



1973

Virginia Commonwealth University Medical College of Virginia Bulletin

Virginia Commonwealth University

Follow this and additional works at: <http://scholarscompass.vcu.edu/vcubulletins>

© Virginia Commonwealth University

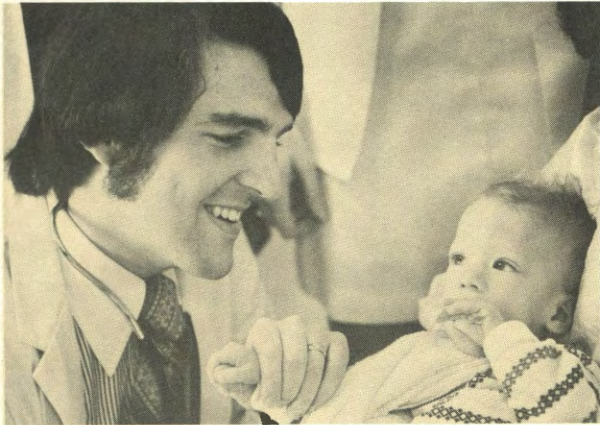
Downloaded from

<http://scholarscompass.vcu.edu/vcubulletins/142>

This Bulletin is brought to you for free and open access by the VCU University Archives at VCU Scholars Compass. It has been accepted for inclusion in VCU Bulletins by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.



1972-73 Bulletin
Medical College of Virginia of
Virginia Commonwealth University
Richmond, Virginia



The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, sex, or national origin.

1972-73 Bulletin

Volume LXIX, March 1973

**Medical College of Virginia of
Virginia Commonwealth University
Richmond, Virginia**





Table of Contents

University Calendar	4
General Information	9
Regulations Affecting Degrees	11
Facilities	13
Endowment, Resources, Support, and Research	15
Student Life and Services	15
Admission Regulations	21
Tuition, Fees, and Expenses	21
General Academic Regulations	24
Identification of Symbols for Course Listings	35
Abbreviations	35
School of Medicine	38
School of Dentistry	61
Division of Dental Hygiene	76
School of Pharmacy	83
School of Nursing	100
School of Basic Sciences and Graduate Studies	127
School of Allied Health Professions	156
Department of Medical Technology	157
Department of Radiologic Technology	167
Department of Occupational Therapy	171
Program of Patient Counseling	181
Department of Physical Therapy	185
Department of Hospital and Health Administration	196
Department of Nurse Anesthesia	212
Blood Banking, Cyto-technology, Dietetic Internship	217
Board, Administration, and Faculty	223
Campus Map	Inside Back Cover

1972-1973 UNIVERSITY CALENDAR

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		

28
General Faculty meeting at 10:30 a.m.
Faculty advisors' meeting at 2 p.m.

28 to Sept. 1
Orientation for all new degree seeking students

29
Advising sessions for all new students

29-30
Registration for Evening College

31 to Sept. 1
Registration for continuing, re-admitted, and new degree seeking day students

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

5
Classes begin at 8 a.m.

5-8
Add/drop and late registration for day students

6
Registration for non-degree seeking day students

Classes begin for Evening College

11
Last day to withdraw and receive 80% refund

18
Last day to withdraw and receive 60% refund

25
Last day to withdraw and receive 40% refund

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				

2
Last day to withdraw and receive 20% refund

14
Last day to drop a course with grade of "W"

20
Last day for degree candidates to submit application for January graduation

25
Mid-semester grades due in registrar's office by 9 a.m.

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		

6-10
Academic advising for advance day registration

14-17
Advance registration for day students for 1973 spring semester

17
Last day to submit application for admission or readmission to spring semester

18
Last day to drop a course with grade of "WF" or "WP"

22
Thanksgiving holiday begins at 1 p.m. for day and evening classes

27
Thanksgiving holiday ends at 8 a.m.

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						

1
Final date for oral defense of graduate thesis for January completion of degrees

13
Last day of classes for fall semester

14
Last evening classes

14-22
Final examinations for fall semester

23
Christmas vacation begins at 8 a.m.

27
Instructor grade reports due in registrar's office by 9 a.m.

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			

9-10
Registration for Evening College

10
Orientation for all new degree seeking students

11
Christmas vacation ends at 8 a.m.

11-12
Registration for day degree seeking students

15
Classes begin at 8 a.m.

15-19
Add/drop and late registration for all day students

16
Registration for day non-degree seeking students

19
Last day to withdraw and receive 80% refund

26
Last day to withdraw and receive 60% refund

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				

2
Last day to withdraw and receive 40% refund

9
Last day for spring degree candidates to submit application for May graduation
Last day to withdraw and receive 20% refund

24
Last day to drop a course with grade of "W"

9
Instructors' grade reports due in registrar's office by 9 a.m.

10
Spring vacation begins at 12 noon

19
Spring vacation ends at 8 a.m.

21
Last day to drop a course with grade of "WF" or "WP"

28
Final date for oral defense of graduate thesis for May graduation

5
Last day of classes for spring semester

7-15
Final examinations or spring semester

16
Instructor's grade reports due in registrar's office by 9 a.m.

19
Commencement

1973-1974 UNIVERSITY CALENDAR

AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY
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	S M T W T F S	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	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	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	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	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	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
<p>27 General Faculty meeting at 10:30 a.m. Faculty advisers' meeting at 2 p.m.</p> <p>27-31 Orientation for new degree seeking students</p> <p>28 Advising sessions for all new students</p> <p>30-31 Registration for continuing, re-admitted, and new degree seeking day students</p> <p>31 Registration for non-degree seeking day students</p>	<p>4 Classes begin at 8 a.m.</p> <p>4-5 Registration for Evening College Add/drop and late registration for day students</p> <p>5 Classes begin for Evening College</p>	<p>13 Last day to drop a course with grade of "W"</p> <p>19 Last day for degree candidates to file application for January graduation</p> <p>24 Mid-semester grades due in registrar's office by 9 a.m.</p>	<p>1 Advance registration—Evening College</p> <p>5-9 Academic advising for advance day registration</p> <p>12-16 Advance registration for students for spring semester</p> <p>16 Last day to submit application for admission or readmission to spring semester</p> <p>17 Last day to drop a course with grade of "WF" or "WP" Thanksgiving holiday begins at 12 noon for evening classes</p> <p>21 Thanksgiving holiday begins at 1 p.m. at Academic campus Thanksgiving holiday begins at 5 p.m. at MCV campus</p> <p>26 Thanksgiving holiday ends at 8 a.m.</p> <p>30 Final date for oral defense of graduate thesis for January completion of degrees</p>	<p>12 Last day of classes for fall semester</p> <p>13-22 Final examinations for fall semester</p> <p>22 Christmas vacation begins at 12 noon</p> <p>27 Instructors' grade reports due in registrar's office by 9 a.m.</p>	<p>8-9 Evening College registration</p> <p>9 Orientation for all new degree seeking students</p> <p>10 Christmas vacation ends at 8 a.m.</p> <p>10-11 Registration for day degree seeking students</p> <p>11 Registration for day non-degree seeking students</p> <p>14 Classes begin at 8 a.m.</p> <p>14-15 Add/drop and late registration for all day students</p>

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		

8
Last day for degree candidates to file application for May graduation

23
Last day to drop a course with grade of "W"

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						

8
Instructors' grade reports due in registrar's office by 8 a.m.

9
Spring vacation begins at 12 noon

18
Spring vacation ends at 8 a.m.

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				

1-5
Academic advising for advance day registration

8-12
Advance registration for day students for fall semester

15
Summer advance registration

20
Last day to drop a course with grade of "WF" or "WP"

27
Final date for oral defense of graduate theses for May graduation

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	

4
Last day of classes for spring semester

6-14
Final examinations for spring semester

16
Instructors' grade reports due in registrar's office by 9 a.m.

18
Commencement

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					



GENERAL INFORMATION

HISTORY

The founding of the Medical College of Virginia of Virginia Commonwealth University dates back to December 1, 1837, when the president and trustees of Hampden-Sydney College created a medical department to be located at Richmond. There were six professors upon the opening of the first session on November 5, 1838. The Egyptian Building, completed in 1845, was the first building owned by the college. The medical department of Hampden-Sydney College became the Medical College of Virginia, an independent institution, in 1854. In 1860, when the Commonwealth of Virginia appropriated \$30,000 for MCV's first hospital, Old Dominion Hospital, MCV became a state-supported institution. The first outpatient clinic was established in 1867.

Although pharmacy was taught as a part of the medical course from the opening of Hampden-Sydney's medical department in 1838, the School of Pharmacy had its official beginning in 1879 when the charter was amended to permit the institution to confer the degree of graduate of pharmacy upon properly qualified individuals. Records indicate, however, that there were two graduates in pharmacy in 1876.

In 1893 a second medical college, the University College of Medicine, was established, just two blocks from the Egyptian Building. The new college was composed of the schools of medicine, dentistry, and pharmacy and the Virginia Hospital which had a training school for nurses.

The Medical College of Virginia opened its School of Pharmacy in 1898.

The first three dental students were graduated in 1895. The Medical College of Virginia inaugurated a dental education program in 1897, and in 1913 the two schools were merged to form the Medical College of Virginia School of Dentistry. The school has grown from this small beginning to its present program, which is directed toward comprehensive health care.

Programs offered include those for dental students, graduate students in specialty areas, and essential auxiliary personnel.

The Division of Dental Hygiene offers courses at the School of Dentistry leading to a bachelor of science degree in dental hygiene.

The Medical College of Virginia inaugurated its school of nursing in 1895 when Miss Sadie Heath Cabaniss established a two-year training school for nurses in the Old Dominion Hospital.

When Memorial Hospital was opened in 1903, the Old Dominion Hospital was closed and the student nurses were transferred to the Memorial Hospital Training School for Nurses.

The St. Philip School of Nursing, established for Negro students by MCV in 1920, was phased out in 1962 when students of both schools were consolidated into one school of nursing.

Through the years the curriculum of the school of nursing has been altered to lead the way in the advancement of nurse education in Virginia.

When MCV and the University College of Medicine were consolidated in 1913, the Memorial Hospital, now known as MCV South Hospital, was acquired.

A dietetic internship program was established in 1929. An x-ray technology course was begun in 1935 and its successor, the Program of Radiologic Technology, Department of Radiation Sciences, was established in 1966. The School of Physical Therapy was founded in 1945, and the School of Hospital Administration was established in 1949. Medical technologists have trained at MCV since 1932, and the School of Medical Technology was formally opened in 1952. Graduate degrees have been conferred since 1936 and the school that is now the School of Basic Sciences and Graduate Studies was inaugurated in 1957.

The School of Allied Health Professions was established in 1969 for the administration and enlargement of schools and programs in the allied health professions already in existence at MCV and for the development of future ones in health-related professions. This school is now comprised of the departments of hospital and health administration, medical technology, nurse anesthesia, occupational therapy (formerly a school at Richmond Professional Institute, now the Academic Campus of VCU), and physical therapy and the programs of patient counseling and radiologic technology, department of radiation sciences.

The enrollment is over 2,100 plus more than 300 interns and residents who are receiving their postgraduate medical education here. Various hospitals have been erected, remodeled, and replaced through the years, until today four hospitals, the A. D. Williams Memorial Clinic (which serves as the outpatient department), and the self-care unit in the Nelson Clinic provide patient care. The hospitals—MCV West, MCV South, MCV North, and MCV East—and the self-care unit have a total bed complement of approximately 1,100, including bassinets.

On July 1, 1968 the Medical College of Virginia became the Health Sciences Division of Virginia Commonwealth University which was created by the General Assembly of Virginia during its 1968 session.

The other component of Virginia Commonwealth University, known as the Academic Division, was the former Richmond Professional Institute, begun in September 1917, as the Richmond School of Social Work and Public Health. In 1925 the Richmond School of Social Work and Public Health, which had gradually expanded its curriculum to include programs in recreational leadership, extension courses, and dramatic art, became the Richmond Division of the College of William and Mary. In 1939 the name of the institution was changed officially to Richmond Professional Institute of the College of William and Mary. RPI enjoyed great expansion through the years, adding many schools and courses. In 1962, by act of the General Assembly, it was separated from the College of William and Mary and made an independent state-supported institution.

Over 13,000 men and women are enrolled in the combined programs at the Academic Campus.

Dr. Warren W. Brandt became first president of Virginia Commonwealth University on June 1, 1969.

EDUCATIONAL PURPOSES

The educational purposes of MCV/VCU are:

OVERALL OBJECTIVE

The objective of the Medical College of Virginia of Virginia Commonwealth University is to provide an educational environment where men and women can prepare themselves for careers as practitioners, teachers, or researchers in the health and biological sciences.

GENERAL OBJECTIVES

1. To maintain an environment of educational excellence that will attract faculty and students interested in an institution maintaining the highest academic standards.
2. To promote an educational atmosphere that will develop in students; (a) desire and interest in lifelong learning; (b) intellectual curiosity; and (c) excellence in skills and knowledge required for the solution of problems of health and disease.
3. To provide standards of clinical practice and scientific investigation that will serve students as examples throughout their professional careers.

ACCREDITATION

Virginia Commonwealth University is a member of and accredited by the Southern Association of Colleges and Schools, the general accrediting agency for colleges in the region. All schools and courses at MCV/VCU are accredited by the agencies and organizations appropriate to the school or course concerned. In 1959 MCV became the first professional school of its kind in the region to be accepted into membership of the Southern Association of Colleges and Schools.

Regulations Affecting Degrees

Candidates for degrees are eligible for graduation when they complete the requirements in the college or school in which they are registered which were in effect at the time of their first registration in that college or school, provided they apply for graduation within a period of seven years from the time of their first registration. Students who fail to complete the requirements for graduation within seven years from their

first registration shall satisfy the requirement in effect at the time they apply for graduation.

All degrees are conferred by the VCU Board of Visitors upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or summer session in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the deans of their colleges and schools. No individual may be exempt from the provision of this university regulation.

WITHDRAWALS

Voluntary withdrawals from any of the schools or courses must be approved in writing by the vice-president for health sciences or by the dean or director of the school or course concerned, and by the controller; otherwise, a student will not be entitled to honorable dismissal.

The university reserves the right to terminate the connection of any student for unlawful, disorderly, or immoral conduct, or for persistent failure to fulfill the purposes for which he was matriculated. Any student whose relations are so severed forfeits all rights and claims with respect to the institution.

VIRGINIA STUDENT CLASSIFICATION

Definition of a Virginia Resident: Section 23-7 of the Code of Virginia states: "no person shall be entitled to the admissions privileges, or the reduced tuition charges, or any other privileges accorded by law only to residents or citizens of Virginia, in the State Institutions of higher learning unless such person has been domiciled in, and is and has been an actual bona fide resident of Virginia for a period of at least one year prior to the commencement of the term, semester or quarter for which any such privilege or reduced tuition charge is sought, provided that the governing board of such institutions may require longer periods of residence and may set up additional requirements for admitting students."

The Board of Visitors of Virginia Commonwealth University has ruled that students of the university shall be required to have been domiciled in Virginia for a minimum of one year. Students who desire additional information concerning a change in the residency status should inquire at the Office of the University Registrar, 901 West Franklin Street, Richmond, Virginia 23220. Telephone: 770-6854.

LIMITATIONS ON BULLETIN PROVISIONS

All rules and regulations set forth in this catalog, as well as the statements regarding fees, will apply until further notice. The right is reserved to make changes in courses of study, in fees, and in rules and regulations governing the conduct of the work in all schools and programs,

in the faculty and staff, and in the classification of students whenever university authorities deem it expedient or wise to do so.

Facilities

Sanger Hall is located on E. Marshall Street between Eleventh and Twelfth streets. Named in honor of Dr. William T. Sanger, third president of MCV, Sanger Hall houses the administrative offices of MCV/VCU and hospital officials, the teaching headquarters for the clinical medical faculty, and several of the basic science departments and research laboratories.

The **hospitals** carry on their patient care functions in six buildings. MCV West, North, East, and South hospitals have approximately 1,000 beds for inpatients, about 60 percent of which are classified as private patients. In addition, the Nelson Clinic has 60 beds for self-care patients. The A. D. Williams Memorial Clinic building houses the majority of outpatient specialty clinics with a few others located in nearby buildings. Total hospital admissions are approximately 32,600 per year, outpatient visits number about 179,000, and emergency room visits around 52,000. Extensive ancillary departments within the hospital complex provide support to the considerable volume of patient activity. Altogether, this large patient care operation provides quite adequate resources for the teaching programs of the schools and courses.

The old **Student Union Building**, a former church, houses the MCV branch of the U. S. post office, the Campus Room Restaurant, and Employee Health Service.

The **Nursing Education Building**, originally a dormitory for nurses, provides administrative offices and classrooms for the School of Nursing.

Monumental Church, erected in 1812 on the site of the theatre building that burned on the night of December 26, 1811, claiming the lives of 72 people, was deeded by its congregation to the MCV Foundation in 1965 "as a chapel or religious center for persons of all creeds, denominations, or faiths, and for the other purposes of the College."

Randolph-Minor Annex is a former church building which provides teaching facilities for the departments of hospital and health administration and medical technology.

Randolph-Minor Hall, constructed in 1952 as a dormitory for student nurses, is named for Agnes Dillon Randolph (1875-1930) and Nannie Jacquelin Minor (1871-1934). Both were graduates of the School of Nursing and pioneers in phases of public health work.

The **Egyptian Building**, designed by Thomas Stewart of Philadelphia, was the first building owned by MCV/VCU. Completed in 1845,

it is considered one of the purest types of Egyptian architecture in the United States. Offices, laboratories, classrooms, and the Baruch Auditorium (with a seating capacity of about 300) are housed in this building located at the corner of College and E. Marshall streets.

The **Dooley Building**, opened as a pediatric hospital, has been converted to house research laboratories.

Hunton Hall, housestaff residence, is at the northeast corner of Twelfth and Marshall streets. It is named for Eppa Hunton, Jr., a member of the Board of Visitors from 1913 until 1932 and its chairman from 1925 until 1932.

McGuire Hall and **McGuire Annex** are named for Dr. Hunter Holmes McGuire, founder of the University College of Medicine which consolidated with MCV in 1913.

Located on the north side of Clay Street between Eleventh and Twelfth streets, these adjoining buildings primarily serve the School of Pharmacy and the basic science departments. A nutriceutology laboratory is on the roof of McGuire Hall.

The **Lewis L. Strauss Surgical Research Laboratory** accommodates many important research projects. It is located next to the Tompkins-McCaw Library on N. Twelfth Street.

The **Wood Memorial Building** and the **Lyons Building**, named in honor of Dr. Harry Lyons, dean of the School of Dentistry from 1951 until 1970, house the School of Dentistry.

The four **Residence Halls**, located at Tenth and Leigh streets, provide offices for student life and student services personnel as well as for the dean of admissions in addition to living quarters for men students. They are named **Warner Hall**, **Bear Hall**, **Rudd Hall** and **McRae Hall**.

The **Jonah L. Larrick Student Center** is named for the widely beloved, former director of YMCA activities at MCV. On the first floor are the cafeteria and a smaller dining room for special events. The second floor houses a large lounge and exhibit area with smaller rooms for TV viewing, music listening, piano playing, games and activities, offices and meetings.

Adjacent to the Student Center is the MCV gymnasium with extensive facilities for intramurals, recreation, and physical fitness.

Cabaniss Hall is a 432-bed women's dormitory located just southwest of the Jonah L. Larrick Student Center.

In addition to the major buildings, a number of smaller structures house various departments of the institution.

The major buildings are heated from the central heating plant, with tunnels carrying heating pipes and providing for limited pedestrian traffic.

Endowment, Resources, Support, and Research

Although Virginia Commonwealth University is a state-supported institution, it is indebted to many friends for generous gifts and bequests that are vital to the successful performance of its mission in education, service, and research.

Realizing that untold numbers of medical problems remain unsolved, many people are engaged in research at MCV/VCU. Adequate funds and facilities for research afford an opportunity for contributing new knowledge applicable to the treatment of disease.

During 1972, MCV/VCU received over \$9.5 million in non-state funds through federal and non-federal grants and contracts, gifts from individuals and foundations, and endowment income from the MCV Foundation and from other endowment funds. Most of this money is used for research and training activities.

MCV FOUNDATION

The MCV Foundation was incorporated in 1949 to work with and through alumni and friends in the interest of the Medical College of Virginia. Its board consists of 15 trustees, with representation from faculty, alumni, and friends provided for in its charter. The foundation maintains an office in Sanger Hall and works closely with university administration in the interest and support of the educational mission of its schools and hospitals. It is equipped to receive gifts, grants, contributions, and bequests for the benefit of the Medical College of Virginia of Virginia Commonwealth University. For the year 1972-73, the trustees appropriated over \$110,000 from unrestricted endowment income to support various programs. The bulk of the assets is restricted or designated for a specific purpose. Foundation assets had a total market value in excess of \$10 million on June 30, 1972.

Student Life and Services

HOUSING FACILITIES

Male students live in a group of four dormitories located on the corner of Tenth and Leigh streets near the northwest corner of the campus.

