithms, ratio, proportion and variation, vectors, complex numbers and the binomial theorem. Credit cannot be obtained for both this course and MATH 161-162-163 (College Mathematics). Lecture 5 hours per week.

MATH 141-142-143 INTRODUCTORY MATHEMATICAL ANALYSIS I-II-III (5 cr.) (5 cr.) (5 cr.)—Prerequisites are a satisfactory score on appropriate mathematics proficiency examination and four units of high school mathematics including two units of algebra, one of geometry, and one-half of trigonometry or equivalent. A modern unified course in analytic geometry and calculus including functions, limits, derivatives, differentials, indefinite integrals, definite integrals, and application. Lecture 5 hours per week.

MATH 151-152-153 INTRODUCTION TO BUSINESS MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite a strong background in basic arithmetic operations. Instruction, review and drill in percentage, cash and trade discounts, markup, payroll, sales, property and other taxes, simple and compound interest, bank discounts, interest, investments and annuities. Lecture 3 hours per week.

MATH 154-155 MODERN MATHEMATICS FOR ELEMENTARY TEACHERS I-II (3 cr.) (3 cr.)—This course is designed for elementary education majors. The course content includes: logic and logical reasoning; history of early number systems, development of the real number system and its subsystems; work in bases other than base 10; mathematical applications involving operations with sets; inductive and deductive reasoning; essentials of geometry and algebra; generalizations and patterns in mathematics. Lecture 3 hours per week.

MATH 157 MODERN MATHEMATICS FOR ELEMENTARY TEACHERS—METHODS AND APPLICATIONS (5 cr.)—A course designed to emphasize appropriate content, methods, and instructional materials for teaching mathematics in the elementary school. Current trends in the teaching of mathematics and the application of math in testing and measurement of student progress. Critical analysis of recent publications related to the fields of education and mathematics. Lecture 3 hours, Laboratory 4 hours, Total 7 hours per week.

MATH 161-162-163 COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite a satisfactory score on appropriate mathematics proficiency examinations and three units of high school mathematics including two units of algebra and one unit of geometry or equivalent. A modern unified course in algebra, trigonometry, analytic geometry, and calculus for students other than those in physics or engineering. Lecture 3 hours per week.

MATH 181-182-183 GENERAL COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)—Intended for students with majors other than mathematics, science, business administration, or engineering. Prerequisite Algebra I and either Algebra II or Geometry and a satisfactory score on appropriate mathematics proficiency examinations. The first two quarters will include sets, the logic of algebra, the real number system, algebraic and transcendental functions, relations and graphs. The third quarter will include permutations, combinations, probability and elementary statistics. Lecture 3 hours per week.

MATH 198, 199—See General Usage Courses page 154.

MATH 202 INTRODUCTION TO MATRIX ALGEBRA (4 cr.)—Prerequisite MATH 163, 143 or equivalent. Operations with matrices, determinants, systems of linear equations, vector spaces and linear transformations, bilinear and quadratic forms. Lecture 4 hrs. per week.

MATH 221-222 ADVANCED ENGINEERING TECHNICAL MATHEMATICS I-II (4 cr.) (4 cr.)—Prerequisite MATH 123. Differential and integral calculus with emphasis on applied problems in the appropriate technological fields. Lecture 4 hours per week.

MATH 241-242-243 ADVANCED MATHEMATICAL ANALYSIS I-II-III (4 cr.) (4 cr.) (4 cr.)—(for students in Engineering and Science Curricula.) Prerequisite MATH 143. A modern course including vectors, matrices, partial differentiation, multiple integrals, infinite series, and differential equations. Lecture 4 hours per week.

MATH 261-262-263 ADVANCED COLLEGE MATHEMATICS I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite MATH 163 or equivalent. A continuation of the unified course in algebra, trigonometry, analytic geometry, and calculus for students other than those in engineering. Topics included are differentiation and integration of exponential, logarithmic, and trigonometric functions; sequences and series; solid analytic geometry; multiple integrals; and introduction to differential equations. Lecture 3 hours per week.

MATH 298, 299—See General Usage Courses on page 154.

MECHANICAL

MECH 131 MACHINE LABORATORY I (2 cr.)—Fundamental machine operations of drilling, reaming, turning between centers, chuck work, thread chasing, shaper, layout, finishing, cutting speeds, tool care, tool grinding, surface grinder, milling machine operations and tools. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 132 MACHINE LABORATORY II (2 cr.)—Continued study of practical and industrial applications and set up, inspection tools, gauges, tapers, gear cutting, square threads and fits. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

MECH 176 INTRODUCTION TO NUMERICAL CONTROL MACHINING (3 cr.)—Prerequisite MECH 132 or equivalent. An introduction to NC machining including dimensioning, programming, tape preparation, machine setup and machine problems. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

MECH 237-238 MACHINE DESIGN I-II (4 cr.) (4 cr.)—Prerequisites ENGR 152 and MATH 123. The analytical design of bearings, clutches, couplings, brakes, springs, gearing systems, and power shafing. Emphasis on methods of constructing machine parts and specifications

of materials and manufacturing processes. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 264 THERMODYNAMICS I (4 cr.)—Prerequisite MATH 123. Characteristics of gases; applied study of gas cycles and combustion processes. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 265 THERMODYNAMICS II (4 cr.)—Prerequisite MECH 264. Advanced thermodynamics with emphasis on applications relating to internal combustion engines, steam cycles and refrigeration systems. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 267 FLUID MECHANICS (4 cr.)—Prerequisites PHYS 111 or ENGR 151. Properties of fluids and fluid flow, Bernoulli's Theorem, measuring devices, viscosity and dimensional analysis. Emphasis on pumps, piping, and fluid motors. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

MECH 298—See General Usage Courses on page 154.