Each room is furnished with beds, mattresses, study desks, chairs, and chests of drawers.

Women students live in Cabaniss Hall.

Rooms are furnished with beds, mattresses, study desks, chairs, and

either chests of drawers or bureaus. Janitorial service is provided. A residence hall staff personally supervises the women students.

The Jarrett Apartments, located at Laburnum Avenue and Nine Mile Road, are for married students and housestaff.

Requests for information and applications for apartment rentals should be addressed to Director of Housing, MCV Campus, Virginia Commonwealth University, MCV Station, P.O. Box 265, Richmond, Virginia 23298.

Students and members of the housestaff who are eligible to live off campus may get assistance from the housing office in locating satisfactory accommodations.

Housing information and applications will be sent by the housing office to all students as they are accepted for admission to the Medical College of Virginia of Virginia Commonwealth University. Requests for additional housing information should be made to: Director of Housing, MCV Campus, Virginia Commonwealth University, MCV Station, P.O. Box 265, Richmond, Virginia 23298.

Dormitory room assignments are made for the period of an academic year which normally is two semesters.

When students are required to remain beyond the usual year, rentals will be charged on a prorated monthly basis. Reservations are made in advance for the full period or for such part of the period as may be approved specifically by the director of housing.

A current rate schedule is available upon request from the office of the director of housing. Rent is payable in advance by the semester and refunds will be made only in accordance with the university policy as stated in the housing contract.

FOOD FACILITIES

A cafeteria in the Jonah L. Larrick Student Center provides food on a contract basis for students living in the dormitories.

This contract will provide three meals a day each day, including Sundays, that the MCV Campus is officially open as shown by the calendar in the bulletin. Students remaining after holidays and vacations begin, as shown on the official calendar, or who begin classes before the official dates as shown, will be able to purchase meals in one of the campus food facilities on an a la carte basis. A current contract price schedule is available upon request from the office of the director of housing.

FINANCIAL ASSISTANCE

Insofar as money is available from private, state, and federal sources, university officials make a sincere effort to see that qualified students are not denied admission because of their lack of funds. These efforts are continued after admission should a student's financial circumstances preclude his remaining at MCV/VCU.

Full information on financial aid is carried in a pamphlet, *Financial Aid for Students*, which may be obtained by request to the Financial Aid Officer, MCV Campus, Virginia Commonwealth University, MCV Station Box 244, Richmond, Virginia 23298. All questions on financial aid and all applications for assistance should be filed with the financial aid officer. Applications should be filed no later than February 15 preceding the fall session in which financial aid is needed.

A foreign student is not eligible for government funds unless he or she is in this country on a permanent visa.

HEALTH SERVICES

MCV/VCU offers a comprehensive program of pre-paid medical care for all regularly enrolled full-time students* through the student health service and a sickness and accident insurance plan.

The student health service is supported by a health service fee which is mandatory for all full-time students and is included in the consolidated services and activities fee for most students.

The university-sponsored sickness and accident insurance plan provides protection against the often high and unexpected costs of hospitalization and treatment of serious illness and accident. The insurance plan is voluntary, *but in view of the high cost of hospitalization*, is strongly recommended for all students who do not already have comparable coverage. Dependent coverage may be obtained if desired.

All new students are required to have pre-entrance physical examinations by their private physician. Any remediable defects should be corrected before entering the university. Certain pre-entrance immunizations also are required. Forms are provided for recording this information. These must be completed and returned to the health office prior to the opening of school.

LIBRARY SERVICES

The Virginia Commonwealth University Library system consists of two libraries, one on each campus. The Tompkins-McCaw Library, with a strong collection in health sciences, is a graduate research library serving the MCV Campus. The James Branch Cabell Library, a general undergraduate library, serves the Academic Campus. Both libraries are available to all members of the university community. Services offered to students, faculty, and staff in the Tompkins-McCaw Library include: computer-based bibliographic searching, photo-copying service, inter-library loan, and reference assistance on request. A brochure describing these and other services is available in the library.

* Students in non-degree programs should consult with the director of their particular program regarding participation in the student health service and the insurance program.

POSTAL SERVICE

All mail should be addressed to Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. MCV Station, a contract branch of the United States Postal Service, is equipped to handle the usual business conducted in an official post office. Window service is offered Monday through Friday from 8 a.m. to 5 p.m. Closed on Saturday!

All dormitory residents have only dormitory mail boxes, and their mail should have name of dormitory and room number on it.

Students living off campus share post office boxes in the station, located on the first floor of the old church building at Twelfth and Broad streets.

A notary public is on duty from 7:30 a.m. to 11 a.m. for the convenience of users of that station.

DEPARTMENT OF VISUAL EDUCATION

The visual education department offers services in support of patient care, teaching, and research. The centrally-organized department offers graphics services to the entire university. It operates a campus-wide television system in support of instruction and has general responsibility for the student self-study center (media library) in Sanger Hall.

In addition to its technical support facilities, the department offers professional consultation services to the faculty in the planning and execution of teaching exercises.

THE STUDENT BODY ORGANIZATION

The Student Body organization on the MCV Campus was formed to promote college activities, a concern among students for each other, and a greater identification with the college; to settle all affairs which affect the best interest of the student body; and to attain those things that make the college greater in every way.

The governing body is the Student Council which is composed of the officers of the Student Council, representatives from each class of each school of the health sciences, class presidents, officers of the year-book staff, and co-chairmen of all standing committees.

HONOR CODE

The Student Body organization, believing that self-government in college is fitting preparation for self-government in life following graduation, conducts its affairs by means of an honor system under which every student is assumed to be trustworthy and unwilling to do anything dishonest or dishonorable.

Any student failing to live up to the principles of the honor system by lying, cheating, or stealing is eliminated from the student body. Judg-

ment is made by the Honor Council elected by the student body. All students must support the Honor Code and report infringements thereon to the Honor Council. The following pledge is posted in each classroom and applies to all examinations unless otherwise stated by the instructor: "On my honor, I have neither given or received aid on this examination nor am I aware of any breach of the Honor Code." Each student, as a condition of matriculation at the MCV Campus of Virginia Commonwealth University agrees to abide by and uphold the Honor Code. A detailed description of the Honor Council's rules of procedure is available upon request.

EXTRACURRICULAR ACTIVITIES

Student Center

The Jonah L. Larrick Student Center offers students a variety of activities and cultural and social opportunities. Billiards, various games, TV viewing, music listening, art and photo room, and piano room are included in the center. Art and sculpture exhibits are offered periodically. Dances and social mixers, along with special attractions, offer students a variety of entertainment.

MCV Campus Gymnasium and Intramurals

The gymnasium offers a full recreational program for students, house-staff, and faculty. The gym contains three basketball courts, volleyball courts, two tennis courts, two handball-paddleball courts, two squash courts, a weight room, an exercise room, a lounge-game room, and locker and shower facilities. Students may check out equipment to be used in the various facilities. Special gymnastics equipment, boxing bags and gloves, and a steam bath complete the facilities.

An extensive intramural program is offered to men and women students and housestaff. Team sports include flag football, basketball, volleyball, slow and fast-pitch softball, and track. Individual tournaments are held in tennis, handball, paddleball, squash, table tennis, billiards, badminton, swimming, wrestling, one-on-one basketball, and basketball free-throw.

Credit courses in tennis and physical fitness—weight control are offered to men and women through the Department of Physical Education. Classes are held in the MCV Campus gymnasium.

Religious Activities

All churches in Richmond welcome our students. Monumental Church, located on the MCV Campus, is used for special services and for other student group assemblies. It is available also for use by the various religious workers. These programs are coordinated by a full-time associate professor of ethics who also serves as director of religious activities.

CULTURAL OPPORTUNITIES OF RICHMOND

The student affairs offices assist in planning extracurricular activities for the intellectual, cultural, religious, and recreational life of students.

The resources of the Virginia State Library are available across Broad Street from the MCV Campus as well as those of the Richmond Public Library, located a few blocks from both campuses, with its loan collection of records, art, and books.

On the edge of the MCV Campus is the fine Valentine-Wickham Museum with its excellent early history of Richmond displays and the White House of the Confederacy with memorabilia of the Civil War.

Students have the opportunity of purchasing season tickets to the imaginative programs of the Virginia Museum of Fine Arts. These include drama, chamber music, outstanding films of the past, and ballet, as well as fine art exhibits.

The Richmond Symphony has been the recipient of enthusiastic support of music critics and the public alike.

Various dinner-theatres in the area as well as the Gaslight Theatre at the university's Academic Campus provide delightful evening entertainment.

The Richmond Public Forum and Kiwanis Travelogues provide additional cultural-educational programs. Season tickets are available at nominal costs.

The 12,176-seat Richmond Coliseum is located at the west edge of the MCV Campus. The coliseum programs include sports events, spectacles, circuses, musical groups, and various other stage events.

ALUMNI OF THE UNIVERSITY

Virginia Commonwealth University has 25,000 alumni, some of whom live in each of the states and several foreign countries. The alumni activities office coordinates alumni functions and serves as a resource center for those who studied here.

Through the annual fund, alumni are given the opportunity to financially support the various schools and departments in the university. Such support provides resources for innovation and the development of educational programs.

The university alumni activities office and the Alumni Association of MCV, in cooperation with the Nursing Section and the Hospital and Health Administration Section, keep alumni informed about all aspects of the programs at MCV/VCU.

Inquiries about alumni activities should be addressed to the Alumni Activities Office, 828 West Franklin Street, Richmond, Virginia 23220 or telephone 770-7124.

Admission Regulations

The Medical College of Virginia of Virginia Commonwealth University does not limit applications to residents of the Commonwealth of Virginia; however, priority is given to those who are legal residents. Candidates are considered without regard to race, creed, sex, or national origin.

For detailed information regarding admission requirements and procedures, refer to the appropriate school sections of this bulletin.

Tuition, Fees, and Expenses

The university reserves the right to revise or alter all fees, regulations pertaining to student fees, and fee collection procedures whenever such revisions or alterations are deemed necessary. Fees are not returnable except under most unusual circumstances and then only on the recommendation of the dean concerned. See Refunds and Rebates on page 23.

All fees are due and payable at the Business Office, 520 N. Twelfth Street, Richmond, Virginia 23298, prior to registration as required and stated in each semester's billing. Students registering pay the fees shown on page 25, plus special fees and deposits as required. Completion of arrangements with the Business Office for payment from accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration.

Any student failing to complete registration on regular registration day is subject to the late registration fee of \$10.

No degree will be conferred upon any candidate prior to the payment of all tuition, fees, and other indebtedness to any school of the university.

APPLICATION FEE AND DEPOSITS

Application Fee: Each student applying for admission or readmission to the university shall pay a \$10 nonrefundable fee except those enrolling in the School of Medicine who pay a \$15 nonrefundable application fee. This fee shall accompany the application form sent to the Admissions Office.

Tuition Deposit: On being notified of his appointment to the entering class, the applicant may be required to pay a deposit, depending on the school, on tuition for the first year. This fee may not be refunded but is applicable to first semester tuition. Authorization to matriculate constitutes an agreement for the reservation of a place in the class entering for the session cited.

Dormitory Security Deposit and Damage Fee: A \$50 dormitory deposit is required upon receipt of official notification of acceptance. This deposit is *not* applicable to the room and board charges, but remains

on deposit to be applied toward possible room damage. As such, the deposit shall be returned, minus any damage charges, when the student terminates his connection with the university.

TUITION CHARGES PER STUDENT

The tuitions shown on page 25 are for the academic year 1973-74. Educational costs are subject to similar price adjustments found in the cost of other commodities; therefore, fees may be changed for the academic year 1974-75. (Note: The tuition charges apply to all full-time students. Full-time students are those students who are enrolled for a minimum of 12 credits in a given semester or for a complete program which is not set up on the number of credit hours. An academic year includes two semesters.)

Special Students: A student who has been given special permission by the dean of certain schools to enroll as a special student shall pay the required fee established by the dean concerned and this fee shall not be less than the fees of a part-time student paying on a semester hour basis.

PART-TIME STUDENTS

	Resident	Non-resident
Undergraduate—per semester hour credit.....	\$23	\$38
Graduate —per semester hour credit.....	\$30	\$38

Note: Students whose programs are set up on a semester hour basis should be advised that in graduate and undergraduate programs, 12 semester hour credits constitute a full-time student. Students whose credits are in excess of 19 credits per semester will pay the part-time rates as listed for part-time students for all credits in excess of 19 semester hour credits.

SPECIAL CHARGES

Consolidated Fee: Because of specialized programs, all full-time students are required to pay a consolidated fee to cover costs of post office box, physical education fee, identification card, name tag, certain supplies, laboratory fees, student health service, annual subscription to the X-ray (the student annual), membership in the athletic association, participation in any special functions financed by the student body organization, and graduation fees. See page 25.

NON-RECURRING CHARGES

Application Fee	\$10*
Conditional Examination Fees.....	5 per examination

*Application fee for School of Medicine—\$15.

Identification Card Replacement.....	\$ 5 each
Late Registration Fee.....	10 each
Readmission Fee	10 each
Transcripts (Student Records).....	2 each
	(After two free copies)
Tuition Deposits Required—See chart on page 25. Apply to First Semester Tuition	

FEEES FOR DORMITORY RESIDENTS

The charges for matriculation, tuition, and other instructional services are the same for dormitory residents as for commuting students. Other charges for dormitory resident for the academic year:

Room rent	
Cabaniss, McRae	\$580
Rudd, Bear, and Warner.....	550
Dormitory security deposit and damage fee.....	50
Linen service fee	30
Meals	
Student board plan (21 meals per week).....	560

The fees for dormitory rent, student board plan (meals), and linen service fee are payable at the time other fees are due.

For further information on student housing see page 15.
Regarding refunds and rebates see page 23.

INSURANCE

The university offers to its students approved health insurance providing substantial benefits at group rates. All students are required at or before registration to complete a card stating that they do or do not wish to participate in the group insurance plan. For further information, contact the Office of Student Life or Office of Student Services at VCU’s MCV Campus.

REFUNDS AND REBATES

A full-time or part-time student who withdraws in good standing shall be entitled to a refund of a portion of his tuition, room, and board fees for the semester in which he is currently enrolled. All other fees are non-refundable. Request for refund: A request for a refund shall be made in writing to the dean of each school and dean of student services before said request can be considered. The following policy governs the refund of room, board, and tuition fees:

1. A student who fails to register or is denied permission to register will be entitled to a full refund of tuition, room, and board if paid

in advance. First-year students who fail to register forfeit deposit in tuition.

2. Students entering involuntary military service of the United States will be granted a refund on a prorated basis.
3. A student will be entitled to a refund of 80 percent of his room, board, and tuition fees upon withdrawal before the end of the first week of the term (seven consecutive calendar days from the first day of classes) and a decrease of 20 percent each week thereafter up to and including the fourth calendar week. **NO AMOUNT WILL BE REFUNDED FOR WITHDRAWAL AFTER THE FOURTH CONSECUTIVE CALENDAR WEEK OF THE TERM.**

The actual date of withdrawal will be certified by the office of the school's dean; and refund, when appropriate, will be computed based on that certified date.

Contracts for room and board (except in cases involving contracts initiated during the spring and summer terms) are for a two-semester period. If a resident voluntarily withdraws from the university residence halls without clearance from the Office of the Dean of Student Services but remains at the university, he will be responsible for full room and board fees. Subletting is not permitted. Exceptions to the above policy can be made only by the Office of the Dean of Student Services.

DELINQUENT ACCOUNTS

The university will not issue a degree, transcript of grades, or grade reports to any student who has not paid all charges in full. Students whose accounts are not paid in full may not be admitted to final examinations at the end of semesters.

A. D. WILLIAMS AWARD

An annual stipend may be made, on the nomination of the faculty, to a student in each class of the degree programs who demonstrates by virtue of high scholastic attainment and professional performance, unusual promise and ability.

General Academic Regulations

ADVISING PROGRAM

Every student at Virginia Commonwealth University is responsible for his own proper completion of his academic program, for familiarity with the university bulletin, including these general academic regulations and any other supplementary academic regulations presented in his individual school section. The offices of the deans and department chairmen,

School	Tuition Per Year		Consolidated Fees	Tuition Deposit	Text-books	Estimated Cost Equipment, Instruments, Supplies	Lab. Coats, Uniforms	Miscellaneous Fees and Costs	Totals	
	Resident	Non-Resident							Resident	Non-Resident
Medicine:										
M-1	\$ 1,020	\$ 2,120	\$ 136	\$ 100	\$ 250	\$ 200	\$ 10	.....	\$ 1,616	\$ 2,716
M-2	1,020	2,120	136	...	175	25	50	.....	1,406	2,506
M-3	1,020	2,120	136	...	100	50	..	.....	1,306	2,406
M-4	1,020	2,120	136	...	100	100	50	.....	1,406	2,506
Dentistry:										
D-1	1,020	2,120	136	200	210	900	15	.....	2,146	3,246
D-2	1,020	2,120	136	...	200	900	25	.....	2,106	3,206
D-3	1,020	2,120	136	...	75	450	15	.....	1,661	2,761
D-4	1,020	2,120	136	...	50	200	15	.....	1,421	2,521
Dental Hygiene:										
D.H.-3	560	1,160	136	100	175	165	70	.....	1,106	1,706
D.H.-4	560	1,160	136	...	175	45	..	.....	916	1,516
Pharmacy:										
P-3	560	1,160	136	50	127	20	20	.....	863	1,463
P-4	560	1,160	136	...	100	...	10	.....	806	1,406
P-5	560	1,160	136	...	25	...	10	.....	731	1,331
Nursing:										
N-3	560	1,160	136	50	150	15	75	\$ 100*5	1,036	1,636
N-4	560	1,160	136	...	85	15	..	100*5	896	1,496
Graduate:										
G-1	560	820	136	...	(*1)	(*1)	(*1)	1,200	1,896	2,156
G-2	560	820	136	...	(*1)	(*1)	(*1)	1,200	1,896	2,156
G-3	560	820	136	...	(*1)	(*1)	(*1)	1,200	1,896	2,156
G-4	560	820	136	...	(*1)	(*1)	(*1)	1,200	1,896	2,156
Allied Health Professions:										
Hospital Administration:										
HA-1	860	1,600	136	50	150	25	..	.....	1,171	1,911
HA-2	560	820	136	...	150	25	..	.....	871	1,131
Medical Technology:										
MT-4	520	760	136	35	70	...	70	.....	796	1,036
Nurse Anesthetist:										
NA-1	240	500	136	10	127	22	5	.....	530	790
NA-2	...	...	136	...	25	...	..	.....	161	161
Occupational Therapy: *2										
OT-3	510	1,050	...	...	50	...	..	30*3	...	...
OT-4	510	1,050	...	...	50	...	..	30*3	...	...
Patient Counseling:										
Course 550 Full-Time	300	500	...	...	...	...	..	.....	300	500
Course 511 & 512-2 Sem PT	70	95	...	...	...	...	..	.....	70	95
Course 513 Summer	150	200	...	...	...	...	..	.....	150	200
Course 531 Fall PT	125	175	...	...	...	...	..	.....	125	175
Course 532 Spring PT	125	175	...	...	...	...	..	.....	125	175
Physical Therapy:										
PT-3	560	1,160	136	35	200	9	60	16	981	1,581
PT-4	560	1,160	136	...	50	...	..	16	762	1,362
Radiologic Technology:										
RT-2	560	1,160	136	50	100	...	120	5	971	1,521
RT-3	560	1,160	136	...	25	...	..	5	726	1,326
Bloodbanking Course										
	None	None	...	...	...	...	40	.....	40	40
Cytotechnology Course										
	None	None	...	...	35	...	40*4	.....	75	75
Dietetic Internship										
	10	10	...	...	5	...	40	11	86	86

*1 Graduate Studies—\$1,200 year. Estimated total cost for full-time student for all expenses other than tuition and consolidated fee.
 *2 Occupational Therapy—Program scheduled for Academic Campus.
 *3 Activity Fee for Academic Campus students.
 *4 Cytotechnology Course—Recommended but not required.
 *5 Transportation Costs for Clinical Assignments.

in cooperation with the faculty, endeavor to follow each student's academic progress, and students are encouraged to seek counsel whenever there is a need. If an advisor is unable to resolve a problem satisfactorily, the student will be referred for further advice as is deemed appropriate and necessary.

ATTENDANCE REGULATIONS

The individual schools on the MCV Campus of VCU vary in their attendance regulations and a student should familiarize himself by referring to the appropriate school's regulations in this bulletin.

CHANGE OF MAJOR

If a student wishes to change his major area of concentration, he may initiate this change under the following conditions:

(a) He must be eligible for continuance in college on the basis of all credits attempted at the time he applies for a change of major and also for the semester his change of major becomes effective.

(b) A change of major must be accepted by the dean of the school and admissions committee, where appropriate, and chairman of the department to which the student expects to transfer.

(c) Change of major request forms will be processed only during the first eight weeks of classes of each term. Forms may be obtained in the Office of Registrar Services.

(d) Students changing their curricula from the MCV Campus to the Academic Campus and vice versa will do so through a change of major procedure.

CHANGE IN REGISTRATION

Once a student is registered for a planned program, it is expected that he will not change his registration except for special reasons. Should a change of program be deemed advantageous to the student and the school by the appropriate school dean, the student may make the change during the add/drop period after the beginning of classes. Changes in registration are performed at the Office of Registrar Services by the following procedure:

(a) An Add/Drop Form, obtained at the Office of Registrar Services, is used to add or drop courses from a student's registration, and must be signed by the student's advisor or department chairman or assistant dean or dean.

(b) Courses dropped during the add/drop period do not become part of the student's permanent academic record.

After the add/drop period, no courses may be added. Courses may be dropped, but only in accordance with the following procedures:

(a) Add/drop forms may be obtained at the Office of Registrar Services after the add/drop period.

(b) Courses dropped after the add/drop period will become part of the student's permanent academic record.

(c) Add/drop forms must be signed by the student's advisor or department chairman or assistant dean or dean before they will be processed by the registrar.

(d) Failure to follow this procedure will constitute an unofficial withdrawal and a grade of "WF" will be assigned.

(e) Approval to drop a course during the last three weeks of class instruction of a semester will be granted only under unusual circumstances. Approval of the department chairman and dean's office is necessary. A grade of "WF" is automatically assigned by the instructor in cases of continuous non-attendance during this period.

CLASSIFICATION OF STUDENTS

Students at the MCV Campus of Virginia Commonwealth University are classified as undergraduates, graduates, and first professionals as follows:

Undergraduates, except pharmacy—

Freshmen earned 1 to 23 credits

Sophomores earned 24 to 53 credits

Juniors earned 54 to 84 credits

Seniors earned 85 credits and above

School of Pharmacy—

Students are promoted by the block system and are not classified according to credit hours. Students in the pharmacy program are classified as third-year, fourth-year, or fifth-year students, depending on the class to which they have been admitted or promoted.

Graduate students have earned a baccalaureate degree, are enrolled in master's or doctor's degree programs (not including first professional degrees), and are classified as follows:

First Year—enrolled in a master's degree program or has completed less than 30 semester hours of graduate credit.

Advanced—has completed 30 or more semester hours of graduate credit.

A first professional student is enrolled in a program leading to the first professional degree in dentistry or medicine.

Unclassified students are enrolled in a limited or special selection of degree-credit courses leading to a certificate of training.

CONTINUANCE POLICIES

Continuance policies for the schools on the MCV Campus are out-

lined specifically in the individual school regulations. The student should familiarize himself by referring to the appropriate school regulations.

DEGREE REQUIREMENTS

Degree requirements for the schools on the MCV Campus are outlined specifically in the individual school regulations. The student should familiarize himself by referring to the appropriate school regulations.

UNDERGRADUATE DEGREE REQUIREMENTS

In addition to the course requirements indicated in the curriculum outlines, candidates for any degree are governed by the following policies:

Degree Program. An overall grade point average (GPA) of at least 2.00 (a "C" average) is required on all work presented for graduation for either an associate or bachelor's degree.

Total Credits Required. The total number of semester credits required for graduation depends upon major area of concentration and the type of degree.

SECOND DEGREE

A second degree at VCU may be earned provided:

(a) Permission is granted the student for the second degree by his dean or appropriate advisory committee with the previous approval of the chairman of the department in which the student desires to pursue his major concentration and the dean of the school awarding the second degree.

(b) Students seeking the second degree must satisfy all requirements of the department and school awarding the second degree.

(c) There is a substantially different relationship between the student's first major concentration and his proposed second degree. Such a relationship will constitute a significant criterion in determining the student's eligibility for a second degree.

(d) The student is adjudged by the dean or appropriate advisory committee a well-qualified candidate who can benefit from a second degree.

DOUBLE MAJOR CONCENTRATION

Through the submission of the appropriate form, a student may designate a second major concentration, provided he meets departmental admissions requirements and is accepted by the second department. However, only one degree will be granted.

The student must obtain approval for a second major prior to February 1 for spring graduation. A notation recognizing completion of

the requirements for the second major will be posted on the student's permanent record.

No student may exceed the 150-hour limit in credits toward the requirements of two or more majors.

Transfer Students. Transfer students are required to earn an overall grade point average of at least 2.0 on all courses attempted at VCU which are presented for graduation for either an associate or bachelor's degree at the university.

Upper Level Courses. A minimum of 45 credits is required in courses numbered 300 or 400 for bachelor degrees. Credits transferred from two-year institutions may not be used for upper-level requirements.

Resident Requirement. Applicants are required to complete the last 30 credits at this institution for either an associate or bachelor's degree.

Correspondence Courses. Credits earned through correspondence courses are not acceptable toward a degree at VCU.

GRADE REPORTS

Official university grade reports, showing the student's standing in each of his courses and his grade point average, will be produced by the registrar each semester and where applicable, at the end of the Summer Session. Students in dentistry, pharmacy, and nursing will also receive their class standing at the end of each school year. Semester figures are reported as well as overall cumulative figures. The reporting of these figures is for assisting the student and his advisor in analyzing student performance and determining areas in which more emphasis must be placed. The GPA and class standing figures are not to be recognized as competition among students.

The grade point average is computed by dividing the number of grade points earned by the number of semester hours attempted. Only work performed at Virginia Commonwealth University is used in this computation; and the student's GPA will be based upon his current academic level, undergraduate or graduate and professional.

For schools requesting it, a separate GPA for clinical courses will be computed and reported on the university grade report.

Class standing is computed by first determining the grade point averages for all students in a given class, then determining where a particular GPA falls within the GPA range. The highest GPA will rank first in that class and the lowest GPA will rank last.

The grades, grade point average, and class standing a student receives on his official grade report each semester will be posted to the student's permanent academic record including the grades of "I" (incomplete) and AB (absent from final examination) which will be changed when they are changed to a conventional letter grade.

In order to change a grade, a change of grade authorization form

must be obtained from the Registrar's Office, signed by the appropriate course instructor, the department chairman and the school's dean. All copies of the form are returned to the registrar who will make the necessary adjustments to the student's record. Grades of "I" and "AB" will be changed on a student's academic record by marking them through with a single diagonal line and typing in the new grade. Grade changes made due to administrative errors will completely eradicate the old grade before typing on the new grade.

All grade reports and other correspondence from the registrar will be mailed to the student's university correspondence address as designated on the registration form, unless the student is under 21 years old. In this instance the parents' or guardians' address will be used as a corresponding address. Students under 21 may have grade reports and correspondence sent to an alternate address provided they submit to the registrar a written statement from the parents approving such action.

GRADING SYSTEM

The academic credit unit used to measure quantity of work is the semester hour, equivalent to a course that meets one class period per week for a semester or its equivalent in summer sessions.

Work quality is measured by the 4-point grade system with the following equivalents:

A = Excellent performance	= 4.0	Grade	Points
B = Very good performance	= 3.0	"	"
C = Average performance	= 2.0	"	"
D = Lowest passing performance	= 1.0	"	"
F = Failure	= 0.0	"	"
WF = Withdrawn, failing	= 0.0	"	"
AB = Absent from final examination	= 0.0	"	"
I = Incomplete			
W = Withdrawn			
WP = Withdrawn, passing			
AU = Audit			
H = Honorable achievement			
P = Passing			
PR = Progress report			

H = Honors—to be awarded to courses in the School of Medicine to denote very distinguished achievement. Courses assigned the honors grade will not be computed into the grade point average.

P = Pass—to be awarded for graduate level research courses and School of Medicine courses and is not to be computed into the GPA. The exception to this is that certain other courses taught on the MCV Campus, so designated by the appropriate schools prior to the beginning

of each school year, will also receive a pass or fail grade which will not be computed into GPA.

I = Incomplete—grade assigned when the requirements of a course are not met within the given time period allowed for course completion.

(a) The maximum time limit for the removal of an incomplete is the end of the last day of classes of the term following the term in which the incomplete was incurred. At the end of the succeeding term an unre- moved grade of incomplete is automatically changed to a failing grade, and a new GPA will be computed. The time limit varies among the schools, and the individual school's regulations are to be followed.

(b) The grade of incomplete will not be computed into the student's grade point average. If and when it is removed from the record, a new GPA will be computed.

(c) Regarding the graduate research courses mentioned above, if the semester's requirements are not met, an "I" or an "F" should be assigned.

(d) The assignment of an "I" in a course for a graduating senior will make him ineligible to receive his diploma until the "I" is eliminated.

(e) An "I" should not be assigned without a clear understanding between the student and the instructor.

(f) Course requirements should be understood by students at the semester's beginning.

(g) Exceptions to this procedure should be approved by the dean of the school involved upon the recommendation of the instructor; a written statement must be filed with the registrar.

AB = Absence from final examination—only the office of the dean of the school in which a student is enrolled is empowered to excuse a student from a final examination. Makeup of final examinations should be accomplished by the end of the fourth week of the succeeding term. Only in extraordinary circumstances will this rule be waived and only then by the office of the dean.

W = Withdrawal—the grade of "W," denoting a student's withdrawal from a course, will be assigned to any course dropped before the mid-semester point (8 weeks after first day of classes). Courses with "W" will appear on the student's academic record but will not be counted as work attempted or computed into the GPA. If a student drops a course within the "add/drop" period at the beginning of each semester, there will be no record of the course on his records.

WF = Withdrawn, failing—withdrawn failing indicates that a student was failing the course at the time of an official drop, after the mid-semester point are filed and prior to the last three weeks of class instruction of a semester.

WP = Withdrawn, passing—withdrawn passing indicates that a student was passing the course at the time of an official drop, after the mid-

semester point are filed and prior to the last three weeks of class instruction of a semester.

Students are not permitted to drop a class during the last three weeks of class instruction of a semester. A grade of "F" is automatically assigned in cases of non-attendance during this period.

Grades of "I," "AB," and "WF" are included in the courses attempted by a student during a semester, whereas grades of "W" and "WP" are not considered a part of a student load attempted in a given semester.

AU = Audit—upon the approval of the student's advisor and the instructor and when class size permits, a student may register for a course on an audit basis. Audit students are charged the regular rate of tuition and fees, and an audit course is counted as a part of the student's semester credit hour total. A student registered on an audit basis is not subject to attendance regulations and is not required to take tests or the final examination. A grade of "AU" will be entered on the academic record of all students enrolled for audit.

A change in registration from "audit" to "credit" or vice versa must be effected during the add/drop period. A course taken for audit cannot be given credit by examination at a later date.

PR = Progress—assigned as an interim grade for courses, such as research or thesis projects which run over several grade reporting periods. The "PR" is intended to indicate on the student's academic record that he is enrolled for the number of semester hours shown, but that the project or thesis is not completed. The "PR" also indicates that the student is doing satisfactory work in the project. If the student is not doing satisfactorily, a grade of "I" should be assigned and not a "PR."

Upon completion of the project or acceptance of the thesis, a final grade will be assigned. This will generally be a "pass" or "fail" grade and will not be computed into the student's grade point average. In some instances a letter grade may be assigned which will affect the student's GPA.

The "PR" grade will not be computed into the GPA.

All courses offered in a school's curriculum must be assigned one of the above grades each semester. Whether or not a course continues for two semesters should not preclude a grade from being assigned or a GPA and class standing (where applicable) being computed and reported.

NG = No Grade Report—for internal use of the registrar only. This grade will be assigned to a course when an instructor fails to turn in grades for that course by a specified deadline. The official grade report will reflect this grade.

It is the responsibility of the student and the instructor to have an appropriate grade assigned to that course as soon as possible after the end of the term.

"NG" will not appear on a student's permanent academic record. Instructors not turning in grades will be reported to their deans.

MATRICULATION

A student has matriculated when he has been admitted as a regular student in a degree program. All degree candidates must be matriculated students. Non-matriculated students are classified as "special" students. Special students desiring degree-seeking status must file an application for regular admission.

SCHOLARSHIP HONORS

Dean's List. A student is placed on the dean's list for one semester if he has made a grade point average of 3.50 in the preceding semester, based on a minimum load of 15 credits with no grade below "C." Students with grades of incomplete or absent from the final examination are not eligible for the dean's list.

Graduation Honors. Candidates for a degree are eligible for special scholarship recognition under the following conditions:

High Honors. Students with a cumulative grade point average of 3.60 or above through the first semester of the senior year on all courses attempted toward the degree awarded.

Honors. Students with a cumulative grade point average of 3.30 or above through the first semester of the senior year on all courses attempted toward the degree awarded.

Graduation honors for medical students will be determined by the Medical School Promotion Committee.

A transfer student to qualify for graduation honors for the baccalaureate degree is required to complete a minimum of 45 credits by the first semester of his final year at this institution with a scholastic average at VCU of 3.60 for high honors or 3.30 for honors, supported by equivalent performance on all credits attempted elsewhere to make a combined average of 3.60 for high honors or 3.30 for honors.

Recognition of graduation honors will be made on the student's diploma, his permanent record, and in the commencement program.

STUDENT LOAD

First professional students (seeking M.D. or D.D.S. degrees) are always defined as full-time students unless specifically designated otherwise by the individual school dean.

Except in the School of Medicine, a semester credit, the unit by which courses are measured, is defined as one hour per week of lecture-recitation or not less than two hours per week of laboratory work throughout a semester.

Graduate Level:

All full-time graduate students are expected to register for 12 semes-

ter hour credits per semester, including research. As an example, when a student is registered for 10 credits in formal courses, he is expected to undertake two credits in research under his advisor or other approved faculty member.

Undergraduate Level:

Full-time Students. The normal full-time student load constitutes a minimum of 12 credits.

Part-time Students. A student is classified as “part time” if during any semester he is registered for no more than 11 credits. The term “part time” applies to degree-seeking students, as well as to non-degree-seeking (“special”) students.

PERMANENT ACADEMIC RECORD

A permanent academic record is kept for each student showing all pertinent academic information from registration until separation.

The permanent academic record will show individual courses that have been accepted by VCU when a transfer student is admitted.

Permanent academic record or student record folders will not be released from the Registrar’s Office except in very special instances. Information needed by anyone writing letters of recommendation will be supplied upon request to the Registrar’s Office.

Official transcripts of a student’s academic record will be issued only upon the written request of the student.

Two free transcripts are issued for each student; a charge will be made for each additional transcript.

Transcripts given directly to students do not carry the university seal and are not official. The seal is attached when the transcript is mailed directly from the university to the receiving party.

WITHDRAWAL FROM COLLEGE

If a student finds it necessary to withdraw before the end of a semester, he must complete an official university withdrawal form obtained from the Office of Registrar Services.

If a student withdraws officially from the university before mid-semester point (end of 8th week), his permanent record will indicate a grade of “W” for each course being pursued.

If he withdraws officially after mid-semester point (end of 8th week) and prior to the last three weeks of class instruction of a semester, his permanent record will indicate grades of “WP” or “WF” assigned by the individual instructors of courses being pursued at the time of withdrawal.

If a student withdraws without permission, his permanent record will carry a notation, “Withdrawn Unofficially,” and the grade of “WF” will be assigned for each course pursued at the time of unofficial withdrawal.

Identification of Symbols for Course Listings

I—a course given in the first semester.

II—a course given in the second semester.

I, II—a course given in each semester.

I and II—a course continued through two semesters.

S—a course given in the Summer Session.

LH—lecture hours per week.

Lab H—laboratory hours per week.

Cl H—clinical hours per week.

SH—semester hours.

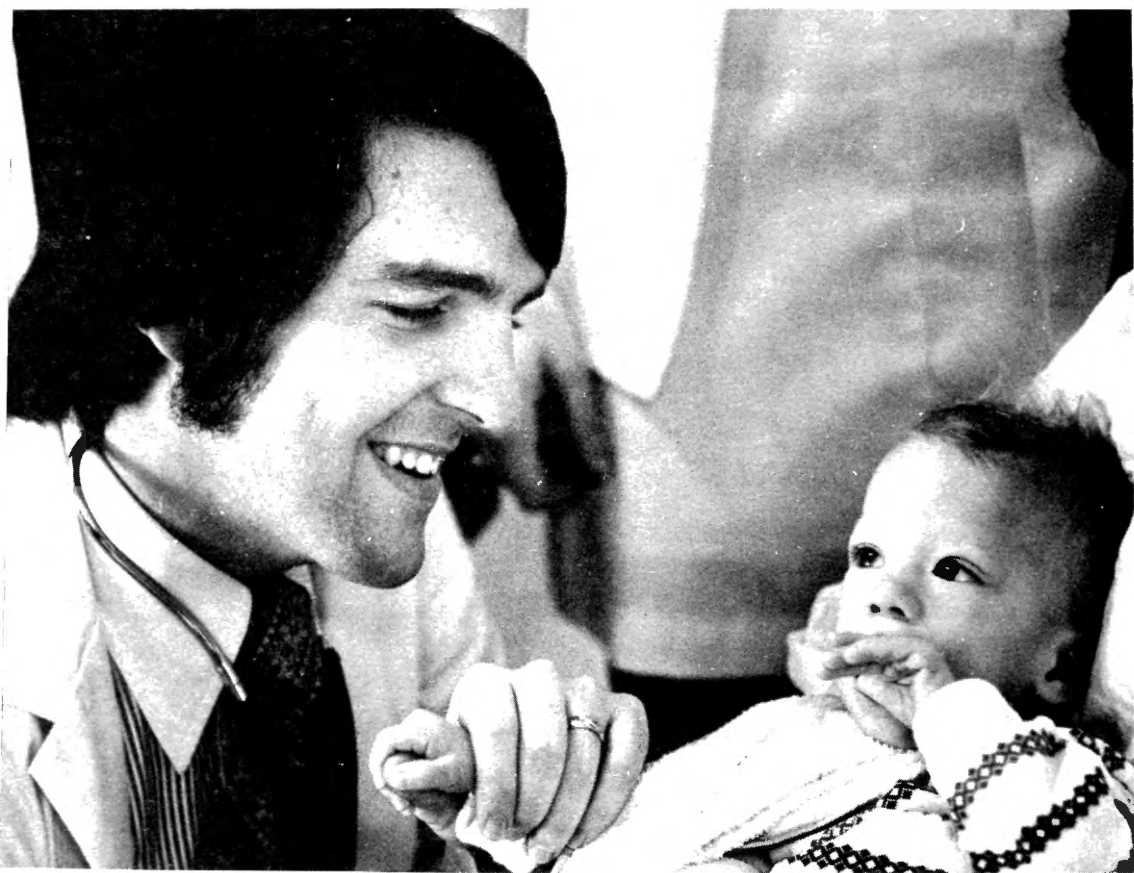
PR—prerequisite.

CR—corequisite

Abbreviations

- AHP — Allied Health Professions
- ANA — Anatomy
- BAS — Basic Sciences
- BIC — Biochemistry
- BIM — Biometry
- BIP — Biophysics
- DEH — Dental Hygiene
- DTP — Division of Team Programs
- EDU — Education
- END — Endodontics
- GEN — Genetics
- GPD — General and Preventive Dentistry
- HHA — Hospital and Health Administration
- LEM — Legal Medicine
- MET — Medical Technology
- MED — Medicine
- MIC — Microbiology
- NUA — Nurse Anesthesia
- NUR — Nursing
- OCT — Occupational Therapy
- ORP — Oral Pathology
- ORS — Oral Surgery
- ORT — Orthodontics
- PAC — Patient Counseling
- PAT — Pathology
- PED — Pedodontics
- PER — Periodontics

PHA – Pharmacy
PHC – Pharmaceutical Chemistry
PHT – Physical Therapy
PIO – Physiology
PMC – Pharmacology
PMY – Pharmacognosy
PRM – Preventive Medicine
PSY – Psychology
RAT – Radiologic Technology
REP – Removable Prosthodontics
RED – Restorative Dentistry



SCHOOL OF MEDICINE

ADMINISTRATIVE OFFICERS

Warren H. Pearse, M.D.
Dean

John R. Jones, M.D.
Associate Dean

Miles E. Hench, Ph.D.
Associate Dean, Admissions

Fairfield Goodale, Jr., M.D.
Assistant Dean, Curriculum

Hunter H. McGuire, Jr., M.D.
Assistant Dean, Student Affairs

W. Kenneth Blaylock, M.D.
Assistant Dean, Graduate Medical Education

Thomas F. Anderson, M.H.A.
Assistant Professor, Medical Education

Douglas G. Palmore, M.Ed.
Assistant Professor, Medical Education

HISTORY

The School of Medicine had its beginnings in the opening of the Medical College of Virginia on November 5, 1838 as the medical department of Hampden-Sydney College.

Full-time clinical faculty were first appointed in 1928, and substantial physical improvements occurred between 1936-1941 with completion of the 600 bed West Hospital, A. D. Williams Clinic, and Hunton Hall dormitory. Growth in faculty, students, and facilities resumed after World War II and has continued to today's major academic medical center.