MENTAL HEALTH

MENT 101 INTRODUCTION TO MENTAL HEALTH I (3 cr.)—An examination of the concepts of mental health and mental illness. A study of the basic factors involved in any behavior and the quantitative and qualitative relationship of mental health to mental illness. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

MENT 102-103 INTRODUCTION TO MENTAL HEALTH (3 cr.) (3 cr.)—An examination of the concepts of mental health and mental illness. A study of the basic factors involved in any behavior and the quantitative and qualitative relationship of mental health to mental illness. Lecture 3 hours.

MENT 116 ACTIVITIES THERAPIES (3 cr.)—Prerequisite MENT 104. The use of recreation, art, crafts and music as therapeutic tools with the emotionally disturbed and mentally retarded. Planning social programs and special events for the needs of the individual and consistent with his overall treatment plan and/or social goals, current laws affecting activities, use of volunteers and use and care of audio-visual media. Laboratory will include participation in games, crafts and other activities that could be used with various age groups and persons presenting particular problems. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

MENT 166 MENTAL RETARDATION I (3 cr.)—Characteristics of parents and families of the developmentally disabled. Problems in the home, parental reactions and responses to the diagnosis of mental retardation and cerebral palsy, the developmentally disabled and their impact on the family, needs of parents of the developmentally disabled, overprotection and rejection by parents, rivalry between the retarded and normal siblings, problems of institutionalization, and concepts of parenthood; effects on the social and psychological development and treatment of the developmentally disabled.

MENT 167 MENTAL RETARDATION II (3 cr.)—Current problems and directive readings of the developmentally disabled. Major problems in working with the cerebral palsied, mentally retarded and epileptic, their implications and possible alternative solutions. The legal rights of the developmentally disabled, love, dating, marriage, and birth control for the developmentally disabled, the occupational adjustment of the retardate, work and the need to belong, the normalization principal—its implications for the future, and community residences for the retarded.

MENT 168 MENTAL RETARDATION III (3 cr.)—Personality development of and therapeutic techniques for the mentally retarded. The dynamic structure of the personality of the retardate with emphasis on self-image, self-concept, and defense mechanisms. Alternative individual and group therapy techniques in counseling the disturbed adolescent and adult as well as a review of common social inadequacies among the mildly and moderately retarded.

MENT 190—Prerequisite HLTH 104 and MENT 104—**See General Usage Courses** on page 154.

MENT 221-222-223 MENTAL HEALTH I-II-III (3 cr.) (3 cr.) (3 cr.)—Principles and methods of interviewing, observing, recording, summarizing, and communicating human reactions (including both verbal and non-verbal communication) and the underlying rationale for various methods. Includes a study of psychotherapy, group skills (group dynamics, role playing, leadership of group activities, other teaching skills), behavioral modification and related therapies, use of milieu, family therapies, hospital treatment, drug therapies, community resources, mental health professions, coordination of treatment program and participation in development of treatment programs. Special emphasis is placed on therapeutic use of everyday experiences in development of therapeutic relationships. Lecture 3 hours per week.

MENT 236 PROBLEMS IN ADOLESCENCE (3 cr.)—Prerequisite MENT 101 or 104, PSYC 130, or departmental approval. An examination of the problems associated with adolescence with an indepth look at personality, environmental, and developmental factors. Specific intervention strategies will be covered with emphasis on theory, rationale, and techniques appropriate for this age group. A review of contemporary intervention will be incorporated with a look toward the future needs of this group. Lecture 3 hours per week.

MENT 237 PROBLEMS IN AGING (3 cr.)—Prerequisites MENT 101 or 104, BIOL 154-155, or departmental approval. An examination of the problems associated with the aging process with an indepth look at personality changes and reaction to internal and external stress. Specific intervention strategies will be covered which attempt to rehabilitate and facilitate the adjustment of the aging client. Emphasis will be placed on rationale and technique as well as a review of psychological problems associated with such factors as organic and general physical deterioration, metabolic disturbances and social isolation. Lecture 3 hours per week.

MENT 290, 298—**See General Usage Courses** on page 154.

MUSIC

**Those courses marked with an asterisk may be taken as electives by students in any program that permits this; all other Music courses are for students enrolled in the Music program.*

MUSIC 08 FUNDAMENTALS OF MUSIC (3 cr.)—Introduction to music theory designed to teach the beginner to read, write, and understand the symbols of music notation. The approach is equally suited to those with no prior training in music as well as those who have learned to sing or play without training fundamentals. A creative approach in music reading and listening to develop performance skills and proficiency in the language of music as well as in the assimilation of factual information. Students may re-register for this course in subsequent quarters as necessary until the course objectives are completed. Lecture 3 hours. Total 3 hours per week.

*MUSIC 101-102-103 BASIC MUSICIANSHIP I-II-III (3 cr.) (3 cr.) (3 cr.)—Designed to provide music knowledge and skills for the student who wishes to study basic rudiments of music including notation, scales, keys, and intervals with some sight reading and ear training. Lecture 3 hours per week. Total 3 hours per week.

Theory and Composition

*MUSIC 111-112-113 MUSIC THEORY I-II-III (4 cr.) (4 cr.) (4 cr.)—Elements of musical notation. Structure of scales, intervals triads and chords. Development of ability to sing at sight and write from dictation melodies in all keys, clefs, and meters. Beginning analysis of the Bach chorale style and construction of cadential phrases in that style. Similar experience at the keyboard. Lecture 3 hours, Laboratory 2 hours. Total 5 hours per week.