GENERAL INFORMATION

The objective of the School of Medicine is to provide for the Commonwealth of Virginia and the nation physicians who are well trained according to the needs of society and standards of the Council on Medical Education of the A.M.A. and the Association of American Medical Colleges. A specific statement of objectives for the school is being rewritten.

The school meets this objective by enrolling its most promising applicants who have completed undergraduate colleges, and by offering them one of the nation's most modern, yet well-tested, medical curriculum. This curriculum prepares students for additional postgraduate training

in any clinical specialty and provides them experience on which to base their selection of specialties. The standard curriculum lasts four academic years and includes one year of elective courses. Selected students may be granted M.D. degrees at the end of their third year of medical school.

The School of Medicine provides postgraduate specialty training for its own graduates and for graduates of many other medical schools. This training is given in the form of internship, residency, and post-doctoral fellowship. The school also provides continuing education for practicing physicians by special courses and by sending its faculty to teach in community hospitals.

Teaching is done by a faculty of over 270 full-time clinical specialists and more than 120 basic scientists for the School of Basic Sciences and Graduate Studies. They are supported by an outstanding department of visual education and by ample laboratories for teaching and medical research.

FACILITIES

The offices, lecture halls, and laboratories of the medical school are located in Sanger Hall at 1101 East Marshall Street.

Formal programs of instruction and research are conducted continuously in several affiliated hospitals. In Richmond these include the McGuire Veterans Administration Hospital, the Crippled Children's Hospital, the Richmond Eye Hospital, the Virginia Treatment Center for Children, St. Mary's Hospital, and Richmond Memorial Hospital. Affiliated community hospitals beyond Richmond include Northampton-Accomack Hospital in Nassawadox, DePaul Hospital in Norfolk, Johnston Memorial Hospital in Abingdon, Petersburg General Hospital, and Riverside Hospital in Newport News. Students may be assigned to or may elect to work for limited periods in any of these facilities.

STUDENT PARTICIPATION

The dean and faculty solicit the advice of students in conducting the affairs of the medical school. Student officers elected by their classes meet for dinner monthly with deans and curriculum coordinators. At these meetings each phase of the curriculum and any other matters of concern to students are discussed in detail. Each class also elects representatives to the faculty committees which design its curriculum. Students are selected by the dean and the faculty to serve on the Admissions Committee, on faculty tenure committees, and on committees to recommend appointment of deans. A continuing effort is made to improve methods for student evaluation of teaching technique. All students are welcomed to visit the deans, teachers, and faculty advisors at any time to volunteer opinions or seek explanations of procedures employed by the school.

GRADING AND PROMOTIONS

After every course each student's achievement is graded honors, pass, or fail. Grades are determined only by teachers involved and only in relation to course objectives. Numerical grades and class ranks may be used by the faculty to detect students who need special consideration or counseling, but such scores are neither entered in permanent student records or transmitted to other institutions. Grades assigned for each course are final. Re-examination is rarely possible owing to the close sequence in which courses are offered.

At the close of each academic year the Promotions Committee, composed of chairmen of departments, decides which students have achieved the objectives of the year and are qualified for either promotion or graduation. There is no arbitrary limit to the number of failures a student may have earned and yet be promoted. The Promotions Committee is charged to give careful individual attention to all aspects of student achievement, effectiveness, behavior, and attitude. The committee is charged not to promote any student who has failed to meet the requirements of the preceding year, who is unprepared for the succeeding year, or who appears unfit for the practice of medicine. When the committee determines by majority vote that a student will not be promoted, the dean promptly notifies that student that he or she is dismissed from his or her class and from medical school. A student dismissed by the Promotion Committee may apply to the Admissions Committee for the privilege of repeating the year in which he or she failed.

WITHDRAWAL

A student may not leave school prior to completion of an academic year unless granted leave of absence by the dean for temporary disability. A student who leaves without such permission, or who fails to return by the end of his granted term of leave, is considered dismissed from his class and may return only by applying for possible readmission.

REQUIREMENTS FOR GRADUATION

The degree of doctor of medicine will be conferred by Virginia Commonwealth University upon candidates who, in the opinion of the medical faculty, have:

1. Attained the school's educational objectives as evidenced by satisfactory completion of prescribed courses and examinations, by proven clinical skills, responsibilities, and ethical standards.
2. Discharged all financial obligations to the school.

If, in the judgment of the faculty, he has met these requirements, a student may be graduated at the end of the third academic year.

It is the policy of the university that candidates must be present at

commencement exercises unless excused by the vice-president for health sciences.

HONORS AND PRIZES

Student research and honors day is held in May. Begun by the Student American Medical Association, it is now a joint effort of that organization, the Alpha Omega Alpha Honorary Scholarship Fraternity, and the medical school.

Honors and prizes in the medical school are:

Alpha Omega Alpha. The Brown-Sequard Chapter, established at MCV in 1940, elects to membership each year senior and junior students who have demonstrated outstanding academic achievement.

Sigma XI. Seniors of high scholastic achievement, who show promise of success in research, may be elected to associate membership in the MCV chapter of this national honorary scientific society.

Sigma Zeta. Outstanding members of the junior and senior classes of the schools of medicine, dentistry, pharmacy, and nursing are elected to this honorary scientific society.

L. Beverley Chaney Scholarship. For responsible leadership during the first three years of medical school, a senior scholarship of \$1,500 from the Joseph Collins Foundation in memory of its trustee, Dr. Chaney, who graduated from the school of medicine in 1918.

Pfizer Scholarship. To a deserving student for academic excellence, an award of \$1,000 from the Charles Pfizer Company.

The Upjohn Prize. A plaque and \$150 awarded by the Upjohn Company to the senior student chosen by his classmates as the most outstanding in scholarship and leadership.

The Roche Prize. An Omega watch to the student achieving the highest score on Part I of National Board Examinations.

William Branch Porter Stethoscope. A silver replica of the stethoscope given by Sir William Osler to Dr. Porter, professor of medicine from 1928 to 1956. Awarded to a senior student for outstanding achievement in internal medicine.

Isaac A. Bigger Medal. A medal awarded annually to a surgical resident for integrity, leadership, teaching and clinical ability, in memory of Dr. Bigger, professor of surgery from 1930 to 1955.

Lee E. Sutton, Jr., Prize. Awarded to a senior student for excellence in pediatrics, in memory of Dr. Sutton, professor of pediatrics from 1938 to 1958, and dean from 1929 to 1942.

Robert C. Bryan Prize. For excellence in sophomore pathology, an

annual award of \$50 in memory of Dr. Bryan, professor of urology from 1917 to 1934.

Aubrey H. Straus Prize. For excellence in sophomore microbiology, an annual award of \$75 in honor of Dr. Straus, assistant professor of microbiology from 1909 to 1924.

Hjalmar L. Osterud Prize. For excellence in freshman anatomy, \$75 awarded annually to a medical or dental student in memory of Dr. Osterud, professor of anatomy from 1922 to 1953.

STUDENT FELLOWSHIPS

Opportunities are available for study and investigation under the tutelage of faculty members in their laboratories during the summer vacation and an extracurricular activity during the school year.

These are supported by the A. D. Williams fellowship endowment (selections are made by the A. D. Williams Committee on the recommendation of the Institutional Research Advisory Committee) and by project grant funds (selections are made by the principal investigators).

The Robert C. Bryan Summer Fellowship in Pathology has been given by Mr. Jonathan Bryan in memory of his father. The recipient is chosen by the department of pathology.

ANNUAL LECTURESHIPS

Annual lectureships have been established in honor of individuals who have played vital roles in the development of MCV/VCU and serve to bring outstanding speakers from throughout the world to the campus.

The Board of Visitors established the Stuart McGuire Lectureship on May 27, 1929 in honor of Dr. Stuart McGuire in recognition of his long years of service to the college. Dr. McGuire served as president of the University College of Medicine from 1905 until its consolidation with MCV in 1913, as dean of MCV from 1913 to 1919, as president from 1919 to 1925, and as chairman of the Board of Visitors from 1936 until his death in 1948.

The Lewis T. Stoneburner III Lectureship in Internal Medicine was established by Dr. Stoneburner's friends and members of the 45th General Hospital staff in World War II as a memorial to Captain Stoneburner, an honor graduate of the School of Medicine in 1937, who was lost over the Mediterranean Sea in 1943.

The Department of Pediatrics sponsors annually a one-day medical education program and lectureship in honor of the late Dr. Lee E. Sutton, Jr., who was chairman of the department from 1938 to 1958 and dean of the medical school from 1929 to 1942.

The annual Student Honors Day, which was begun during the deanship of Dean Kinloch Nelson, and sponsored by the Student American Medical Association and Alpha Omega Alpha, has been designated Kinloch Nelson Medical Student Honors Day as an expression of appreciation

for the leadership Dr. Nelson provided during his tenure as dean of the School of Medicine from 1963 to 1971.

The Sanger Lecture was established and endowed by the late Dr. Harvey B. Haag, professor and chairman of the Department of Pharmacology and dean of the School of Medicine from 1947 to 1951, as a tribute to Dr. William T. Sanger for his dedication and service to the institution. Dr. Sanger served as president of MCV from 1925 until 1956, chancellor from 1956 to 1959, and chancellor emeritus from 1959 to the present. The lectureship annually offers topics of current interest in the area of science and religion to the MCV/VCU and Richmond community.

GRADUATE MEDICAL EDUCATION PROGRAM (INTERNSHIP AND RESIDENCY)

In 1969 responsibility for the education of the housestaff was transferred from the hospital to the medical school. This reflected a response to the 1969 Association of American Medical Colleges report on "The Role of the University in Graduate Medical Education," which advocates less fragmentation of authority and recommends that the university and its collective faculties assume "the classic responsibilities and authority . . . for all its students and programs in medical education."

The objectives are: to reinforce the idea that house officers are in the graduate phase of their education; to emphasize the fact that such graduate education is one of the most important parts of the responsibility of the faculty of the school of medicine; to try to achieve a stronger and better coordinated program; and to allow greater flexibility in the education of the individual house officer.

INTERNSHIP PROGRAM (FIRST YEAR POST M.D. CLINICAL TRAINING)

Approved rotating internships 0 through 8 and straight internships are offered. All facilities available to students are equally available to interns. Regularly scheduled clinical rounds, clinical pathologic conferences, inpatient and outpatient experience, and systematic rotation through services are included in the various internship programs.

For further information and a new program booklet, write Director of Graduate Medical Education, School of Medicine, Virginia Commonwealth University, MCV Station, Box 257, Richmond, Virginia 23298.

RESIDENCY PROGRAMS

A period of clinical experience in the specialty elected is a requirement of certification by the American specialty boards. To assist the physician in meeting such requirements approved residency training programs are offered. The MCV Hospitals and clinics and its cooperating institutions offer a wealth of clinical material as well as an able and dedi-

cated faculty in graduate medical education. Residencies are offered in: anesthesiology, dermatology, family practice, internal medicine, neurology, neurosurgery, obstetrics and gynecology, ophthalmology, otolaryngology and rhinology, pathology, forensic pathology, pediatrics, pediatric allergy and immunology, pediatric cardiology, pediatric hematology and oncology, physical medicine and rehabilitation, public health and preventive medicine, psychiatry, radiology, diagnostic radiology, therapeutic radiology, surgery, oral surgery, orthopedic surgery, plastic surgery, urology, and thoracic surgery.

For further information contact the Director of Graduate Medical Education, School of Medicine, Virginia Commonwealth University, MCV Station, Box 257, Richmond, Virginia 23298.

ADMISSIONS

In evaluating candidates for admission to medical school consideration is given to the attributes of character and personality as well as intellectual ability and academic skill. It is emphasized that the study of medicine is a privilege reserved to those qualified on several bases, including scholarship. An applicant for admission may be denied the opportunity to matriculate in this school even though the quality of his work, as evidenced by transcripts of record, indicates high scholastic ability.

It is desirable that applicants have a basic education encompassing knowledge and skill in the sciences and humanities. Accredited colleges and universities offer a variety of courses of study incorporating a desirable balance between areas. Although it is preferred that a student follow a major program in his studies, no particular major is required.

To permit individual intellectual interests to be pursued, statements of prerequisites have been reduced to a minimum. They are:

A minimum of 90 semester hours (or the equivalent) in an accredited college or university. This program must include a minimum of (1) a course in basic biological science, (8 semester hours) including laboratory experience. This requirement may be satisfied by general biology, general zoology or zoology, and botany. No more than half may be botany; (2) a course in general or introductory chemistry (8 semester hours), including laboratory. An appropriate portion of this requirement may be met by courses in analytical chemistry or physical chemistry; (3) one full course in organic chemistry (6 semester hours), including laboratory. This program should include studies of aliphatic and aromatic compounds and be acceptable for continued studies in a chemistry major; (4) a course in general or introductory physics including laboratory experience (8 semester hours). It is expected that mechanics, heat, light, sound and electricity, and magnetism will be included.

The prospective medical student should not take courses that will later be offered in medical school in order to lighten his medical school load. Rather, he is encouraged to pursue his own intellectual interests

in college to obtain a maximum of breadth and variety in his education. Courses in medically related science areas will not relieve the student of responsibility in the medical curriculum.

While not required, the following courses are recommended for premedical students:

(1) Cell biology (molecular biology, cell physiology). Courses in these areas incorporate appropriate content from chemistry and physics in definition of biological phenomena at sub-cellular and molecular level and form an excellent base for further studies in medicine.

(2) Genetics. The significance of this area of study is constantly growing as our knowledge expands and forms a function portion of the evaluation process in medicine.

(3) Embryology. Courses in this area of biology present aspects of anatomic structure and developmental characteristics at microscopic level. They therefore serve as useful additions to the anatomic vocabulary and histologic knowledge of the medical student.

(4) Mathematics. The fundamental nature of mathematics as a tool for knowledge acquisition makes it significant in any advanced educational process. Calculus should be included for all students aspiring to medical research.

(5) Psychology and Behavioral Science. Courses in this area of study serve in excellent fashion to increase the understanding of man and individual and group behavior.

In the selection process, preference is given to bona fide Virginia residents as defined by the Code of Virginia. Although no quotas are set for non-residents, recent experience suggests that Virginians will comprise 75 or more percent of the matriculated class. First-year class size is 146 students. It is anticipated that this number will be increased to 168 in 1974 upon completion of construction of the addition to Sanger Hall.

This institution participates in the American Medical College Application Service. Application forms are available only from the AMCAS office (Suite 301, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036). Application request forms are available from premedical advisers in colleges and universities and from admissions offices of schools of medicine.

Application forms are generally available after May 1 and may be filed for processing between July 1 and December 15 in the year preceding attendance in medical school.

All applications are acknowledged within two working days of the receipt of the completed AMCAS application. Supplemental information, including evaluations, will be requested at that time for all applicants receiving further consideration. A non-refundable \$15 application fee is charged to cover the expense of all applications accepted for further consideration.

Candidates are required to present the results of the Medical Col-

lege Admissions Test (MCAT) as a part of the credentials. It is desirable that the test be taken no more than two years prior to the time of application nor later than the fall test of the year of application. This test is sponsored by the Association of American Medical Colleges and administered in colleges and universities throughout the country by the Psychological Corporation (304 E. 45th Street, New York, New York 10017). Information about the MCAT is available through premedical advisers in colleges and universities or directly from the Psychological Corporation.

Interviews with members of the Admissions Committee are a definite part of the admissions procedure to this institution. These are arranged as a stage in the evaluation process at the request of the committee. The interview day is set up as an opportunity for the applicant to become acquainted with the institution and the opportunities it offers at the same time he is supplying information for the admissions process. It is preferred that interviews take place on campus with members of the Admissions Committee. When this is difficult or impossible to accomplish, regional interviews may be arranged.

As more applicants are interviewed than can be accepted, appearance for interview is not an indication of acceptance.

Offers are made to selected candidates no earlier than one year prior to the time of attendance and class selections are generally completed by April of the year of attendance. The alternate list is constituted from selected and notified candidates after the class has been filled. It is from this group that replacements are drawn for any vacancies which occur in the selected class.

Since selections are made in advance of matriculation, all acceptances are necessarily made on condition of satisfactory completion of courses in progress or planned and maintenance of acceptable standards of department.

Students offered acceptance into a class are expected to respond within two weeks of that offer. Enrollment of accepted candidates is considered complete only after payment of the \$100 matriculation fee, of which \$90 represents a deposit on tuition. Failure of an accepted applicant to make payment by March 1 or two weeks after an offer is made, whichever comes later, may be interpreted as a lack of interest and result in withdrawal of the offer.

By the act of matriculating in the School of Medicine, the candidate accepts the responsibilities of this opportunity and agrees that during the time he is registered as a student he will follow the rules and regulations established by the governing body of the school and of the university.

TRANSFER IN ADVANCED STANDING

Since the School of Medicine is presently admitting the maximum number of students for whom it has accommodations, places for transfer students is limited to those created by the modest attrition which occurs.

In consideration of transfer candidates, the Admissions Committee recognizes the fact that the curriculum differs in marked detail from the traditional pattern of medical education in this country and may present a significant hazard to students seeking admission from more traditional curricula. Applicants for transfer in advanced standing are presently limited to individuals in good standing in American medical schools. Priority is given to graduates of two-year medical schools.

An estimated five places are available for third-year transfer. Opportunities for transfer to the second year vary from 0 to 5. No transfer is accepted to the fourth year.

For transfer candidates from two-year medical schools, the AAMC guidelines are followed. Second-year transfer decisions are necessarily delayed until after academic decisions have been made on the progress of students in the first- and second-year classes.

Requests for consideration for transfer in advanced standing should be made by contacting the Admissions Office of the School of Medicine. Consideration will be given to applicants on individual basis as soon as circumstances permit. The closing date for application is June 1 of the year of attendance.

THE CURRICULUM

The program for the M.D. degree is divided into four phases, each of a year's duration. Medicine I, occupying the first year (September to May), emphasizes normal human structure, function, growth, and development. Medicine II, occupying the second year (September to June), stresses the abnormal. Medicine III occupies the third year (August to July) and consists of clinical education and training. The fourth year (Medicine IV), lasting from September to May, consists entirely of electives at MCV/VCU and at approved medical schools abroad and elsewhere in the U.S.A. Elective opportunities are also offered in M-I and M-II.

The subject matter of Medicine I and Medicine II is divided into body organ systems to permit integration of the basic science disciplines (anatomy, physiology, biochemistry, microbiology, pharmacology, pathology, biometry, and biophysics) with one another and with the clinical aspects. Behavioral science, preventive medicine, public health, cardinal manifestations of disease, and physical diagnosis are also taught in M-I and M-II.

Students have the option of graduating after three years, thereby omitting the fourth year of electives, provided (a) they pass all examinations in M-I, M-II, and M-III, (b) pass national boards parts I and II, (c) match for internship or residency with an approved university-type program, and (d) give good evidence that early graduation will contribute toward their career goals.

In M-I the organ system subject matters are:

Course	Length
Cell Biology	5 Weeks
Musculo-Skeletal	7½ Weeks
Gastrointestinal	5 Weeks
Cardiovascular-Respiratory	4 Weeks
Reticuloendothelial	2 Weeks
Renal	2 Weeks
Neurosciences	6 Weeks
Endocrine-Reproduction	5 Weeks

Each subject matter in M-I and M-II is designed and implemented by a faculty committee and each phase of the curriculum is supervised by a faculty coordinator. In M-III a committee under a coordinator supervises the clinical experiences, and in M-IV there is an electives committee, whose chairman is the executive associate dean. Students serve on all committees.

In M-II the organ system subject matters are:

Course	Length
Infection and Immunity	6 Weeks
Reticuloendothelial	3 Weeks
Central Nervous System	4½ Weeks
Cardiovascular	4 Weeks
Respiratory and Clinical Pharmacology	4 Weeks
Musculo-Skeletal	4 Weeks
Endocrine	3 Weeks
Reproduction	3 Weeks
Gastrointestinal	4 Weeks
Renal	3 Weeks

Medicine III

Medicine III encompasses the third academic year running from the beginning of August to the end of the following July with appropriate short vacations. The class is divided into 12 sections, each of which spends three months on internal medicine, three months on surgery and other surgical specialties, two months on pediatrics, six weeks on psychiatry, six weeks on obstetrics and gynecology, and four weeks in a community hospital.

Senior Elective Curriculum (Medicine IV)

The School of Medicine, in an effort to serve best the needs and goals of the individual student, is offering a fully elective senior year. The elective curriculum has been arranged primarily to allow those students who have definite goals to pursue them logically without adherence to a required curriculum. At the same time, it allows those who have not yet defined their goals an adequate assortment of electives with which to explore career options. Where standard elective choices seem too

limiting, students are encouraged to approach individual faculty members relative to the development of unique courses that more closely approach individual needs.

The year is divided into nine four-week elective periods. All elective programs are subject to review by the Electives Committee.

A new electives catalog is published each year which contains the elective courses offered by the various departments and divisions and the "ground rules" for the senior elective program.

COMBINED M.D. AND M.S. OR PH.D. PROGRAMS

The integrated medical curriculum, with free time for elective courses and research, provides an excellent opportunity for interested medical students to enter a combined M.D./M.S. or Ph.D. program.

Requirements for the M.S. Degree for the Medical Student Who Has Completed the M-I Year. A minimum of 24 semester hours (with 18 semester hours in basic course work), plus a thesis, is required for the M.S. degree. The medical student can accomplish this by taking elective courses during the academic school years and by taking courses and doing research during summer terms. Properly planned, the M.S. degree can be received simultaneously with the M.D. degree.

Requirements for the Ph.D. Degree. A minimum of 60 semester hours (2 years), over and beyond the credits applied toward the M.D. degree, or in the case of residents, time devoted to specialty training, is required for the Ph.D. degree. No more than 30 semester hours may be in research. The senior year of medical school may provide one of these years provided the requirements for the M.D. degree have been completed by the end of the third year.

Admission to graduate study and development of the interdisciplinary program will be channeled through the basic science department in which the student indicates a major interest and will conform to all policies and procedures established by the Graduate Council.

Departments and Divisions of Instruction

DEPARTMENT OF ANESTHESIOLOGY

Professors: Boyan (Chairman); Pembleton; Rafii

Associate Clinical Professors: Harris; Kent; McDermott; Muren

Assistant Professors: Chu; Rafii

Assistant Clinical Professors: Cole; Collins, Greenberger; Jarrett; Koomos; Levy; Meridy

Clinical Instructor: Hranowsky

DEPARTMENT OF DERMATOLOGY

Professors: Blaylock (Chairman); Rothberg
Clinical Professors: Manson; Murrell; Pepple
Associate Clinical Professors: McMullan; Scoggins; Trice
Assistant Professors: Brady; Jordan
Assistant Clinical Professors: Booth; Reams
Clinical Instructors: Caravati; Kelly

DEPARTMENT OF FAMILY PRACTICE

Professors: Mayo (Chairman)
Associate Professors: Walthall; Wood
Assistant Professor: Bloodworth
Associate Clinical Professors: Alexander; Harris, A.; Harris, J.; Mackintosh; Mitchell; Quinnell; White

DEPARTMENT OF MEDICINE

Professors: Thompson (Chairman); Costa; Farrar; Irby, W. R.; James; Kelly; Kirkland; Kontos; Moore; Nelson; Patterson; Porter; Randall; Ray; Regelson; Richardson; Toone; Tucker, St. G.; Utz; Wasserman
Clinical Professors: Bloom; Freund; Klein
Professors Emeriti: Caravati, C.; Davis
Associate Professors: Baker; Brummer; Dabney; Duma; Estep; Ewart; Gathright; Haden; Kay; Kemp; Makhlof; Mauck; McGehee; Mellette; Mullinax; Muren; Owen, Pears; Propert; Raper; Roberts; Scott; Shadomy, S.; Sharpe; Vlahcevic; Waller; Watlington; Wingo; Zfass
Associate Clinical Professors: Burke; Clark; Greenberg; Jordan, W.; McCue, H.; Owens; Sutphin
Assistant Professors: Arthur; Barrett; Bell; Cooke; David; Evans; Fairly; Falls; Gear; Gregory; Higgins, M.; Holland; Hood; Howell; Kuperminc; Morley; Munson; O'Donohue; Proctor; Richter; Stacy; Switz; Vines; Wampler
Assistant Clinical Professors: Alexander; Bates; Baylor; Bedinger; Bernart; Black; Burton; Buxton; Cummins; Harris; Higgins; Lynch; MacMillian; Martin; Mathews; Morey, Page; Reed; Roye; Speckhart; Stevens; Thomas; Vaughan; Weisiger; Williams
Associate: Nemuth
Clinical Associates: Bailey; Brown; Budd; Buis; Bullock; Catlett; Crockett; Dingledine; Hecht; Hutcheson; Irby, E. C.; Levy; Markham; McEntee; McKeown; Mitchell; Pollock; Regan; Rose; Smith; Tabor; Wingfield
Instructors: Bear; Endsley; Espinel; Fratkin; Steinke; Tung; Hassen; Warner; Yoe
Clinical Instructors: Ansell; Ashworth; Becker; Blanton; Davis; Deep; Elliott; Frederick; Gayle; Goldman; Key; Litchfield; Newman, Nottingham; Pollock; Pritchard; Smith; Sporn; Tucker, W. T.; Wickham; Woodward; Wootton; Wynne; Zacharias

Lecturers: Forbes; Murray; Pariser; Weymouth
Research Assistants: Levasseur; Yau

Division of Cardiovascular Disease

Professors: Richardson (Chairman); Kontos; Mauck; Porter; Wasserman
Associate Professors: Kemp; Pears; Propert; Raper
Associate Clinical Professors: Greenberg; McCue, H.
Assistant Professors: Gear; Holland; Proctor
Assistant Clinical Professor: Bates
Instructors: Endsley; Hassen; Steinke
Clinical Instructors: Nottingham; Smith; Wootton

Division of Cardiopulmonary Laboratories and Research

Professors: Patterson (Chairman); Kontos; Mauck; Richardson; Thompson
Associate Professors: Baker; Kemp; Muren; Raper
Assistant Professors: Bell; O'Donohue
Instructor: Parker; Clifton L.
Research Associate in Medicine: Levasseur

Division of Clinical Pharmacology

Professors: Wasserman (Chairman); Regelson
Clinical Professor: Freund
Associate Clinical Professor: Clark
Assistant Professors: Evans; Proctor
Clinical Associates: Pollack; Tabor; Wingfield
Clinical Instructor: Elliott

Division of Connective Tissue Diseases

Professors: Toone (Chairman); Irby; Kelly
Associate Professors: Mullinax; Owen; Waller
Assistant Professor: Cooke

Division of Endocrinology and Metabolism

Professors: Tucker (Chairman); Kirkland
Clinical Professor: Jordan
Associate Professors: Estep; Sharpe; Watlington
Assistant Professor: Fratkin
Clinical Associates: Bailey; Dingleline; Rose
Clinical Instructor: Litchfield
Assistant Clinical Professor of Podiatry: Cummins
Clinical Associate of Podiatry: Levy

Division of Gastroenterology

Professors: Farrar (Chairman); Moore
Associate Professors: Makhlof; Vlahcevic; Zfass
Assistant Professor: Switz
Assistant Clinical Professors: Buxton; Morey; Weisiger
Clinical Associates: Mitchell; Regan
Clinical Instructors: Davis; Frederick

Division of Hematology

Professor: James (Chairman)
Associate Professors: Dabney; Scott
Assistant Professor: Flaherty
Assistant Clinical Professors: Martin; Stevens
Clinical Instructors: Ansell; Deep

Division of Immunology and Infectious Diseases

Professor: Utz (Chairman)
Associate Professors: Brummer; Duma; McGehee; Shadomy, S.
Associate Clinical Professors: Owens; Sutphin
Assistant Clinical Professor: Mathews
Clinical Associates: Catlett; Crockett
Instructor: Warner
Clinical Instructor: Becker

Division of Medicine, McGuire V. A. Hospital

Professor: Kelly (Chairman)
Associate Professors: Ewart; Falls; Haden; Vlahcevic; Wingo
Assistant Professors: Arthur; Barrett; Fairly; Gear; Gregory; Hood;
Moore; Morley; Stacy; Switz; Yoe
Assistant Clinical Professor: Roye
Instructors: Bear; Endsley; Flaherty; Hassen; Steinke; Warner

Division of Medical Oncology

Professors: Regelson (Chairman); Costa
Associate Professors: Mellette; Roberts
Assistant Professors: Kuperminc; Morahan; Munson; Richter; Wampler

Division of Pulmonary Disease

Professors: Ray (Chairman); Thompson
Associate Professors: Baker; McGehee; Muren
Assistant Professors: Bell; O'Donohue
Clinical Associate: Buis
Instructor: Parker

Division of Renal Disease

Professor: Randall (Chairman)
Associate Professor: Falls
Assistant Professors: Higgins; Stacy
Instructors: Espinel; Tung

DEPARTMENT OF LEGAL MEDICINE

Professor: Wiecking (Chairman)
Associate Professor: Jordan
Associate Clinical Professor: Blanke
Lecturers: Anderson; Henry; Nachman; Russell; Thornhill

DEPARTMENT OF NEUROLOGY

Professor: Suter (Chairman)
Clinical Professors: Rennie; Tucker
Visiting Professor: Papadopoulos
Associate Professors: David; Harbison; Hooshmand
Assistant Professor: Taylor
Assistant Clinical Professors: Harrelson; Howell; Sarhaddi
Instructor: Darvish
Clinical Instructor: Atkinson

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Professors: Dunn (Chairman); Board; Hoge; Schelin
Associate Professor: Tran
Associate Clinical Professors: Claiborne; Jones; Parker; Vitsky
Assistant Professors: Bhatnagar; Davis; Hurt; Petres
Assistant Clinical Professors: Howren; Michaux; Moore; Robins; Rucker;
Williams
Instructor: Ware III
Clinical Instructors: Deep; Forrest; Martin; Minor; Oppenheimer; Upton

DEPARTMENT OF OPHTHALMOLOGY

Professors: Guerry (Chairman); Geeraets, W. J.
Clinical Professors: Perkins; Wiesinger
Associate Professors: King; Nooney
Associate Clinical Professors: Bryce; Madge; Romaine; Sheppard; Smith;
Williams
Assistant Professors: Ching; Geeraets, R.; Harbison
Assistant Clinical Professors: Bunting; Davis; Gazala; Martin; Mayer;
McNeer, K.; Morgan; Relyea; Rusher; Stratford; Waddell; Wyatt
Instructors: Martin; Porter
Clinical Instructors: Blair; Caldwell; Heyner; MacMillan; McNeer, P.;
Svoboda

DEPARTMENT OF OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY

Professors: Pastore (Chairman); Cutler; Williams

Clinical Professors: Hayden; Smith

Associate Professors: Flowers; Frable

Assistant Professor: Lenhardt

Assistant Clinical Professors: Atiyeh; Gill; Hulcher; Hunt; LaPrade; Middleton; Montague

Clinical Associates: Creech; Dodd

Clinical Instructors: Archer; Clarke

Lecturer: Linde

DEPARTMENT OF PATHOLOGY

Professors: Goodale (Chairman); Allison; Bakerman; Cunningham; Fisher; Frable; Johnston; Hench; Elzay; Kay; Lurie; Rosenblum; Still; Vennart; Young; Wiecking; Santos

Clinical Professors: Carroll; Faulconer; Russi

Associate Professors: Blanke; Dalton; Escobar; Gander; Gerszten; Hadfield; Hossaini; Jordan; Lim; Madge; Martinez; McGehee; Riddick; Schatzki; Shiel; Utz

Clinical Associates: Borland; Briere; Clark; McMullan; Pierce; Thornton

Assistant Professors: Fu; Hard; Heffelfinger; Joshi; Lynch; Moncure; Nakoneczna

Clinical Assistant Professors: Beck; Goodwin; Griffin; Hoke; Hopp; Kramer; McLee; Pinto; Smith; Snell

Instructor: Brown

Clinical Instructor: Rizza

Lecturer: James

Division of Academic Pathology

Professors: Goodale (Chairman); Lurie; Still

Clinical Professors: Carroll; Faulconer; Russi

Associate Professors: Gander; Madge; Shiel

Associate Clinical Professors: Borland; Thornton

Assistant Professors: Gerszten; Hard; Moncure; Nakoneczna

Assistant Clinical Professors: Beck; Goodwin; Griffin; McLees; Pinto

Clinical Instructor: Rizza

Division of Clinical Pathology

Professors: Vennart (Chairman); Allison; Bakerman; Fisher; Hench; Johnston; Santos; Young

Associate Professors: Blanke; Dalton; Escobar; Hossaini; Lim; McGehee; Riddick

Assistant Professor: Lynch
Instructor: Brown

Division of Forensic Pathology

Professor: Wiecking (Chairman)
Associate Professor: Jordan
Associate Clinical Professor: Blanke

Division of Pathology, McGuire V. A. Hospital

Professor: Cunningham (Chairman)
Associate Clinical Professors: Pearce; Schatzki

Division of Neuropathology

Professor: Rosenblum (Chairman)
Associate Professors: Hadfield; Martinez

Division of Surgical Pathology

Professors: Kay (Chairman); Frable
Assistant Professors: Fu; Heffelfinger; Martin

DEPARTMENT OF PEDIATRICS

Professors: Laupus (Chairman); Kendig; Mauck; McCue; Ownby; Young
Clinical Professors: Bundy; Hoffman, M.
Emeritus Professors: Jones, B.; Stone
Associate Professors: Bright; David; Draper; Mamunes; Massie; Maurer;
Spencer; Tingelstad
Associate Clinical Professor: Arnold
Assistant Professors: Bruch; Burde; Campbell; Eanes; McWilliams; Robertson; Stewart
Assistant Clinical Professors: Andrews; Bruch; Chalkley; Edmonds; Fisher; Hoffman, R.; King, N.; Hudgens; Moore; Overton; Pinkerton; Weinstein
Clinical Associates: Currie; Davis; Dwyer; Fidler; Johnston; Leverty; Lindemann; Thompson; Wilkerson
Clinical Instructors: Alpern; Austin; Barringer; Bones; Jamison; Jones, J.; Kern; King, A.; Kirchmier; Kuperminc; Lee; Lum; Rahal; Rivadeneira; Solomon; Wells; Wiley

DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION

Clinical Professor: Park
Emeritus Professor: Dawson
Associate Professors: Busza (Acting Chairman); LaFratta

Assistant Professors: Cohen; Langdale
Instructor: Bayer

DEPARTMENT OF PREVENTIVE MEDICINE

Professors: Spencer (Chairman); Jessee
Associate Clinical Professor: Nemuth
Assistant Professors: Brummer; Peeples
Lecturers: Graham; Harton; Hay; Leavell; Shanholtz

DEPARTMENT OF PSYCHIATRY

Professors: Mathis (Chairman); Arginteanu; Hoff; Kosbab; Silberman
Clinical Professors: Allerton; Bowen; Foster; Kriegman; Powers
Emeritus Professors: Drewry; Neale
Associate Professors: Butcher; Draper; Gomez; Harris; Merker; Mul-
laney; Schumann; Toker; Zalis
Associate Clinical Professors: Christian; Funkhouser; Kibbe; Longan;
Meiller; Novak; Schmidt; Shield; Stewart; Williams
Assistant Professors: Batchelder; Entin; Ferris; Griffin; Hauser; Hulburt;
Kemp; Paarfus; Resnick; Schulman; Smith; Strother; Tomsich; Wou-
ters
Assistant Clinical Professors: Barnes; Blankinship; Brooks; Centor; Cooke;
Fisher; Friedenberg; Gayle; Lindemann; McDonough; Repass; Sil-
verman; Sormus; Tingley; Vitols
Clinical Associates: Coates; Makarowsky; Saunders
Clinical Research Associate: Kriegman
Instructors: Davis; Edwards; Holland; Hunt; Nance; Parham; Reid;
Smith; Williams
Clinical Instructors: Fleisher; Haynes; Hyde; Hyer; Masri; Master;
Nunez; Paarfus; Shield; Williams

Division of Child Psychiatry

Associate Professor: Draper (Chairman)
Associate Clinical Professors: Meiller; Stewart
Assistant Professors: Batchelder; Griffin; Hauser; Kemp; Strother; Tom-
sich; Wouters
Assistant Clinical Professors: Lindemann; Repass

Division of Clinical Psychology

Professor: Arginteanu (Chairman)
Assistant Professors: Entin; Resnick; Schulman
Assistant Clinical Professors: Centor; Tingley
Clinical Associate: Kriegman

Division of Family and Social Psychiatry

Clinical Professor: Bowen (Chairman)

Associate Professor: Schumann

DEPARTMENT OF RADIOLOGY

Professors: Ranniger (Chairman); Hutton; King; Lippincott; Neal, Jr.; Sharpe; Stickley

Clinical Professor: Cimmino

Associate Professors: Eisenberg; Floyd; Glenn; Goodman; Haden; Montour; Rogers; Vines; Walton

Associate Clinical Professors: Fitch; Howell; Lundeen; Massey; Talley III; Thornhill; Vinik; Walker

Assistant Professors: Beachley; Fields; Fratkin; Howells; Kerneklian; Nooney; Royster; Strash; Williams; Wilson

Assistant Clinical Professors: Bredrup; Calkins; Galston; Hager; King, D.; Litchfield; Roberts; Savage; Southworth

Instructors: Bonstelle; Simmons

Clinical Instructors: Proffitt; Spencer; Winkler

Division of Diagnostic Radiology

Professors: Ranniger (Chairman); Hutton; Neal, Jr.

Clinical Professor: Cimmino

Associate Professors: Eisenberg; Floyd; Glenn; Goodman; Vines

Associate Clinical Professors: Fitch; Howell; Lundeen; Massey; Talley III; Thornhill; Vinik; Walker

Assistant Professors: Fields; Kerneklian; Williams

Assistant Clinical Professors: Bredrup; Calkins; Galston; Hager, Jr.; King, D.; Roberts; Savage; Southworth

Instructors: Bonstelle; Simmons

Clinical Instructors: Proffitt; Spencer; Winkler

Division of Nuclear Medicine

Professor: Sharpe (Chairman)

Assistant Professor: Fratkin

Associate Professor: Haden

Assistant Clinical Professor: Litchfield

Division of Radiation Physics

Professor: Stickley

Associate Professor: Walton (Chairman)

Assistant Professors: Howells; Nooney; Strash

Division of Radiation Therapy and Oncology

Professor: King (Chairman)

Associate Professor: Rogers

Assistant Professor: Royster

Division of Radiobiology

Professor: Lippincott (Chairman)

Associate Professor: Montour

Assistant Professor: Wilson

DEPARTMENT OF SURGERY

Professors: Hume (Chairman); Becker; Brooks; Haynes; Koontz; Lawrence; Lee, H. C.; Lee, H. M.; Lower; Salzberg

Clinical Professors: Bunts; Carpenter; Clary; Hoover; Smith; Trolan; Ulmer; Zimberg

Clinical Professor Emeritus: Tucker

Associate Professors: Bell; Boshier; Cohen; Hackler; McGuire; Newsome; Pierre; Smith; Terz; Theogaraj; Wolfe

Associate Clinical Professors: Butterworth, R. D.; Coxe; Deyerle; Gwathmey; Harrison; Hill; Johns; Markowitz; Natvig; Royster; Terrell; Williams

Assistant Professors: Fried; Kaplan; King; Texter; Wilson; Young

Assistant Clinical Professors: Bryson; Butterworth, J. F.; Butterworth, T. R.; Carter; Cherry; Coleman, C. C.; Coleman, C. L.; Conquest; Dalton; Davis; Eagles; Jackson; Kell, Jr.; Kendrick; McDowell; Nachman; Oates; Pancoast; Reid; Singer; Ware; Watts; Williams; Wright

Clinical Associates: Byrd; Chewing; Dodson, Jr.; Eastham; Gianoulis; Herring, Jr.; Hill; May; Peple, Jr.; Talman

Instructors: Childs; Dunstan; Halloran; Levinson; Shanfield; Thomas; F.; Thomas, J.

Clinical Instructors: Atwill; Beasley; Christie, Jr.; Davis; Drummond; Frederick; Hagan; Hakala; James; Johnson; Johnstone; Lublin; Mauck; Packer; Pilcher; Poulos; Rowland; Selph; Stuart; Velo; Watkins; Yancey

Division of Neurological Surgery

Professor: Becker (Chairman)

Clinical Professors: Troland; Ulmer

Associate Professor: Young

Assistant Professors: Fried; Wilson

Assistant Clinical Professors: Eagles; Kell; Kendrick; Singer; Wright

Clinical Instructors: Johnson; Velo

Division of Surgical Oncology

Professor: Lawrence (Chairman)

Associate Professor: Terz
Assistant Professors: Chakravorty; King

Division of Orthopedic Surgery

Clinical Professors: Carpenter; Clary; Hoover
Emeritus Professor: Tucker
Associate Professor: Elmore (Chairman)
Associate Clinical Professors: Butterworth; Deyerle
Assistant Clinical Professors: Butterworth, J.; Butterworth, T.; Dalton;
Davis; McDowell; Nachman
Clinical Associate: May
Instructor: Dunstan
Clinical Instructors: Clements; Hakala; James; Johnstone; Lublin; Mauck;
Packer; Pilcher; Watkins; Yancey

Division of Surgery, McGuire V. A. Hospital

Clinical Professor: Ulmer
Associate Professors: Wolf (Chairman); Bell
Assistant Professors: King; Thomas
Instructors: Halloran; Shanfield

Division of Pediatric Surgery

Professor: Salzberg (Chairman)

Division of Plastic and Reconstructive Surgery

Clinical Professor: Smith
Associate Professor: Cohen (Chairman)
Assistant Professors: Diegelmann; Theogaraj
Assistant Clinical Professors: Coleman; Jackson; Ware

Division of Thoracic and Cardiac Surgery

Professors: Lower (Chairman); Brooks
Associate Professor: Boshier, Jr.
Associate Clinical Professor: Johns
Assistant Clinical Professor: Gwathmey

Division of Urology

Professor: Koontz (Chairman)
Clinical Professor: Bunts
Associate Professor: Smith
Associate Clinical Professors: Dodson; Hill
Assistant Professor: Hackler
Assistant Clinical Professors: Pole; Texter
Clinical Instructors: Atwill; Frederick; Rowland; Selph; Stuart



SCHOOL OF DENTISTRY

ADMINISTRATIVE OFFICERS

John A. DiBiaggio, A.B., D.D.S., M.A.
Dean

Richard P. Elzay, B.S., D.D.S., M.S.D.
Assistant Dean for Academic Affairs

Raymond P. White, D.D.S., Ph.D.
Assistant Dean for Administrative Affairs

James H. Revere, Jr., B.A., D.D.S.
Director of Student Affairs

Samuel B. Russotto, B.A., D.D.S.
Coordinator of Patient Care

F. B. Wiebusch, B.B.A., D.D.S.
Director of Continuing Education

HISTORY

The MCV/VCU School of Dentistry was created in 1893 when the University College of Medicine opened with a dental department as one of its original divisions. The Medical College of Virginia inaugurated a dental education program in 1897, and in 1913 the two schools were merged to form the MCV School of Dentistry.