*MUSIC 211-212-213 ADVANCED MUSIC THEORY I-II-III (4 cr.) (4 cr.) (4 cr.)—Continuation of MUSIC 111-112-113. Development of facility in the analysis and usage of diatonic and chromatic harmonies. Continued study in analysis of Bach style, sight-singing, ear-training, and keyboard harmony. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

History and Literature

MUSIC 121-122-123 MUSIC APPRECIATION I-II-III (3 cr.) (3 cr.) (3 cr.)—This course aims to increase the variety and depth of the student's knowledge in music and related cultural activities. Aural comprehension of music through listening to compositions from the various historical periods while noting the changes in musical elements in each period. Lecture 3 hours per week.

MUSIC 221-222-223 HISTORY OF MUSIC I-II-III (3 cr.) (3 cr.) (3 cr.)—Primarily for music majors. A chronological study of musical styles from antiquity to the present time. Relationship of the historical development of music to parallel movements in art, drama, and literature. Development of techniques for listening analytically and critically to music. I. Music to 1600. II. 1600 to 1820. III. 1820 to present. Lecture 3 hours per week.

MUSIC 226 TWENTIETH CENTURY MUSIC AND MUSIC CULTURES (3 cr.)—A general course on music that uses the twentieth century in all its social, political and cultural ramifications as a point of departure. Includes a study of both Western and non-Western folk, popular and classical music of the twentieth century. Lecture 3 hours. Total 3 hours per week.

Applied Music

Private lessons are available for either one or two hours of credit per quarter. The length of the lessons will be ½ hour for 1 hour credit and 1 hour for 2 hours credit. All courses in Applied Music may be repeated for credit for a total of 12 hours for the major and 6 hours for the minor. Laboratory 1-2 hours per week.

MUSIC 137 APPLIED MUSIC—VOICE (1-2 cr.)—Singing, proper breath control, diction and development of tone. Standard vocal repertoire will be studied. Departmental permission required. One-two hours class voice lessons and/or one-two private lessons per week. 4-8 hours practice (laboratory) required.

MUSIC 237 ADVANCED APPLIED MUSIC—VOICE (1-2 cr.)—A continuation of MUSIC 137.

MUSIC 147 APPLIED MUSIC—KEYBOARD (1-2 cr.)—Instruction in piano or organ. Standard repertoire will be studied. Departmental permission required. One-two hours class piano and/or one-two half-hour private lessons per week. 4-8 hours practice (laboratory) required.

MUSIC 247 ADVANCED APPLIED MUSIC—KEYBOARD (1-2 cr.)—A continuation of MUSIC 147.

MUSIC 157 APPLIED MUSIC—WOODWINDS (1-2 cr.)—Instruction in fundamentals of the woodwind instruments for applied minors. Standard repertoire will be studied. Departmental permission required. One hour class lesson per week. 4-8 hours practice (laboratory) required.

MUSIC 257 ADVANCED APPLIED MUSIC—WOODWINDS (1-2 cr.)—A continuation of MUSIC 157.

MUSIC 167 APPLIED MUSIC—STRINGS (1-2 cr.)—Instruction in fundamentals of the string instruments for applied minors. Standard repertoire will be studied. Departmental permission required. One hour class lesson per week. 4-8 hours practice (laboratory) required.

MUSIC 267 ADVANCED APPLIED MUSIC—STRINGS (1-2 cr.)—A continuation of MUSIC 167.

MUSIC 177 APPLIED MUSIC—BRASS (1-2 cr.)—Instruction in fundamentals of the brass instruments for applied minors. Standard repertoire will be studied. Departmental permission required. One hour class lesson per week. 4-8 hours practice (laboratory) required.

MUSC 277 ADVANCED APPLIED MUSIC—BRASS (1-2 cr.)—A continuation of MUSC 177.

MUSC 187 APPLIED MUSIC—PERCUSSION (1-2 cr.)—Instruction in fundamentals of percussion instruments for applied minors. Standard repertoire will be studied. Departmental permission required. One hour class lesson per week. 4-8 hours practice (laboratory) required.

MUSC 287 ADVANCED APPLIED MUSIC—PERCUSSION (1-2 cr.)—A continuation of MUSC 187.

Ensemble

Courses in Ensemble consist of performance from the standard repertoires including study of ensemble techniques and interpretation. Departmental permission required. May be repeated for credit. Laboratory 3 hours per week.

*MUSC 138 CHORUS (1 cr.)

*MUSC 238 CHORUS (1 cr.)—A continuation of MUSC 138.

MUSC 139 SMALL VOCAL ENSEMBLE (1 cr.)

MUSC 239 SMALL VOCAL ENSEMBLE (1 cr.)—A continuation of MUSC 139.

MUSC 148 ORCHESTRA (1 cr.)—Students may receive credit for orchestra through participation in the Roanoke Symphony or Roanoke Youth Symphony.

MUSC 248 ORCHESTRA (1 cr.)—A continuation of MUSC 148.

*MUSC 149 BAND (1 cr.)—The principal emphasis of the band program is in the performance of stage band literature of all styles.

*MUSC 249 BAND (1 cr.)—A continuation of MUSC 149.

MUSC 159 WOODWIND ENSEMBLE (1 cr.)

MUSC 259 WOODWIND ENSEMBLE (1 cr.)—A continuation of MUSC 159.

MUSC 169 STRING ENSEMBLE (1 cr.)

MUSC 269 STRING ENSEMBLE (1 cr.)—A continuation of MUSC 169.

MUSC 179 BRASS ENSEMBLE (1 cr.)

MUSC 279 BRASS ENSEMBLE (1 cr.)—A continuation of MUSC 179.

MUSC 189 PERCUSSION ENSEMBLE (1 cr.)

MUSC 289 PERCUSSION ENSEMBLE (1 cr.)—A continuation of MUSC 189.