The facilities of the School of Dentistry are housed in the Wood Memorial Building and the Lyons Building. These modern buildings contain clinical facilities, classrooms, student laboratories, group study rooms with individual study alcoves, media library, departmental offices, and closed circuit color television studios with receiver units in laboratories and classrooms. The primary task of the School of Dentistry is the preparation of general practitioners, specialists, research workers, and teachers for the various aspects of dental service.

The program emphasizes the prevention of dental diseases, increased involvement in team activity, close correlation between clinical and basic sciences, greater involvement in extramural activities, and the creation of an environment which fosters learning and investigation.

Programs offered include those for dental students, graduate students in specialty areas, and essential auxiliary personnel.

The school provides opportunities for selected, qualified individuals to study dentistry under the most favorable conditions and in accordance with the standards established by the Council on Dental Education of the American Dental Association. The requirements for admission have the approval of the Virginia State Board of Dental Examiners and are acceptable to dental licensure boards of all other states and the District of Columbia.

The degree of doctor of dental surgery is awarded to graduates.

GOALS AND OBJECTIVES

The primary mission of this School of Dentistry shall be the preparation of qualified practitioners to meet the dental needs of the Commonwealth of Virginia, both today and in the years to come. The implications of this objective are extremely broad, since the demand for dental care is increasing at an alarming rate and MCV/VCU boasts the only school of dentistry in the State.

Since it is an accepted premise that the supply of practitioners shall never equal the demand for dental care as we know it today, emphasis in the curriculum must be directed toward other solutions to this pressing problem. Two basic approaches that should be considered are:

(1) Increased efficiency through the greater utilization of auxiliary personnel (the team approach).

(2) Reorientation of the philosophy of the school to place emphasis on the early diagnosis and prevention of dental disease, rather than on the treatment of its ultimate consequences.

In the past, considerable attention has been focused on the mastery of digital skills. Although it must be clearly understood that a dentist must be able to perform certain technical procedures, an overemphasis on this portion of the student's total educational experience can only result in a loss of opportunities to develop an appreciation for fundamental underlying concepts. Further, early exposure to clinical circumstances has been shown to be extremely advantageous and without damaging repercussions to patients. Should such experiences occur early in the student's career, more time could be devoted to academic pursuits in the upper classes.

Careful consideration must also be given to enhancing the correlation of basic and clinical science teaching. All courses, both in the basic and clinical sciences, must be critically analyzed in regard to content, in order to assure that the student derives maximum benefit from the time he devotes to his studies.

The memorization of facts no longer has a valid purpose within the curriculum. Since vast cultural and scientific changes are occurring within a single lifetime (for the first time in history), and since the half life of knowledge is now considered to be no more than 10 years, the direction of education must be refocused on teaching the student to learn to learn. In this manner, the graduate can devote an entire lifetime to personal growth, both to his advantage and to the benefit of the patients for whom he accepts responsibility. De-emphasis on traditional lectures should be accomplished, with a concurrent emphasis on reading, seminars, and the use of self-study aids. Understanding of concepts must replace regurgitation of facts.

Increased attention to disciplines involving a population that is living longer should also be considered. Periodontal disease will certainly be more important than caries in the future. Oral neoplasms are far more

common in the elderly than in the young. Thus, diagnostic skill and ability to construct maxillo-facial prosthesis will become more critical. The increasing demand for the replacement of teeth with fixed and removable partial prosthesis by an enlightened populace requires the student have a fundamental understanding of occlusion. Hopefully, the demand for complete prostheses will decrease.

Involvement of the student in a hospital atmosphere must also be considered. The evolution of group practices, involving not only the various disciplines of dentistry, but also related specialties of medicine, appears to be on the horizon. Preparation for such an eventuality is paramount.

Larger numbers of auxiliary personnel of every type must be produced. Training in expanded duties for auxiliaries must be instituted, as well as programs to orient students and practitioners to the utilization of individuals with such additional skills. Consideration might be given to the creation of an entirely new auxiliary person, perhaps entitled an oral therapist.

Finally, the need to create an awareness in the student of the environment that surrounds him must be a major objective of the school. This can be best accomplished by exposing the student to extramural experiences, where he is confronted with harsh realities of the society in which he must function. Such experiences must involve a spectrum of situations, so that the student does not become overly complacent or cynical.

In summary, the mission of the school to prepare qualified practitioners for the Commonwealth can best be accomplished through the following activities:

- (1) An emphasis on the understanding of concepts, rather than on the memorization of facts.

- (2) A reorientation of the philosophy of the school to emphasize prevention rather than treatment.

- (3) An integrated program leading to a close correlation between clinical and basic sciences.

- (4) An open free teaching environment where the student is given the opportunity to interact with the instructor and his peers.

- (5) An increased focus on the team approach, fully utilizing all auxiliaries.

- (6) A greater involvement in extramural activities, including hospital and community experiences.

- (7) A reassessment of teaching areas, in order to assure exposure of students to concepts applicable to the practice of tomorrow.

The school must also assume the further responsibilities of providing advanced education experiences for the practicing dentists, exploring means of improving services and teaching, and pursuing research in the various aspects of dental health.

FINANCIAL ASSISTANCE

The School of Dentistry makes a sincere effort to see that qualified students are not denied admission because of their lack of funds. These efforts are continued after admission should a student's financial circumstances preclude his remaining in the school.

A full-time financial aid officer works with students in all schools. His efforts include assistance in obtaining loans and scholarships, help in finding part-time work, and counseling on financial problems.

The Health Professions Student Loan Program, Health Professions Student Scholarship Program, Rural Virginia Dental Scholarships, American Fund for Dental Education, and local college funds are designed to give financial aid to students undertaking the course of study required for dentistry.

Full information on financial assistance is carried in a pamphlet, *Financial Assistance for Students*, which may be obtained by request to the Financial Aid Office, MCV Campus, Virginia Commonwealth University, MCV Station, P.O. Box 244, Richmond, Virginia 23298.

HONORS

The School of Dentistry has a chapter of Omicron Kappa Upsilon, the national dental honorary dental society. Each year the society selects those students, who in addition to scholarship, have demonstrated exemplary traits of character and potential qualities of future professional growth and attainments.

A certain percentage of junior and senior students are selected each year to become members of Sigma Zeta and Alpha Sigma Chi, honorary scientific societies.

The Alpha Omega Scholarship Award is presented to the graduating student who has attained the highest scholastic rating for his four years of dental study.

These and other awards are presented at an honors convocation which is held at the end of the academic year.

A. D. Williams Award. An annual stipend may be made, on the nomination of the faculty, to a student in each class who demonstrates by virtue of high scholastic attainment and professional performance unusual promise and ability. Character, motivation, intellectual curiosity, and realization of the opportunities for intellectual development will be considered in the award which is made at the end of the academic year.

Yingling-Lyons Senior Achievement Award. Gifts to the institution at the time of the marriage of Dean Doris B. Yingling of the School of Nursing and Dean Harry Lyons of the School of Dentistry were used to establish an annual award in their names to be made to a senior student in the schools of nursing and dentistry, based on recognition of outstanding leadership ability and potential professional growth as determined by a selection committee of faculty and students.

ORAL PATHOLOGY RESIDENCY and GRADUATE TRAINING

The School of Dentistry offers a postgraduate and graduate program in orthodontics and residency programs in oral surgery and oral pathology, to train interested, qualified individuals to become competent researchers in biological sciences, teachers, and/or practicing specialists.

Training is divided into two interlocking phases. The first phase, following the guidelines of the American Council on Dental Education as endorsed by the ABOP and AAOP, is designed to develop an individual's competency in oral pathology. The major emphasis of the second phase is on research experience and training in one of the basic sciences (anatomy, biochemistry, pharmacology, physiology, microbiology). To this end the trainee becomes accepted as a candidate for an advanced degree (M.S. or Ph.D.) in one of the basic sciences and simultaneously completes a residency program in pathology. The latter satisfies requirements for board eligibility of the ABOP. The course outline for graduate students is worked out jointly by the chairman of the selected basic science department and the graduate advisors for pathology training. The final course plan is subject to approval by the dean of the graduate school. Applicants are eligible, if accepted, for annual stipend and clinical fellowship on a competitive basis.

ORAL SURGERY INTERNSHIP/RESIDENCY

The oral surgery postgraduate training is designed to include three interns, three assistant residents, and three residents. Residents of this program who have fulfilled the requirements of the program will be eligible for the examination of the American Board of Oral Surgery.

Didactic material is given over a three-year period at staggered intervals and includes anatomy, oral pathology, physiology, physical diagnosis, anesthesia, and other related areas. Courses in oral pathology, given over a three-year period, are for credit in the graduate school. Arrangements can be made for other courses to be applied as graduate credit.

All courses are supplemented by specific short-term concentrated seminars in other allied fields. In addition, there is a constant correlation of the trainee's clinical experience during the three-year training with ever-increasing responsibilities related to the clinical material available.

The oral surgery service is responsible for all diseases related to the oral cavity and its associated structure, including full responsibility for facial trauma as it relates to the mandible and maxilla. In addition, interns spend two months full time on the surgical oncology service where they are oriented in the problems of oral malignancy and the total care of the patient. The assistant residents and residents act as consultants to this department and are involved in all cases related to head and neck oncology. The oral surgery service is responsible in many cases for the reconstruction of these patients following initial surgery.

There is an excellent working agreement with the dental school where the oral surgery service secures a considerable amount of its mate-

rial, particularly in areas of facial deformities, prosthetic surgery, and other specialized areas. As more experience is developed, the resident staff is responsible for some teaching of the undergraduate.

Trainees are accepted for the program according to suggestions by the Council on Dental Education and the American Board of Oral Surgery. A research project, however, is not mandatory but is desirable, depending upon the trainee's interest, abilities, and time.

ORTHODONTICS

This postgraduate program is for 21 months beginning each July and is completed in March of the second year. The curriculum includes courses in anatomy, genetics, oral pathology, and statistics, as well as facial growth and theoretical and clinical orthodontics given in the Department of Orthodontics. The primary emphasis for this certificate program is on clinical competence and includes coordination of treatment with plastic and oral surgery.

A graduate program is available also which requires approximately 33 months to complete. In addition to a certificate in orthodontics, this program leads to a master's degree in one of the basic sciences. The curriculum is designed for each individual by the Orthodontic Department and the basic science department concerned.

DIVISION OF CONTINUING EDUCATION

F. B. Wiebusch, D.D.S.
Director of Continuing Education

For every professional person who serves the health sciences, education must be a lifetime process.

Graduation from dental school is the beginning of a continuous educational experience for the serious, conscientious student of dentistry. Regardless of how well-prepared a professional person may be at the time he completes his education, the adequate knowledge of yesterday is often insufficient information for today and tomorrow. With the rapid advancements made in dental concepts and technics, the professional person must constantly seek new knowledge if he is to improve the health care he gives his patients.

Although the majority of continuing education courses are presented at the School of Dentistry, some offerings are given in other locations. The courses, which vary in length from one day to three days, are scheduled from August through June and consist of a variety of instructional methods—from didactic and television presentations to the individual's participation in clinical procedures.

The instructional staff for these endeavors is comprised of teachers from the MCV/VCU School of Dentistry, guest lecturers from other dental schools, and members of the dental profession and related professions in the state of Virginia.

ADMISSIONS REQUIREMENTS

Admissions to the School of Dentistry is sought by many more persons than the educational facilities can accommodate. Approximately 110 first-year students will be enrolled.

The task of the Admissions Committee is to select those applicants whose academic background, motivation, and personal characteristics indicate the highest probability of successful completion of the curriculum and development as a dental practitioner.

Every applicant must complete a minimum of at least two years of pre-professional education. Applicants with three or four years of undergraduate study are considered to be better prepared than those with minimal preparation; however, exceptional two-year applicants will be considered.

Each applicant's record will be evaluated on its own merit; however, it is recommended that the pre-dental program include biology, organic chemistry, physics, English, and courses in the behavioral sciences. The quality of courses taken and the performance in such courses will be considered. Each applicant is encouraged to pursue areas of interest beyond the introductory level. Laboratory work should be included in those courses where applicable. The student should select subjects that challenge him to maximum performance and contribute to his overall development and maturation.

Credits must be earned in a college of liberal arts and sciences that is fully accredited by the Association of American Universities or by a regional accrediting agency.

Academic credits presented by an applicant must be acceptable for credit toward a baccalaureate degree in the institution in which the courses were taken.

Academic credits for admission should be earned by June preceding the desired September admission date.

Evaluations from instructors and advisors or pre-dental committees and the Dental Admissions Test of the American Dental Association are required. It is strongly recommended that applicants take the Dental Admission Test in October preceding the desired September admission date.

In order to acquaint the applicant with the program and facilities of the school, a personal interview by previously arranged appointment may be requested. This permits the candidate to present personal information of value to the committee and also provides the opportunity for members of the Admissions Committee to appraise the applicant.

Virginia Commonwealth University is a state-supported institution and therefore gives admission preference to qualified Virginians. A limited number of well-qualified non-Virginians may be admitted each year.

PROCEDURES

The School of Dentistry participates in the American Association of Dental Schools Application Service. All applicants are required to submit

credentials through this service. Information may be obtained from our admissions office or from AADSAS, P. O. Box 1003, Iowa City, Iowa 52240. Application forms are generally available after May 1 and should be filed for processing between June 1 and January 15 in the year preceding the desired September admission date.

Upon receipt, the credentials from AADSAS on each applicant are reviewed by the Admissions Committee. Applicants will be written in regard to submitting the additional required forms and procedures.

On being notified of his appointment to the entering class, the applicant is required to pay a deposit of \$200 on tuition for the first year. This fee may not be refunded. Authorization to matriculate constitutes an agreement for the reservation of a place in the class entering for the session cited.

The act of matriculation implies a willingness on the part of the student to comply with university rules and regulations, to take an interest in maintaining the ideals of the institution, and to conduct himself in a manner befitting members of the profession he seeks to enter.

For further details regarding the dental curriculum contact: Chairman, Admissions Committee, MCV Campus, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. Telephone: 770-4501.

For application information contact: Dean of Admission, MCV Campus, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. Telephone: 770-4888.

CURRICULUM

FIRST YEAR	Sem. Hr.	Oral Pathology	Sem. Hr.	General Dentistry	Sem. Hr.
		Survey I & II.....	1	Clinic	3
Biochemistry	5	Physiology	5	Microbiology	5
Dental Anatomy	5			Oral Surgery I.....	1
Restorative Dentistry I	3	SECOND YEAR		Orthodontics	3
Environment of the		Academic Pathology.	6	Pain Control	2
Dental Profession ..	3	Anatomy and Physi-		Pediatric Dentistry...	2½
Epidemiology and		ology of the Perio-		Principles of Occlusal	
Prevention of		dontium in Health		Diagnosis, Analysis,	
Dental Disease	3	and Disease	1	Treatment Planning,	
Genetics	1	Basic Oral Pathology.	3	and Occlusal Ad-	
Gross Anatomy	7½	Clinical Diagnosis ...	1	justment	2
Introduction to Facial		Complete Denture		Principles of Occlu-	
Growth and		Prosthodontics	3	sion	2
Development	2	Dental Auxiliary		Professional Develop-	
Introduction to Occlu-		Utilization	1	ment	4
sal Diagnosis and		Restorative Dentis-			
Principles of		try II	10	THIRD YEAR	Sem. Hr.
Articulation	2	Endodontics	1	Admittance Clinic ...	2
Introduction to Prin-		Etiology & Epidemi-		Clinical Periodontics .	3
ciples of Occlusion.	2	ology of Periodon-		Complete Denture	
Microscopic Anatomy	6	tal Disease	1	Prosthodontics	6
Neurosciences	4				

Departments and Divisions of Instruction

Some courses in the School of Dentistry are taught in blocks of time which do not lend themselves to identification by lecture or laboratory hours per week. In lieu of this the hours in those courses are identified by total hours taught.

Division of Oral Surgery

Professors: Bear (Chairman); Heartwell (Maxillofacial Prosthodontics);
White

Clinical Professor: Smith

Associate Clinical Professor: Peters

Assistant Professor: Joy

Assistant Clinical Professors: Bissell; Clough; Cuttino; Green; Malbon;
Smilek

- ORS 521. Pain Control.** LH-2; Lab H-9 total; I. The course presents didactic material relative to inhalation and intravenous sedation along with pre-operative medication and local anesthesia. The student is prepared to adequately control pre-operative, in-operative, and post-operative pain.
- ORS 522. Oral Surgery I.** LH-1; II. The course is designed to present didactic material relative to the basic concepts of oral surgery, including emergency care, the removal of eruptive teeth, preparation of the mouth for a prosthesis, and the diagnosis and treatment of uncomplicated oral surgical procedures.
- ORS 533. Oral Surgery II.** LH-1; Cl H-30 total; I & II. Lecture and clinical course on the detailed principles and techniques of oral surgery. Oral surgical procedures will be discussed covering the full scope of the discipline in the office and hospital clinical assignments designed to improve the student's surgical skill, and diagnostic abilities will be made in the school clinical and hospital outpatient clinic.
- ORS 543. Oral Surgery III.** LH-2; ClH-60 total; I, II. Clinical experience will be provided as an extern in the hospital oral surgery service for a full week. Additional clinical experiences will be had on one of several ambulatory clinics. Elective seminar sessions, designed to evaluate current concepts and to improve the student's diagnostic and clinical acumen will be offered to complement their clinical experiences.

DEPARTMENT OF MEDICINE

Professor: Porter & staff

- MED 531. Principles of Medicine.** LH-1; I. A study of the symptoms and signs of the more common diseases and important therapeutic principles.

DEPARTMENT OF ORAL PATHOLOGY

Professors: Elzay (Chairman); Syrop
Director, Division of Admissions Clinic: Abbey
Director, Division of Dental Records: Syrop
Associate Clinical Professors: Filipowicz; Richardson
Assistant Professors: Abbey; Russotto; Sweeney
Assistant Clinical Professors: Baroody; Large; Levin; Quisenberry; White

- ORP 511. Survey—Part I.** LH-7 total; I. A lecture-demonstration course covering the fundamentals of radiology as applied to dental practice, emphasizing principles of radiation, techniques of producing intraoral radiographs, and interpretation of normal structures.
- ORP 515. Survey—Part II.** LH-7 total; I. This course is designed to acquaint the student with oral and paraoral examination procedures.
- ORP 522. Basic Oral Pathology.** LH-2; Lab H-2; II. A study of the histomorphologic, clinical, and radiographic manifestations of diseases of the hard and soft oral and paraoral tissues.
- ORP 521. Clinical Diagnosis.** LH-1; I. The course is designed to acquaint the student with scientific method of solving clinical diagnostic problems.
- ORP 531. Oral Diagnosis.** LH-1; I. A study of the diagnosis of clinical processes in dental and oral disease.
- ORP 551. Oral Pathology Conference.** LH-1; I. A basic review of pathology and diagnostic method. A guest lecture series is included within the course.
- ORP 543. Tumor Board.** LH-7 total; I, II. Attendance of Tumor Board offers student an opportunity to visualize and palpate various forms of malignancy. Modality of treatment and prognosis are discussed.
- ORP 541. Oncology.** LH-1; I. This course reviews all aspects of oncology viewed from a multidisciplinary approach. Lecturers include a surgical pathologist, medical oncologist, radiotherapists, a surgeon, and a maxillofacial prosthodontist.
- ORP 539. Admittance Clinic.** Cl H-30; on assignment.
- ORP 549. Admittance Clinic.** Cl H-30; on assignment.