NATURAL SCIENCE

NASC 100 SURVEY OF SCIENCE (4 cr.)—A general survey course designed to familiarize the student with the principles of the biological and physical sciences. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

NASC 125 CONSERVATION OF NATURAL RESOURCES: Man and the Environment (3 credits)—A study of the natural resources of Earth in the broadest sense: the components of man's physical and biological environment. The importance of rational use of air, water, living space, food supply, energy and minerals is considered in relation to man's future in Earth's ecosystem. NO PREREQUISITE.

NASC 154-155 ASTRONOMY I-II (3 cr.) (3 cr.)—The history of astronomy and the development of astronomical thought leading to the birth of modern astronomy and its most recent developments. Particular stress will be placed on astronomical instruments and measuring techniques, along with an examination of the solar system with emphasis on the earth, moon and adjacent planets, the Milky Way galaxy and extragalactic objects. 154—Lecture 3 hours per week; 155—Lecture 2 hours per week, Laboratory 2 hours; Total 4 hours per week.

NURSING

NURS 111 FUNDAMENTALS OF NURSING I (5 cr.)—The development of nursing skills for the physical, psychological, and social needs of patients. Selected clinical laboratory experience in cooperating health and welfare agencies. Lecture 3 hours, Laboratory 6 hours, Total 9 hours per week.

NURS 112 FUNDAMENTALS OF NURSING II (6 cr.)—Continuation of NURS 111. Lecture 3 hours, Laboratory 9 hours, Total 12 hours per week.

NURS 113 FUNDAMENTALS OF NURSING III (8 cr.)—Continuation of NURS 112. Lecture 4 hours, Laboratory 12 hours, Total 16 hours per week.

NURS 199 **See General Usage Courses** on pages 147-148.

NURS 221-222-223-224 NURSING IN MAJOR HEALTH PROBLEMS I-II-III-IV (8 cr.) (8 cr.) (8 cr.) (8 cr.)—Prerequisites NURS 111-112-113, BIOL 154-155-176. Representative problems in the nursing care of patients of all age groups with illness requiring medical, surgical and psychiatric care. Related clinical experiences to further develop the knowledge and skills required to provide nursing care for each patient's needs. The scope, prevention, diagnosis, treatment and control of major areas of illness in the United States. Lecture 4 hours, Laboratory 12 hours, Total 16 hours per week.

NURS 298, 299—**See General Usage Courses** on page 154.

PHILOSOPHY AND RELIGION

PHIL 101-102-103 INTRODUCTION TO PHILOSOPHY I-II-III (3 cr.) (3 cr.) (3 cr.)—An introductory study of some philosophical issues concerning the perception and belief of man in society. Lecture 3 hours per week.

PHIL 221 LITERATURE OF THE BIBLE I (3 cr.)—A study of the literature of the Old Testament. Lecture 3 hours per week.

PHIL 222 LITERATURE OF THE BIBLE II (3 cr.)—A study of the literature of the New Testament. Lecture 3 hours per week.

PHIL 226 COMPARATIVE RELIGION (3 cr.)—A survey of the literature of comparative religions of the world. Lecture 3 hours per week.

PHYSICAL EDUCATION

PHED 101-102-103 PHYSICAL EDUCATION I-II-III (1 cr.) (1 cr.) (1 cr.)—The study of recreational activities which will have value for more effective use of leisure time. The development of skills and methods in archery, badminton, bowling, golf, tennis, volleyball and other sports and activities appropriate to the local season, and facilities available. Lecture 1 hour, Laboratory 1 hour, Total 2 hours per week.

PHYSICS

PHYS 101-102-103 INTRODUCTORY PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—A survey of general physics; the fundamentals of mechanics, properties of matter, heat, magnetism, electricity, sound, light, and radiation. Lecture 3 hrs., Lab 3 hrs., Total 6 hrs. per week.

PHYS 111-112-113 TECHNICAL PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite three units of high school mathematics; corequisite MATH 121. Precision measurement, properties of matter, hydrostatics and hydraulics; force and motion, Newtonian mechanics, vectors and graphic solutions, statics, dynamics, rotary motion, heat and thermodynamics, heat engines, sound acoustics; the theory of wave motion, light and optics, magnetism and electricity, DC and AC circuits and machines. An introduc-

tion to electronics and nuclear energy for industrial purposes. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

PHYS 121-122-123 PRINCIPLES OF PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite three units of high school mathematics including two units of algebra and one unit geometry. An introductory course in Physics satisfying the science distribution requirement for majors other than Physics or Engineering. The fundamental principles of mechanics, heat, electricity and magnetism, wave, motion, atomic and nuclear physics. Attention is given to the historical development and philosophical significance of physical concepts and theories. Application to elementary problems and the role of physics in the modern world. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

PHYS 131-132-133 APPLIED PHYSICS I-II-III (3 cr.) (3 cr.) (3 cr.)—The fundamentals of physics with laboratory exercises to parallel lectures. Deals with the properties of matter, basic Newtonian mechanics. The second quarter course includes the study of heat, light, optics and sound as wave phenomena. The general course includes a study of electricity and magnetism. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

PHYS 198, 199—See General Usage Courses on page 154.

PHYS 221-222-223 GENERAL UNIVERSITY PHYSICS I-II-III (4 cr.) (4 cr.) (4 cr.)—Corequisite MATH 241 or equivalent. General University Physics is designed for students in engineering, physics or mathematics. Includes mechanics, relativity, electricity and magnetism, electromagnetic waves, optics, quantum mechanics and atomic structure. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

PHYS 298, 299—See General Usage Courses on page 154.