DEPARTMENT OF REMOVABLE PROSTHODONTICS

Professor: Bell (Chairman)
Assistant Professors: Cartledge; Finnegan; Lund; Revere; Stone
Assistant Clinical Professors: Eubank; Gayle; Hunter; Pearson; Rankin;
Spillers; Woods
Instructor: Saroff

- REP 522. Complete Denture Prosthodontics.** LH-1; Lab H-4; II. A didactic and laboratory course presenting the concepts and techniques related to complete denture construction. The last six weeks of the course will include an introduction to clinical procedures.
- REP 531. Removable Partial Denture Prosthodontics I.** LH-1; Lab H-4; I. A

didactic and laboratory course in the basic concepts and techniques related to the design and construction of clasp, removable partial dentures. The course also includes instruction in the use of written work authorization and on introduction to clinical procedures.

REP 533. Complete Denture Prosthodontics I, II. LH-1; Cl H-4; I, II. In this course the student will make a clinical application of the arts and sciences in the examination, diagnosis, treatment design, and treatment of patients needing complete dentures.

REP 543. Removable Partial Denture Prosthodontics II. LH-1; Cl H-6; I, II. This is a clinic course in which the students treat patients needing removable partial dentures. The student will (1) make an examination and diagnosis; (2) develop a treatment outline to include: (a) design of the partial denture; (b) necessary mouth preparations; and (3) execute all clinical procedures leading to the insertion of a prosthetic restoration.

DEPARTMENT OF ORTHODONTICS

Professor: McIver (Chairman)

Associate Professor: Kuftinec

Assistant Professor: Green

Assistant Clinical Professors: Brown; Hamer

Clinical Instructors: Cavedo; Comer; Gills; LeHew; Williams

ORT 523. Orthodontics. LH-1; Lab H-1; I, II. This second year course deals primarily with facial and dental growth. The laboratory develops the skill in the use of the materials used in the construction of orthodontic appliances. The implication for treatment indications are demonstrated where appropriate. Both normal and abnormal dentofacial development is included. Problems of the developing dental occlusion is stressed.

ORT 533. Orthodontics. LH-1; Cl H-1; I, II. These lectures deal with the diagnosis and treatment of dental malocclusion. Factors of growth and disease will be discussed so the student may acquire judgment regarding the dichotomy between problems that are treatable by early preventive or interceptive intervention and those which require extensive corrective treatment. The clinic is for the diagnosis, classification, and planning of treatment for prospective orthodontic patients.

ORT 541. Orthodontics. LH-1; Cl. H-1; I. The various appliances and methods of correction utilized by orthodontists are discussed. The treatment of patients requiring the coordinated application of several medical and dental specialties are demonstrated. The clinic is a continuation of the clinic started in the third year.

DEPARTMENT OF ENDODONTICS

Professor: Knighton

Associate Professor: England (Acting Chairman)

Assistant Clinical Professors: Bussey; Haber; Hodges; Lance; Miller; Radcliffe; Sanders; Williams

END 522. Endodontics. LH-6 total; Lab H-14 total; II. A study of the prevention, diagnosis, and treatment of injuries and diseases of the dental pulp and periapical tissues.

- END 533. Endodontics.** LH-15 total; Cl. H-20; I, II. A study of the prevention, diagnosis, and treatment of diseases and injuries of the dental pulp and periapical tissues.
- END 543. Endodontics.** Cl. H-30 total; I, II. A study of the prevention, diagnosis, and treatment of diseases and injuries of the dental pulp and periapical tissues.

DEPARTMENT OF GENERAL AND PREVENTIVE DENTISTRY

Associate Professor: Fishman

Assistant Professors: Cheney (Chairman); Trificana; Wittemann

Clinical Instructors: Ortiz; Thomas

- GPD 511. Environment of the Dental Profession.** LH-3; I. An overview of the dental profession is presented covering the (1) service nature of the profession, (2) the social nature of the profession, and (3) the scientific nature of the profession.
- GPD 512. Epidemiology and Prevention of Dental Disease.** LH-3; Cl H-1; II. Didactic, clinical, and field experiences providing the scientific aspect of the study of dental disease through epidemiology and also showing where and how dentistry can prevent and control dental diseases.
- GPD 523. Professional Development.** LH-3 I; LH-1 II. The Seminar on Professional Development investigates the principles and dynamics of the human relationship in dentistry. Through lecture, discussion, and clinical experience, it analyzes the psychological and social components of this relationship and how they help or hinder dentistry. The seminar focuses on the student's developing self-concept, and his relationship with his colleagues and patients.
- GPD 529. General Dentistry Clinic.** Cl. H-3; I, II. Students acquire an early clinic experience by having a general dentistry practice with emphasis on the prevention and control of dental diseases.

DEPARTMENT OF PEDODONTICS

Assistant Professors: Bender (Acting Chairman); Currier

Assistant Clinical Professors: Heltzel; Horwitz; Price; Shocket

Clinical Instructor: Kayatta

- PED 523. Pediatric Dentistry.** LH-1; Cl H-2; I, II. Introduction to physical and mental growth and development of the child and adolescent; oral diagnosis and treatment planning, emphasis on preventive measures; pediatric restorative dentistry, pulp therapy, oral surgery, and radiography.
- PED 533. Pediatric Dentistry.** LH-2; Cl H-4; I, II. A survey of physical and mental growth and development of the child and adolescent; oral diagnosis, and treatment planning, emphasis on preventive measures; pediatric restorative dentistry, pulp therapy, oral surgery, and radiography; injuries to teeth; interceptive orthodontics; anomalies of the dentition; inpatient vs. outpatient care; treatment of the handicapped and chronically ill child and adolescent.
- PED 543. Pediatric Dentistry.** LH-1; Cl H-3; I, II. A review and correlation to private practice of pediatric diagnosis and treatment planning, preventive-restorative-orthodontic-surgical pediatric services, normal vs. abnormal behavior of the child, parent, and doctor; difficult management areas; inpatient vs. outpatient services.

DEPARTMENT OF PERIODONTICS

Associate Professors: Kennedy (Chairman); Ormes; Ranney

Associate Clinical Professors: Maynard; Wilson

Assistant Professors: Allen; Bird; Ziegler

Assistant Clinical Professors: Armistead; Blanchard; Peskin; Singdahlsen;
Varoscak

Clinical Instructor: Weddle

- PER 521. Anatomy and Physiology of the Periodontium in Health and Disease.** LH-1; I. The goal of this portion of the didactic curriculum in periodontics is to provide the student an opportunity to acquire a knowledge and understanding of the biology and pathologic-physiology of the periodontium. The clinical, radiographic, and microscopic features of periodontal diseases are presented.
- PER 522. Etiology and Epidemiology of Periodontal Disease.** LH-1; II. The student is provided an opportunity to acquire present understanding of the etiology of periodontal disease and the role which bacterial, host, iatrogenic, etc., factors may play. The various indices used to assess periodontal disease and the epidemiologic characteristics of periodontal diseases are also presented.
- PER 531. Periodontal Therapy.** LH-2; I, PR: PER 521 & 522. This segment of the didactic curriculum will provide the student an opportunity to acquire a knowledge of the principals of periodontal therapy. Examination, diagnosis, treatment planning, plaque control, nonsurgical and surgical therapy relative to periodontal diseases will be presented.
- PER 532. Periodontal Therapy.** LH-2; II, PR: PER 521, 522, 531. This course is a continuation of PER 531 and will deal with osseous surgery and grafts and orthodontics, splinting and occlusal adjustment as part of periodontal therapy. Emphasis will be placed on the relationship between periodontics and restorative dentistry.
- PER 539. PER 549. Clinical Periodontics.** Cl H-3; I, II. The opportunity is provided during the junior and senior years to gain practical experience in treating patients with periodontal disease. Each student is expected to complete approximately six cases of varying severity.
- PER 551. Special Topics in Periodontics.** LH-1; I. This course is a seminar elective designed to provide the student an opportunity to pursue topics of special interest. The exact course content is determined by the desires of the students. In addition to presentations by staff members, students will prepare special topics through literature review or prearranged clinical activity.
- PER 553. Periodontal Prosthesis.** LH-1; Cl H-3; I, II. This course is an elective available to a limited number of senior students who have already demonstrated proficiency in periodontics and restorative dentistry. It provides the student an opportunity to perform complex restorative procedures for patients with advanced periodontal disease.

Division of Team Programs

Director, Division of TEAM Programs: Harper (Assistant Professor)

Instructor: Pribisco

Clinical Instructors: Best; Gilliam; Thomas

- DTP 521. Dental Auxiliary Utilization.** LH-8 total; I. A study of the inter-relationships of the dentist with dental auxiliaries. Special emphasis is placed on the utilization of a full-time, chair-side dental assistant.
- DTP 542. Practice Management.** LH-2; II. A lecture course designed to give the student a basic understanding of the management of a dental practice. Most of the presentations are given by visiting lecturers who are knowledgeable in a specific area of practice management.

DEPARTMENT OF RESTORATIVE DENTISTRY

Professors: Crockett (Acting Chairman); Burke; DiBiaggio; Fore; Modjeski; Reynolds
 Director, Division of Crown & Bridge-Prosthodontics: Eshleman
 Director, Division of Occlusion: Reynolds
 Director, Division of Operative Dentistry: Crockett
 Associate Professor: Eshleman
 Assistant Professors: Edwards; Grigsby; Hudson; Jones; Moon; Shepard; Strickler; Wirth
 Assistant Clinical Professors: Beall; Evens; Fitzhugh; Flippen; Hubbard; Morgan; Rogers
 Instructor: Douglas
 Clinical Instructors: Best; Covington; Cox; Deal; Duff; Gilliam; Huband; Jenkins; Perkinson; Rice; Richardson; Smith; Steiner; Webb; Wright; Zachman

- RED 511. Dental Anatomy.** LH-3½; Lab H-3; I. A didactic and laboratory study of the morphology of the human dentition and its related structures. An introductory study of dental materials and occlusion.
- RED 512. Restorative Dentistry I.** LH-1½; Lab H-2½; II. A didactic and laboratory course dealing with caries and the design and insertion of single surface restorations. The dental materials pertinent to this course area also studied.
- RED 514. Introduction to Principles of Occlusion.** LH-1; Lab H-2; II. A didactic and laboratory course that introduces the various factors involved in the occlusion of natural teeth, the principles of an arrangement of optimum occlusion, and technical exercises to develop quadrants of posterior teeth to occlude in an optimum manner with an opposing natural dentition.
- RED 513. Introduction to Occlusal Diagnosis and Principles of Articulation.** LH-1; Lab H-1; Cl H-1; I, II. A didactic, clinical and laboratory course of the procedures involved in the fabrication of models of dental arches, the articulation of dental models, and the manipulation of a dental articulator and its accessories.
- RED 523. Restorative Dentistry II.** LH-2; Lab H-6; Cl H-6 (for advanced students); I, II. The didactic portion consists of theory and concepts related to prevention, diagnosis and treatment planning, and the restoration of the dentition. The laboratory phase provides experiences in the preparation and restoration of teeth and the fabrication of fixed prosthesis. The clinical experiences are limited to plaque control and single-tooth restorative procedures.

- RED 521. Principles of Occlusion.** LH-1; Lab H-2; I. The didactic phase correlates the functional activities of the oral cavity with the occlusion of teeth, oral-facial anatomy, mandibular movements, and neuro-muscular physiology. The laboratory exercises provide experiences in developing an optimum occlusal relationship between anterior and posterior teeth, and the occlusion of teeth.
- RED 522. Principles of Occlusal Diagnosis, Analysis, Treatment Planning, and Occlusal Adjustment.** LH-½; Lab H-¾, Cl H-¾; II. The laboratory exercises provide experiences in a technique of occlusal adjustment and related appliance fabrication. The clinical exercises consist of experiences in oral-facial examination procedures related to occlusal diagnosis. The didactic phase consists of material that correlates the laboratory and clinical activities.
- RED 533. Restorative Dentistry III.** LH(1)-2; LH(II)-1; Cl H-7 ½; I, II. The series of lectures will concentrate on more advanced diagnosis and treatment planning as related to restorative dentistry and the entire scope of dentistry. In the dental clinic, each student will gain experiences in planning performing treatments for clinical patients.
- RED 543. Restorative Dentistry IV.** Cl H-7 ½; I, II. The course includes clinical experiences in diagnosing, treatment planning, and the performance of restorative treatments on clinical patients. Generally, more advanced cases are treated in this year. Elective seminars in restorative dentistry and dental materials are offered.

DEPARTMENT OF LEGAL MEDICINE

Professor: Wielking & staff

- LEM 542. Dental Jurisprudence.** LH-1; II. To acquaint the dentist with the law affecting patient care, the areas of liability, and how the practicing dentist can aid in the administration of justice; to stress the need of concept maintaining good accurate dental records, and the testimony of the dentist as a defendant.

Division of Dental Hygiene

The Division of Dental Hygiene instituted in 1969 offers courses at the School of Dentistry leading to a bachelor of science degree in dental hygiene. The program requires two years of liberal arts study, with a minimum of 60 semester hours, followed by two years of study in dental hygiene. The Division of Dental Hygiene is accredited by the Council on Dental Education of the American Dental Association. Upon successful completion of the program, graduates will be eligible for national, regional, and state board licensure examinations.

PHILOSOPHY AND GENERAL OBJECTIVES

The dental hygiene program is set within the framework of the general aim of the university: to provide opportunities for students to develop understanding, imagination, and skills enabling them to assume places of leadership in a rapidly expanding modern urban society.

The objectives of the baccalaureate degree program in dental hygiene are to:

1. Develop a high degree of scientific knowledge, skill, and judgment in preparing individuals to assume professional responsibility as members of the dental health team in private office practice, public health, and education.
2. Contribute toward personal growth and self-development in preparation for assuming responsibilities and leadership as members of a health profession and as citizens in a complex society.
3. Provide a solid foundation for study on the graduate level (dental hygiene education, public health, education, basic science).

HONORS AND AWARDS

Sigma Phi Alpha, National Dental Hygiene Honor Society. Senior dental hygiene students are elected to membership who rank highest in scholarship and character and exhibit potential qualities for future growth and attainment as recommended by faculty members. Membership is limited to 10 percent of the graduating class and are selected from the upper 20 percent of the class. If 10 percent of the class is fewer than 2, a maximum of 2 seniors may be elected.

Virginia Dental Hygienists' Association Award. An annual award is made to one graduating senior and is based on the student's scholastic ability, clinical proficiency, and professional contributions. A one-year membership in the American Dental Hygienists' Association and a certificate are presented to the selected student and the individual's name is engraved on the school plaque.

A. D. Williams Award. An annual stipend may be made, on the nomination of the faculty, to a student in each class who demonstrates by virtue of high scholastic attainment and professional performance unusual promise and ability. Character, motivation, intellectual curiosity, and realization of the opportunities for intellectual development will be considered in the award which is made at the end of the academic year.

FINANCIAL AID

Scholarships are available through the American Dental Hygienists' Association, the Women's Auxiliary to the Virginia Dental Association, the Women's Auxiliary to the Richmond Dental Society, and the Virginia State Department of Health. Additional aid is available through the Virginia Dental Association, the Virginia Dental Hygienists' Association and American Dental Hygienists' Association loan funds, and the financial aid office on the MCV Campus of VCU. (Full information on financial aid is available upon request from the: Financial Aid Officer, MCV Campus, Virginia Commonwealth University, MCV Station, P. O. Box 244, Richmond, Virginia 23298.)

Dental hygiene students qualify for the National Defense Student Loan Program and the Veterans Administration Benefits.

ADMISSION REQUIREMENTS

Two years of liberal arts study with a minimum of 60 semester hours of transferable quality academic courses are required.

A. Courses

1. Specific

- a. English—1 year
- b. Biology—1 year
- c. General Chemistry—1 year
- d. Introductory Sociology
- e. Introductory Psychology
- f. Introductory Speech

2. Approved electives fulfilling the distribution requirements of the liberal arts college or university currently attending (such as anthropology, economics, foreign language, fine arts, history, physics, philosophy, mathematics, political science).

B. At least a C average must be earned for all work undertaken.

C. Applicants should take the Dental Hygiene Aptitude Test before applying for admission.

D. Dental and medical examinations required prior to matriculation must indicate good general health and a satisfactory dental condition.

E. Prospective applicants are expected to visit the Division of Dental Hygiene prior to admission.

For further details regarding the dental hygiene program contact: Director, Division of Dental Hygiene, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. Telephone: (703) 770-4506.

For application information contact: Dean of Admissions, MCV Campus, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298. Telephone: (703) 770-4888.

GRADUATION REQUIREMENTS

A minimum over-all grade point average of C.

A current American Red Cross Standard or Advanced First Aid Certificate.

Satisfactory completion of all required courses at VCU.

Attendance at the commencement exercises unless excused by the dean in writing and approved by the vice-president for health sciences.

All fees and financial obligations paid to the university.

CURRICULUM

The dental hygiene program includes study of the basic, dental, and clinical sciences through lecture, laboratory, clinical, and community experiences.

THIRD YEAR

Fall Semester	Hr.	Spring Semester	Hr.
Health Sciences I—361.....	7	Head & Neck Anatomy.....	3
Infections & Immunity—351.....	3	General & Oral Pathology.....	3
Dental Morphology	2	Dental Materials	2
Oral Histology & Embryology.....	1	Pedodontics I	2
Dental Hygiene I.....	4	Community Dental Health.....	2
	—	Dental Hygiene II	6
	17		—
			18

FOURTH YEAR

Fall Semester	Hr.	Spring Semester	Hr.
Pharmacology	4	Community Dental Health III.....	2
Pain Control	2	Dental Hygiene IV.....	6
Periodontics II	2	Principles of Practice, Ethics, &	
Introduction to Dental Specialties... 2		Jurisprudence	2
Community Dental Health II.....	2	Electives	6
Dental Hygiene III.....	4		—
	—		16
	16		

Division of Dental Hygiene

Assistant Professors: Dinius (Director); Oldsen

Instructors: Line; Pellegrini

Clinical Instructors: Guthrie; McGrann

BAS 351. Infections & Immunity. LH-2, Lab H-3, I. A study of infectious diseases of man with emphasis on the distribution, properties and roles of pathogenic microorganisms and various responses of the host. Principles of prevention, control, and chemotherapy of infectious diseases will be major components of the study. Microbiological techniques and special topics, as they relate to dental hygiene practice, will be evaluated in laboratory exercises and conferences.

BAS 361. Health Science I. I. LH-6, Lab H-3, SH-7. An interdepartmental course which provides the nursing or dental hygiene student with a basic understanding of anatomy, physiology, nutrition and biochemistry for use in future courses or as a starting point for more advanced study. The didactic part of the course is supplemented by weekly laboratory sessions for the study of microscopic and gross anatomy using human fetal cadavers and the observation and use of equipment for measuring physiological activity in living animals including the dog.

RED 302. Dental Materials. LH-1, Lab H-3, II. A study of the composition, uses, preparation, and manipulation of materials used in restorative dentistry.

- PER 522. Periodontics I.** LH-2, II. The study of the biology and pathologic physiology of the periodontium. Clinical, radiographic, and microscopic features of periodontal diseases. The etiology of periodontal disease and the role which bacterial, host iatrogenic, etc., factors may play are given. Various indices for assessing periodontal disease and epidemiologic characteristics of periodontal diseases are presented.
- DEH 312. Community Dental Health I.** LH-2. Covers materials, methods, and principles of application in health education with emphasis on dental health and the relationship to clinical and community dental hygiene. Practical experience is provided and specific projects relating to dentistry are assigned.
- DEH 302. Dental Hygiene II.** LH-3, Lab H-3, Cl H-8, PR-DEH 301, II. Clinical performance of basic dental hygiene services. Included is didactic and clinical instruction in uses and techniques of dental radiology. Assignment in dental specialty areas is also part of this course and specific instruction is provided for introducing the student to basic principles of chairside dental assisting.
- RED 301. Oral Histology & Embryology.** LH-1, I. Study of embryologic development of the face and oral cavity with a brief review of the four fundamental tissues of the body that provides the foundation for study of oral histology. Microscopic study of hard and soft structures of the oral cavity, including teeth, periodontal apparatus, oral mucosa, and salivary glands. Concludes with a summary of tooth development and eruption.
- RED 311. Dental Morphology.** LH-2, Lab H-9 total, I. A study of the form and function of the teeth and their related structures. Included are laboratory assignments in tooth identification.
- DEH 301. Dental Hygiene I.** LH-3, Lab H & Cl H-4, I. The introduction to clinical knowledge and skills for the performance of dental hygiene services. Included is an introduction to professional ethics with a survey of the history of dentistry and dental hygiene and the various specialty areas of dentistry.
- ANA 532. Head and Neck Anatomy.** LH-2, Lab H-3, PR-BAS 361, II. A detailed study of the anatomy and physiology of the structures of the head and neck.
- ORP 302. General and Oral Pathology.** LH-3, II. Instruction in the basic principles regarding alteration of the structure and function in disease and the origin and effect of disease in the organ systems.
- PMC 441. Pharmacology.** LH-4, I. A didactic course designed to emphasize the principles of pharmacology and the rationale of drug actions, uses, and side effects. A comprehensive study is presented of all classes of drugs with a detailed consideration given to those used in dentistry.
- ORS 521. Pain Control.** LH-2, Lab H-9 total, I. Includes technique and pharmacology of local anesthesia of the oral cavity, including its complications. Psychology and physiology of pain are covered with the most effective ways of altering pain response, including intravenous sedation and inhalation techniques. Pharmacology, techniques of administration, complications, and patient evaluation and preparation for pain control regimens are discussed; typical examples are presented.
- PER 533. Periodontics II—Periodontal Therapy.** LH-2, PR-PER 522, I. The

goal of this portion of the periodontics curriculum is to provide the student an opportunity to acquire knowledge of the procedures currently used in the treatment of periodontal diseases. In addition to the technical aspects of these procedures emphasis will be placed on an understanding of their biologic implications.