PSYCHOLOGY

PSYC 110 PRINCIPLES OF APPLIED PSYCHOLOGY (3 cr.)—The general principles of perception, learning, and conscious and unconscious motivation which are operative in all practical applications of psychology to life and work. Lecture 3 hours per week.

PSYC 116 THE PSYCHOLOGY OF PERSONAL ADJUSTMENT (3 cr.)—Characteristics of mental health. Psychological principles applied to the development of a mature personality and to the problems of everyday life. Effective methods in study and work. Lecture 3 hours per week.

PSYC 128 HUMAN RELATIONS (3 cr.)—The study of human personality and its reaction upon other personalities. The application of psychology to problems in industry and private life. Some introduction to such matters as selection, training and placement of employees. Lecture 3 hours per week.

PSYC 130 CHILD GROWTH AND DEVELOPMENT (3 cr.)—The development of the child concentrating on his physical, intellectual, social and emotional factors in his personality. Recent studies in child development. Provides a background for students who intend to become nurses, teachers, or enter other occupations involving continuous work with children. Lecture 3 hours per week.

PSYC 198, 199—See General Usage Courses on page 154.

PSYC 201-202-203 GENERAL PSYCHOLOGY I-II-III (3 cr.) (3 cr.) (3 cr.)—The study of human behavior relating experimental data to practical problems: the measurement of ability, sensory and perceptive processes, organic basis of behavior, heredity, maturation, learning and thinking, motivation, emotion, personality and social factors in behavior. Lecture 3 hours per week.

PSYC 204-205 GENERAL PSYCHOLOGY I-II (5 cr.) (4 cr.)—The principles of behavior relating experimental data

to practical problems: the measurement of ability, sensory and perceptive processes, organic basis of behavior, heredity, maturation, learning and thinking, motivation, emotion, personality and social factors in behavior. Lecture 5-4 hours per week.

PSYC 246 EDUCATIONAL PSYCHOLOGY (5 cr.)—Prerequisite PSYC 202, 130 or equivalent. Human behavior and learning treated in the context of educational processes. The nature of various mental characteristics such as intelligence, interest, knowledge; their measurement and appraisal and their significance for educational goals. Lecture 5 hours per week.

PSYC 257 LAW ENFORCEMENT PSYCHOLOGY (3 cr.)—Prerequisite PSYC 117 or PSYC 110 and 116. Inter-group relations and police work. Some facts about racial, religious and national differences. Prejudice, suggestion, emotion, frustration and aggression in interpersonal and intergroup situations. Types of abnormal behavior likely to be encountered in police work. Lecture 3 hours per week.

PSYC 298, 299—See General Usage Courses on page 154.

RADIOLOGIC TECHNOLOGY

RADL 110 INTRODUCTION TO RADIOLOGY; PROTECTION; PATIENT CARE (3 cr.)—A brief history of the radiologic profession, the preliminary code of ethics and conduct for radiologic students, and the basic fundamentals of radiation protection. The care and handling of the sick and injured patient in the radiology department. The use of contrast media necessary in the investigation of the internal organs. Lecture 3 hours per week.

RADL 114 PRINCIPLES OF EXPOSURE I (4 cr.)—The control and use of radiation to produce safe levels of radioactive energies necessary for the production of radiographs. Includes the developmental process necessary to produce artifact free radiographs. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

RADL 115 PRINCIPLES OF EXPOSURE II (4 cr.)—Prerequisite RADL 114. The controlled use of radiation producing sources both natural and manmade. Studies in the employment of exposure relative to the pediatric radiology are presented to the student. In addition, the course will include topics dealing with equipment maintenance and minor repairs of X-ray equipment. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

RADL 124 POSITIONING I (4 cr.)—Positioning the patients' anatomical structures on the radiograph with emphasis on positioning of the extremities, chest, skull, and gross examination of the abdomen. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

RADL 125 POSITIONING II (4 cr.)—Prerequisite RADL 124. Emphasis on radiographic procedures such as inner ear studies, pediatric radiology, intra oral examination and other more complex examinations. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

RADL 190, 199—See General Usage Courses on page 154.

RADL 210 PROTECTION AND PATIENT SAFETY (2 cr.)—Prerequisite RADL 100. An advanced study in the use of protective devices to insure maximum protection for the patient and fellow employees from excessive amounts of radiation and electrical hazards. Lecture 2 hours per week.

RADL 216 APPLIED RADIATION PHYSICS (4 cr.)—Prerequisite RADL 114. The circuiting and electronics of x-ray machines. The structure of radioactive generators and the resultant isotopes. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week.

RADL 250 RADIOLOGIC SPECIALTIES (3 cr.)—Introduction to the study and treatment of disease as it relates to Nuclear Medicine, Radiation Oncology, Ultrasound,

Imaging Modalities and other innovations in the field of Radiology. Special emphasis will be placed on theory, principles of operation and clinical application of these specialties. Lecture 3 hours per week.

RADL 256 SPECIAL PROCEDURES (3 cr.)—Prerequisites RADL 124 and BIOL 155. The use of special radiographic and surgical equipment employed in the more complicated investigation of internal conditions of the human body. Lecture 3 hours per week.

RADL 290, 298, 299—See **General Usage Courses** on page 154.

SECRETARIAL SCIENCE

SECR 11 TYPEWRITING I (3 cr.)—The typewriting keyboard and skills essential to obtain employment in an office occupation. Correct typing techniques and practice in production problems such as centering, letters, manuscripts, simple tabulations, and forms. Lecture 1 hour, Laboratory 4 hours, Total 5 hours per week.

SECR 20 BASIC STENOGRAPHIC SKILLS (3 cr.)—Elementary skills fundamental to the effectiveness of shorthand: sensitivity to phonetic sounds; mechanics of spelling and word differentiation with emphasis on the vocabulary of business; work syllabification, division and capitalization; mechanics of punctuation and sentence structure common to transcription; introduction to first lessons of shorthand theory. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 111 TYPEWRITING I (3 cr.)—Introduction to keyboard with emphasis on good technique and machine mastery; letter format and styles, tabulation and centering, manuscript typing. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 112 TYPEWRITING II (3 cr.)—Prerequisite SECR 111 or departmental permission. Continuation of skill building with emphasis on standards required to meet job requirements in production typing. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 113 TYPEWRITING III (3 cr.)—Prerequisite SECR 112 or departmental permission. Skill development with high standard required to meet job requirements in production typing. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 114 TYPEWRITING IV (3 cr.)—Production typing of advanced problems involving rough drafts, tabulations, reports, and specialized business forms. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 121 SHORTHAND I (4 cr.)—Corequisite or prerequisite ENGL 101. Shorthand principles in Gregg Diamond Jubilee Series with emphasis on reading and writing skills, associated vocabulary and grammar. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 122 SHORTHAND II (4 cr.)—Prerequisite SECR 121 or departmental permission. Reinforcement of shorthand principles, further development of general business vocabularies and English usage, general business dictation. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 123 SHORTHAND III (4 cr.)—Prerequisite SECR 113, 122 or departmental permission. Increased speed in general business dictation, introduction of specialized business dictation with emphasis on vocabularies. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 124 SHORTHAND IV (4 cr.)—Prerequisite SECR 123. Speed building in typical business dictation with accuracy in transcription from shorthand notes. Use of Gregg dictation tapes for building speeds. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SECR 136 FILING AND RECORDS MANAGEMENT (3 cr.)—Indexing principles, filing procedures and techniques as applied to filing systems, establishment of filing system, selection of equipment and supplies, survey

of system using electronics and microfilm, solution of records management problems. Lecture 3 hours per week.

SECR 138 OFFICE RECORDKEEPING (3 cr.)—Concentration on the types of recordkeeping duties performed by secretaries including financial, tax, payroll, personnel and inventory. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 139 CLERICAL PROCEDURES (3 cr.)—Designed to fuse skills acquired in typewriting, recordkeeping, business mathematics, and communication classes in performing clerical activities in the office. Special emphasis is placed on development of skills in the operation of stencil and spirit duplicating machines, selection of duplication process, and a study of type styles, paper, typewriter ribbons. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 157 MACHINE TRANSCRIPTION (3 cr.)—An introduction to machine transcription incorporating good listening techniques, grammar, punctuation, and correct business English. Practice in transcribing machine dictation. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 198—See **General Usage Courses** on page 154.

SECR 216 EXECUTIVE TYPEWRITING (3 cr.)—Prerequisite SECR 113 or departmental permission. Further development of speed and accuracy on production typing with emphasis on employment standards. Instruction in use of the executive style typewriters, reports, tabulations, statistical materials and justified copy. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 217 TYPEWRITING SKILL BUILDING (3 cr.)—Prerequisite SECR 113 or departmental permission. Further development of speed and accuracy on production typing with emphasis on employment standards. Preparation for employers' secretarial placement examinations. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 219 MAGNETIC TAPE SELECTRIC TYPEWRITER (3 cr.)—Prerequisite departmental permission. Operation of automatic typewriter, procedures for recording and playing back from tapes, revision and updating of tapes, merging information from two tapes. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SECR 221 TRANSCRIPTION I (3 cr.)—Prerequisites SECR 113 and SECR 123. Review of principles of shorthand, development of vocabulary and phrases, speed building on general business dictation and transcription. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 222 TRANSCRIPTION II (3 cr.)—Prerequisite SECR 221 or departmental permission. Continuation of speed building with emphasis on particular areas of general business, developing special vocabularies, phrases, and shortcuts. Emphasis on spelling, grammar, and other transcription skills. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 223 (GENERAL) TRANSCRIPTION (3 cr.)—Prerequisite SECR 222 or departmental permission. Speed building in typical business dictation with speed and accuracy in transcription from shorthand notes. Preparation for employers' secretarial placement examinations. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 224-225 (LEGAL) TRANSCRIPTION I-II (3 cr.) (3 cr.)—Prerequisite SECR 221 or departmental permission. Legal secretary preparation. Skill in taking dictation and transcribing material involving legal shorthand forms and phrases. Proficiency in use of legal vocabulary, forms, and procedures. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 227 (MEDICAL) TRANSCRIPTION (3 cr.)—Prerequisite SECR 222 or departmental permission. Medi-

cal secretary preparation. Development of skill in taking dictation and transcribing material involving medical shorthand forms and phrases. Proficiency in use of medical vocabulary forms, and procedures. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 241 SECRETARIAL PROCEDURES I (3 cr.)—Prerequisite SECR 113. Development of skills in operation of stencil and spirit duplicating machines. Preparation of copy for reproduction of offset, stencil, and spirit process. Criteria for selecting a duplicating process. Study of type styles, paper, typewriter ribbons, and carbon paper. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 242 SECRETARIAL PROCEDURES II (3 cr.)—Prerequisite SECR 241. Emphasis on the secretary's routine office responsibilities including mail handling, communication services, telephone techniques, and the use of reference materials. Emphasis on application of skills gained in typewriting and shorthand. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 243 SECRETARIAL PROCEDURES III (3 cr.)—Prerequisite 242. Continued emphasis on the secretary's office responsibilities including handling of banking transactions, maintaining records on securities transactions, travel arrangements, planning of office layouts, and personnel policies. Practical experience in solving office problems. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 256 ADVANCED MACHINE TRANSCRIPTION (3 cr.)—Prerequisite SECR 216 or departmental permission. Introduction to modern transcription incorporating good listening techniques, grammar, punctuation, and correct business English. Emphasis on availability of copy with good production rates. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 264-265 LEGAL SECRETARIAL PROCEDURES I-II (3 cr.) (3 cr.)—Prerequisite SECR 241. Instruction in law office procedures, law office filing and record keeping, extension of legal vocabulary, court rules, reference materials, preparation of forms and pleadings. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 274-275 MEDICAL SECRETARIAL PROCEDURES I-II (3 cr.) (3 cr.)—Prerequisite SECR 241. Instruction in medical office procedures, medical office filing and record keeping, extension of medical vocabulary, preparation of medical reports, and special correspondence requirements. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SECR 298, 299—See **General Usage Courses** on page 154.

SOCIAL SCIENCE

SOSC 101-102-103 CONTEMPORARY AMERICAN CIVILIZATION I-II-III (3 cr.) (3 cr.) (3 cr.)—An analysis of the factors involved in the development of the American society and American culture to develop an understanding of American history, American economics, and man's role in society. Lecture 3 hours per week.

SOSC 121-122-123 CURRENT AMERICAN SOCIAL PROBLEMS I-II-III (3 cr.) (3 cr.) (3 cr.)—A survey of contemporary America from the perspective of the social sciences designed to provide a basis for the forming of individual judgments of major American domestic issues. The Constitution of the United States provides a primary vehicle for exploration of problems underlying current political, economic, social and individual behavioral patterns and for discussions of relevant applications in the news of today. Lecture 3 hours per week.

SOCIOLOGY

SOCI 101-102-103 INTRODUCTORY SOCIOLOGY I-II-III (3 cr.) (3 cr.) (3 cr.)—The fundamental concepts and the general principles of sociology; social institutions, popula-

tion study, human ecology and community study, culture, human nature and personality, social interaction and stratification, and social problems. Lecture 3 hours per week.

SOCI 104-105 INTRODUCTORY SOCIOLOGY I-II (5 cr.) (4 cr.)—The fundamental concepts and the general principles of sociology; social institutions, population study, human ecology and community study, culture, human nature and personality, social interaction and stratification, and social problems. Lecture 5-4 hours per week.

SOCI 166 SCHOOL AND COMMUNITY RELATIONS (3 cr.)—Techniques of working with parents and community groups for the purpose of establishing greater rapport between the school and the community. Emphasis on identifying pressure groups, reorganizing problems of cultural and ethnic groups, and the handling of unusual problems involving the school and the community. Lecture 3 hours per week.

SOCI 186-187 SOCIAL PROBLEMS I-II (3 cr.) (3 cr.)—Application of sociological concepts and methods to the analysis of current social problems in the United States including delinquency and crime, mental illness, drug addiction, alcoholism, and sexual behavior; population crisis, race relations, family and community disorganization, poverty, automation, wars and disarmament. Lecture 3 hours per week.

SOCI 198, 199—See **General Usage Courses** on page 154.

SOCI 236 MARRIAGE AND THE FAMILY (3 cr.)—Prerequisite SOCI 101, 104, or 185. A study of comparative family systems and problems related to marriage and the family. Lecture 3 hours per week.

SOCI 240 INTRODUCTORY ANTHROPOLOGY (3 cr.)—A study of the origin and evolution of man based upon the fossil record, and an analysis of the status of modern racial grouping. Lecture 3 hours per week.

SOCI 246 CULTURAL ANTHROPOLOGY (3 cr.)—Prerequisite SOCI 101, 240, or 244. The application of the concept of culture to the study of contemporary societies, both primitive and modern. Such institutional areas as magic and ritual, crime, custom, law, economy, courtship, marriage and childrearing will be analyzed cross-culturally. Lecture 3 hours per week.

SPANISH

SPAN 101-102-103 INTRODUCTORY SPANISH I-II-III (4 cr.) (4 cr.) (4 cr.)—The understanding, speaking, reading, and writing of Spanish with emphasis on manipulation of the structure of the language. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SPAN 199—See **General Usage Courses** on page 154.

SPAN 201-202-203 INTERMEDIATE SPANISH I-II-III (4 cr.) (4 cr.) (4 cr.)—Prerequisite SPAN 103 or successful completion of two years of high school Spanish and departmental permission. Advanced study in the understanding, speaking, reading, and writing of Spanish. Spanish is used in the classroom. Lecture 3 hours, Laboratory 2 hours, Total 5 hours per week.

SPAN 231-232-233 SURVEY OF SPANISH LITERATURE AND CIVILIZATION I-II-III (3 cr.) (3 cr.) (3 cr.)—Prerequisite SPAN 203 or equivalent. An introduction to Spanish life and culture and to the contributions of Spain to world civilization from medieval times to the present. Readings in the original Spanish. Spanish is used in the classroom. Lecture 3 hours per week.

SPAN 299—See **General Usage Courses** on page 154.

SPEECH AND DRAMA

SPDR 106-107 INTRODUCTION TO THE THEATRE I-II (3 cr.) (3 cr.)—The principles of drama; the study of the development of theatre production; study of selected

plays as theatrical presentations. Lecture 2 hours, Laboratory 3 hours, Total 5 hours per week.

SPDR 111-112-113 ACTING I-II-III (3 cr.) (3 cr.) (3 cr.)—A study of styles of acting. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SPDR 119 THEATRE WORKSHOP (1-5 cr.)—Organization and work in the various activities of play production. Practice in set design, stage carpentry, theatre development, sound, costumes, light, stage managing, props, promotion, and stage crew. May be repeated for credit. Variable hours.

SPDR 137 PUBLIC SPEAKING (3 cr.)—Development of skill in speechmaking. Lecture 3 hours per week.

SPDR 141-142-143 VOICE AND DICTION I-II-III (3 cr.) (3 cr.) (3 cr.)—A study through phonetics of the correct speech sounds, drills in pronunciation, enunciation, and voice usage. Lecture 3 hours per week.

SPDR 156 SPEECH WORKSHOP (1-5 cr.)—Organization and work in the various competitive speech activities; debate, oratory, extemporaneous speaking, prose, and poetry reading. May be repeated for credit. Variable hours.

SPDR 157 DEBATE (3 cr.)—Prerequisite either SPDR 137, or divisional permission. The presentation of oral argument and debate. Emphasis upon effectiveness in the analysis of issues, evidence, the reasoning process and skill in oral presentation. Lecture 3 hours per week.

SPDR 198 **See General Usage Courses** on page 154.

SPDR 218 DIRECTING (3 cr.)—Fundamentals of stage direction. Lecture 3 hours per week.

SPDR 230 ADVANCED PUBLIC SPEAKING (5 cr.)—Prerequisite either SPDR 137, or divisional permission. Preparation and delivery of the various advanced forms and methods of public address. Lecture 5 hours per week.

SPDR 248 PERSUASION (3 cr.)—Prerequisite either SPDR 137 or divisional permission. Principles and practices of persuasion with emphasis on practical application. Lecture 3 hours per week.

SPDR 266 THE ART OF THE FILM (3 cr.)—An introduction to the art of the film, viewing, discussion and analysis of selected films; introduction to the film techniques of composition, shot sequence, lighting, visual symbolism, sound effects, and editing. Lecture 2 hours, Laboratory 2 hours, Total 4 hours per week.

SPDR 276 ORAL INTERPRETATION (3 cr.)—Prerequisite divisional permission or speech communication course. Introduction to the study of techniques and styles or oral reading. Lecture 3 hours per week.

SPDR 298, 299—**See General Usage Courses** on page 154.

WELDING

WELD 100 FUNDAMENTALS OF WELDING (2 cr.)—An introduction to electric and gas welding and cutting. The fundamental principles of joining ferrous and non-ferrous metals, welding and cutting processes, equipment operation, and safety procedures with emphasis upon welding and cutting procedures and practice in the automotive area. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

WELD 101 WELDING I (OXACETYLENE) (2 cr.)—Oxygen/acetylene welding and cutting including safety of equipment; welding, brazing, and soldering procedures and cutting procedures. Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.

WELD 115 ARC AND GAS WELDING (4 cr.)—Arc and gas welding practices. Safety, general welding practices, and effects of welding on metal. Lecture 3 hours, Laboratory 3 hours. Total 6 hours per week.

STATE AND LOCAL ORGANIZATION

STATE BOARD FOR COMMUNITY COLLEGES

Dr. Daniel C. Lewis, *Chairman*
 Mr. Gordon C. Willis, *Vice-Chairman*
 Dr. Dana B. Hamel, *Secretary*

Mr. Carl E. Bain	Mr. Eugene L. Newman, P.E.
Mr. Thomas T. Byrd	Mr. John W. Parsons
Mrs. Helmi E. Carr	Mr. Sumpter T. Priddy, Jr.
Mr. Robert Carter	Mr. Richard S. Reynolds, Jr.
Dr. Daniel C. Lewis	Mr. William J. Vaughan
Mrs. Waldo G. Miles	Mr. Yarbrough B. Williams, Jr.
Dr. Earl H. McClenney	Mr. Gordon C. Willis
Mr. Benjamin W. Mears, Jr.	

VIRGINIA COMMUNITY COLLEGE SYSTEM

Dr. Dana B. Hamel, *Chancellor*

VIRGINIA WESTERN COMMUNITY COLLEGE BOARD

Mr. W. Darnall Vinyard, *Chairman*, City of Vinton
 Mrs. Hunter M. Painter, *Vice-Chairman*, City of Fincastle
 Dr. Harold H. Hopper, *Executive Secretary*

Mrs. John M. Chaney, City of Roanoke
 Mr. Warner N. Dalhouse, City of Roanoke
 Mr. Ray S. Hamilton, County of Franklin
 Mr. C. L. Jennings, County of Roanoke
 Mr. Shields Johnson, City of Roanoke
 Mrs. Hunter M. Painter, County of Botetourt
 Mr. Henry E. Thomas, City of Roanoke
 Mrs. Frank Utecht, County of Roanoke
 Mr. W. Darnall Vinyard, County of Roanoke
 Mr. Richard M. Watson, County of Craig
 Mr. Charles E. Webber, City of Salem

PRESIDENT

Dr. Harold H. Hopper

Administrative Offices

PRESIDENT

Administrative Assistant

Dean of Academic & Student Affairs

Admissions & Records

Instructional Divisions

Business Technology

Engineering/Industrial Technology

Health Technology

Humanities

Mathematics and Sciences

Social Sciences & Public Service Technology

Student Development

Dean of Financial & Administrative Services

Buildings & Grounds

Business

Data Processing

Security

Dean of Special Programs

Continuing Education

Cooperative Education & Management Training

Placement

Learning Resources

Audiovisual

Learning Lab

Library

Radio Station

Institutional Research

Grants

FACULTY & STAFF

A current listing of faculty and staff is included in a separate publication, "Faculty & Staff Directory."

NOTES

NOTES

1976

SEPTEMBER

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

OCTOBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

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

DECEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1977

JANUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

FEBRUARY

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

MARCH

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

APRIL

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

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

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

OCTOBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER

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

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

1978

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

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

MARCH

S	M	T	W	T	F	S
		1	2	3	4	
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

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

MAY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE

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

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