- DEH 421. Introduction to Dental Specialties.** LH-2, I. An introduction to the specialties of pedodontics, endodontics, orthodontics, oral surgery, restorative and prosthetic dentistry emphasizing the role of the dental hygienist in relationship to each.
- DEH 411. Community Dental Health II.** LH-2, PR-DEH 312, I. An introduction to principles of public health, emphasizing the role of dentistry and dental hygiene. Included is the role of federal, state, and local governments in the delivery of dental care. Field trips are arranged to augment the course material.
- DEH 401. Dental Hygiene III.** LH-1, CI H-12, PR-DEH 302, I. A continuation of clinical practice introducing advanced techniques for performance of dental hygiene procedures. Assignment in dental specialty areas is included, and experience with special needs patients is provided.
- DEH 412. Community Dental Health III.** CI H-8, PR-DEH 411, II. Practical application of principles of dental public health through supervised experience in the community.
- DEH 422. Dental Hygiene Seminar I.** LH-2, II. Ethics, jurisprudence, and principles of dental hygiene practice. Included is study of state practice acts and examining boards, dental hygiene education curriculum development, dental team relationships, office management, and third party dental care systems.
- DEH 402. Dental Hygiene IV.** LH-2, CI H-12, PR-DEH 401, II. A continuation of clinical performance emphasizing preparation for practice of clinical dental hygiene. Time is allotted for students to pursue individual projects related to clinical dental hygiene.
- Electives.** SH-6, II. Courses meeting specific needs and interests of students may be elected in the Schools of Dentistry, Basic Sciences and Graduate Studies, Business, Arts and Sciences.



SCHOOL OF PHARMACY

ADMINISTRATIVE OFFICERS

Warren E. Weaver, B.S., Ph.D., F.A.C.A.

Dean

John Andrako, B.S., M.S., Ph.D.

Assistant Dean

HISTORY

When the Medical College of Virginia opened its doors on November 5, 1838, pharmacy was taught as a part of the medical course. Although the General Assembly of Virginia amended the charter in 1879 to permit MCV to confer the degree of graduate of pharmacy upon properly qualified individuals, college records indicate that there were two graduates in pharmacy as early as 1876.

The School of Pharmacy of MCV (now a division of Virginia Commonwealth University) was officially established in 1898; the University College of Medicine had a school of pharmacy when it opened in 1893. The two-year curriculum gave way to a three-year program in 1925, and in 1932 the school required four years of college work and a B.S. degree was awarded. In 1960 the program lengthened to the current five-year course leading to a bachelor of science in pharmacy.

The authority to grant the first graduate degrees in the pharmaceutical sciences was granted by the Graduate Council in 1952. Departments in the school currently direct work leading to the M.S. and Ph.D. degrees in pharmaceutical chemistry and pharmacy, as well as the M.S. degree in hospital pharmacy.

In few states are pharmacists educated under better conditions than in Virginia. This is the only institution in the state offering work in pharmacy, and students in the schools of medicine, dentistry, pharmacy, nursing and other health professions share alike in its teaching facilities.

That the health professions are jointly responsible for delivery of health care is ample reason for their members being educated together. *Emphasis* upon the importance of this point of view is a distinguishing feature of the education offered to students. Supervision of students in the hospitals is under the direction of the Department of Pharmacy.

Since July 1968, the School of Pharmacy has been a part of Virginia Commonwealth University.

PHILOSOPHY

In developing the curriculum of the School of Pharmacy, the faculty recognizes that an educated man or woman should be prepared to assume a responsible and rewarding role in society. The program of education is designed to provide a sound, scientific, and professional background for both those who will enter the practice of pharmacy directly and

those who wish to continue graduate education in the pharmaceutical sciences. The program of study includes as much of the arts and humanities as possible in order to provide the student with a broad educational base which will enable him to participate in community life, not only as a professional, but also an informed, concerned citizen. Such courses also contribute to enrichment of the student's life by stimulating in him a greater appreciation of the cultural values and problems of our society.

Additionally, the program endeavors to orient the student to the problems and needs of urban life in our nation and in the Commonwealth of Virginia in particular.

An appreciation of professional ethics and the concept of service are stressed throughout the years of professional education.

OBJECTIVES

The primary objective of the School of Pharmacy is the education of young men and women who seek to enter health service work in one of the several areas of pharmaceutical practice.

The School of Pharmacy seeks to provide an environment in which sound teaching and learning are promoted and excellence in achievement in the classroom, laboratory, and clinical setting is stressed.

The School of Pharmacy is cognizant of its responsibility to add new knowledge in the pharmaceutical and related sciences and endeavors to do so by promoting and encouraging research and graduate education in these sciences.

An appreciation of professional ethics and the concept of service are stressed throughout the years of professional education.

The School of Pharmacy recognizes its responsibility to foster continuing education for practicing pharmacists and initiate programs for the benefit of such practitioners.

To obtain the primary objective, the School of Pharmacy strives to:

- A. Provide the necessary environment for the student to acquire a fundamental knowledge and understanding of the pharmaceutical and basic medical sciences and the essential skills related to the practice of pharmacy;
- B. Develop in the student attitudes of professional responsibility and concern toward his community, his fellow man, and colleagues in other health professions; and
- C. Establish in the student habits of and the desire for professional improvement through continued self-education and participation in formalized programs of continuing education.

CAREER OPPORTUNITIES

Everyone is familiar with the neighborhood or community pharmacy and has a general idea of how the pharmacist who is there serves his

public. In many areas, pharmacies may be part of a large chain, or they may be owned and managed by independent practitioners. In some cases, pharmacies specialize only in prescription and other health-related needs. About nine out of every ten pharmacists practicing in America serve in some capacity in community pharmacy.

One of the most rapidly growing areas of pharmaceutical practice is institutional or hospital pharmacy. Almost all major hospitals have one or more full-time pharmacists, and in most cases every hospital has a consulting pharmacist. With the great emphasis on institutional medicine, the demands for pharmacists in this area of practice have grown tremendously in the past few years.

Other pharmacists serve as medical service representatives who call on physicians for major pharmaceutical manufacturers. An additional group of pharmacists is involved in manufacturing operations and in research activities associated with the production of pharmaceutical products. Opportunities are also available in various government services, including the Public Health Service and Veterans Administration, as well as in government-operated laboratories.

In most cases, those who engage in independent research or in teaching seek graduate degrees in specialty fields related to pharmacy.

The demand for well-qualified individuals far exceeds the supply; as a consequence, the rewards of practicing the profession are entirely adequate.

FUTURE PLANS

The School of Pharmacy recognizes two major situations that affect the delivery of adequate pharmaceutical services to the citizens of the Commonwealth of Virginia. In the first instance, the ratio of pharmacists to the population in Virginia is the lowest of all states in the southeast region. Secondly, the role of the pharmacist is progressing rapidly toward a patient-oriented service as a member of the total health care team.

In order to educate and to train a sufficient number of pharmacists to deliver modern pharmaceutical service, now and in the future, plans call for a new pharmacy building and additional faculty. Furthermore, the curriculum is under continual surveillance and is designed to provide well-trained pharmacists who can function in a clinical environment.

The future needs of pharmacists for a readily available and broad continuing education service is recognized. Resources and facilities of the institution will be expanded and made available to an increasing number of practicing pharmacists and allied health professionals. A campus based on line computer service for quick retrieval of drug information is a possibility.

The School of Pharmacy plans to continue efforts to enroll academically qualified men and women by recruitment at all two-year and four-year colleges in Virginia. Efforts will be directed toward an increase in the enrollment of minority groups.

A program is being proposed to extend educational programs in clinical pharmacy and to develop research in pharmacy services at the community level.

FACILITIES

The principal departments of the School of Pharmacy are in McGuire Hall and McGuire Annex located at Twelfth and Clay streets. McGuire Hall was built in 1912 by the University College of Medicine and the annex was built in two phases; the first completed in 1955 and the second in 1958. In addition, a nutriculture laboratory is located on the roof of the first annex and houses research activities in pharmacognosy. This laboratory was built by the American Tobacco Company and donated in 1968 to the school.

Classes for students in pharmacy are also conducted in Sanger Hall, located between Eleventh and Twelfth streets on East Marshall Street. This building houses several basic science departments and the administrative offices for the MCV Campus of Virginia Commonwealth University. The principal space occupied by the hospital pharmacy is located in the A. D. Williams Memorial Clinic at Twelfth and Marshall Streets. Students receive clinical experience in the MCV Hospitals. Other facilities available for teaching include area hospitals and pharmacies throughout Virginia. Some classes are held in the Egyptian Building, which houses Baruch Auditorium and the Department of Microbiology. The major library holdings are in the Tompkins-McCaw Library at Twelfth and Clay streets.

ACCREDITATION

The School of Pharmacy is accredited by the American Council on Pharmaceutical Education and is a member of the American Association of Colleges of Pharmacy.

PROGRAMS

The degree of bachelor of science in pharmacy (B.S. Pharm.) is conferred upon any student who complies with all the academic requirements and university regulations concerning degrees and is approved by the faculty of the School of Pharmacy and the MCV/VCU general faculty.

Departments in the school offer programs of graduate study leading to the degrees of master of science (M.S.) and doctor of philosophy (Ph.D.). Students may specialize in biopharmaceutics, pharmaceutical chemistry, and product development. Also, the master of science degree in hospital pharmacy is offered.

Interested students with graduate study potential should consult with the appropriate department chairman or the dean of the School of Basic Sciences and Graduate Studies.

LICENSING AND RECIPROCITY

The Virginia Board of Pharmacy holds two meetings for examination each year, in November and in June. Applicants for examination as licensed pharmacists must present evidence of graduation or a certificate of graduation from a school of pharmacy recognized by the board. This school is among those recognized.

To be licensed as a pharmacist in Virginia, an applicant must present to the Virginia Board of Pharmacy evidence of six months of satisfactory experience in pharmacy under the direct supervision of a pharmacist, three months of which is gained by completion of the third professional year clerkship program. Experience is not a requirement for graduation in pharmacy from Virginia Commonwealth University.

A student who intends to qualify for reciprocity must, at the time of licensure in Virginia, present to the Virginia Board of Pharmacy, evidence of nine months of satisfactory experience under the direct supervision of a pharmacist. License by reciprocity is available in every state of the United States except California, Florida, and Hawaii.

Those students who intend to be licensed in Virginia should contact the Virginia Board of Pharmacy, Suite 209, 10 South 10th Street, Richmond, Virginia 23219.

ADMISSION REQUIREMENTS

A. The bachelor of science in pharmacy degree is based upon satisfactory completion of five academic years in college. Candidates for admission to the school of pharmacy must attend an accredited college for two academic years (six quarters or four semesters) prior to admission. To receive a degree in pharmacy, a minimum of three academic years' residence is required in the School of Pharmacy even if the student has attended college elsewhere for more than two academic years.

B. A statement of good moral character signed by one or more pharmacists, physicians, or former teachers may be requested by the Admissions Committee.

C. An official high school transcript and official transcripts of all colleges previously attended are required. Applications are considered by the Admissions Committee only when transcripts showing completion of three semesters or four quarters of work have been received. Acceptances are offered contingent upon completion of specific work that may be in progress, if all other aspects of the application are satisfactory.

D. Academic Prerequisites. Applicants must offer credits in the following subject areas:

	semester hours	quarter hours
a. Biology (botany and zoology).....	8*	12*
b. General Chemistry	8*	12*
c. Physics	8*	12*
d. English	6	9
e. Mathematics	6**	9**
f. Economics	3*	4.5*
g. Electives***	24	36
	<hr/>	<hr/>
TOTAL	63	94.5

E. Applicants must have earned a creditable average (C or better) overall or in the courses specified to meet minimum academic requirements for admission.

F. Applicants for admission must furnish a photograph and a completed application form; this form requires that the names of four individuals be given, including at least two teachers (preferably in the sciences) qualified to give an estimate of the applicant's ability for carrying the work in pharmacy. These reports must recommend the applicant for admission.

G. The dean and the committee on admissions may require a personal interview with the applicant.

H. Students are admitted in September only. Applications should be submitted in the winter preceding admission.

I. Students planning to enter an accredited college on high school graduation should plan their high school programs to meet the requirements for admission in the college where they will take the prerequisite work for admission to pharmacy. High school programs rich in mathematics and the sciences are excellent preparation for the study of pharmacy.

J. Further information and application materials are obtained by writing:

Chairman, Admissions Committee
 School of Pharmacy
 Virginia Commonwealth University
 MCV Station
 Richmond, Virginia 23298

*Additional hours in these specific subjects may be credited as prerequisites to admission; no less than 18 semester hours of electives must be offered and total credits must be 63 semester hours.

**Algebra and trigonometry represent the minimum level acceptable. Students qualifying for higher level mathematics upon entrance to a college from high school are still expected to provide 6 semester hours credit in this area.

***Humanities, social sciences, and liberal arts work are creditable to this area. Physical education is not creditable. In general, courses that are non-science or in the non-business area meet the requirements for electives credit.

The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, sex, or national origin.

CURRICULUM PLAN

FIRST PROFESSIONAL YEAR (THIRD COLLEGE YEAR)

First Sem.	Hr.	Second Sem.	Hr.
Pharmaceutical Chemistry 301	5	Anatomy 302	4.5
Pharmaceutical Chemistry 311	5	Biochemistry 302	5.5
Pharmacy 301	5.5	Pharmaceutical Chemistry 302	3
Pharmacy 321	2	Pharmacy 302	5.5
	<hr/>		<hr/>
	17.5		18.5

SECOND PROFESSIONAL YEAR (FOURTH COLLEGE YEAR)

First Sem.	Hr.	Second Sem.	Hr.
Pharmacognosy 401	3	Pharmaceutical Chemistry 402	3
Pharmacy 401	4.5	Microbiology 402	4.5
Pharmacy 411	2	Pharmacology 402	4
Pharmacy 421	3	Pharmacy 412	2
Physiology 401	5.5	Pharmacy 432	4
	<hr/>		<hr/>
	18		17.5

THIRD PROFESSIONAL YEAR (FIFTH COLLEGE YEAR)

First Sem.	Hr.	Second Sem.	Hr.
Pharmaceutical Chemistry 503	3	**Pharmacy 512	15
Pharmacology 501	3	(Professional Practice	
*Pharmacy 501 or	4	Clerkships)	
*Pharmacy 552	3	Electives	2-4
Pharmacy 511	5		<hr/>
	<hr/>		17-19
	14 or 15		

ACADEMIC REGULATIONS

Matriculation in the School of Pharmacy implies a willingness on the part of the student to comply with university rules and regulations and to conduct himself in a manner befitting members of the profession he

*Options: Students may elect to take Pharmacy 501 (Community Pharmacy Administration) or Pharmacy 552 (Hospital Pharmacy Administration).

**In some instances students in the final professional year may be obliged to travel and reside some distance from Richmond as part of the program. No refund of payments for tuition, fees, or other purposes may be expected by the students in this event, if credit is granted for time spent in this phase of the program. No stipends may be earned by the students in connection with any professional practice program for which the school grants credit.

seeks to enter. The program of study and regulations regarding courses of study, student conduct, and the like are subject to modification without notice. All rules and regulations set forth in this bulletin, as well as other statements issued by administrative officers of the university apply until further notice.

Probation. Students may be placed on probation by either the Committee on Admissions or the Committee on Promotions. Probation is a notice that the student's scholarship should improve to a level considered to be satisfactory by the faculty. Students are also placed on probation if two deficiencies are incurred in the work of any semester, including both progress and final grades. Students who fail to meet probationary requirements may expect to have their normal progress through school interrupted through attendance at summer school, repeating a year, or being asked to withdraw. Students on probation are not eligible to be nominated for offices in the student government nor to represent the school in athletics or other extracurricular activities. Students on probation are expected to stop or drastically curtail any outside employment. Detailed regulations on probation are sent to all students on probation and are available on request.

Outside Work. Students who complete an academic year and are ranked in the lower half of a class may expect to receive a notice from the faculty that outside work should be curtailed or eliminated. In general, the faculty believes that students should give first priority to their school work. Students able to maintain academic standing are not restricted with respect to outside employment.

Honor Code. All students are expected to be governed by the honor code and regulations of the Student Body organization. A detailed description of the Honor Council's rules of procedure is available upon request.

FACULTY ADVISING PROGRAM

One faculty advisor is appointed by the dean for each class in the three professional years of pharmacy.

There is a faculty advisor to the Inter-Fraternity Council, as well as an advisor for each of the professional pharmacy fraternities.

Each of the student chapters of professional pharmacy organizations on campus operates with a faculty advisor.

ATTENDANCE REGULATIONS

1. The faculty considers attendance at lectures, laboratories, and other functions a requisite to the successful acquisition of the knowledge and skills required of the professional pharmacist. Hence, the faculty cannot condone absence without good reason from any regularly scheduled educational experience.

2. If a student is absent for unavoidable reasons, he should report the reason for the absence to the dean's office within 24 hours after the return to class. Whether the absence is excused or not, the student is responsible for all work missed.

3. At the start of each course, the instructor will relate to the class the policy of his department concerning the attendance regulations for that semester. The nature of make-up work in the event of absence will be the prerogative of the instructor.

4. Unexcused absences exceeding one per semester hour will allow the instructor to reduce the earned grade by one level. Further grade reductions at the same rate may be made for succeeding blocks of unexcused absences.

PROMOTION

Attending a pharmacy school is not a right acquired by conforming with the entrance requirements and paying the tuition fees. Tuition fees do not pay for a pharmaceutical education, since part of the cost comes from the state and other sources. It is, therefore, a privilege granted to certain persons that there may be pharmacists for the future. The persons to whom this privilege should be granted are, naturally, those who will make the best pharmacists. It is for this reason that the dean and Committee on Promotions, which is made up of the students' instructors of the year, usually request a student who fails to do satisfactory work to withdraw. The most careful consideration is given not only to the student's grades but also his probity, his industry, his mental ability, and his inclinations, in admitting him to the school and advancing him to a higher class, as well as in requesting him to withdraw from the school. The following guidelines are used by the committee on promotions:

1. Students who have passed the work of an academic year in a satisfactory manner will be advanced to the next higher class, provided there are no other reasons that make this undesirable.

2. A quality point average of 2.00 or better usually merits promotion if a student has no deficiencies. Students with deficiencies may be permitted to attend summer school or in some instances may be required to repeat at least a portion of a year's work.

3. A student with course deficiencies cannot enter the final year of the program.

4. Students who fail to pass two or more subjects ordinarily are not continued in enrollment, except under unusual circumstances.

5. Students who fail to meet conditions of probation or who have not achieved a satisfactory average may be asked to withdraw or repeat work of a year.

These are not absolute rules, but are rather guidelines to show the student what action may be taken in a particular case. The dean and the Committee on Promotions remain entirely free to pass upon each case according to its merits.

GRADUATION

All students recommended for the degree of bachelor of science in pharmacy must be approved by the faculty of the School of Pharmacy and the MCV/VCU general faculty. In order to be recommended the following requirements must be met:

1. The candidate must be of good moral character.
2. He must have completed satisfactorily all the required work.
3. He must have paid all fees.
4. The last year's work for the degree must be done in residence in this school.
5. He must be present at the commencement exercises unless excused by the vice-president for health sciences.

HONORS, AWARDS, AND ORGANIZATIONS

Rho Chi. This national honorary pharmaceutical society established Lambda Chapter at MCV in 1929. Charters for chapters of this organization are granted only to groups in colleges that are members in good standing of the American Association of Colleges of Pharmacy. Eligibility for membership in the society is based on high attainment in scholarship, character, personality, and leadership. Candidates for membership are first eligible for consideration during the next to last year of the pharmacy program.

Lambda Chapter annually awards certificates in recognition of outstanding scholarship to students who have completed the pre-pharmacy and first professional year pharmacy curriculum. Also, Lambda Chapter selects one member of the senior class who is recognized for excellence in scholarship, leadership, personality and character. The name is inscribed on a plaque conspicuously placed in the School of Pharmacy.

Virginia Pharmaceutical Association Scholarship Awards. The Virginia Pharmaceutical Association, wishing to encourage scholarship of high order among students of pharmacy, has established three scholarship awards. The first, for \$100 and known as the Wortley F. Rudd Award, is presented to the student with the highest overall average. The second, for \$50 and known as the William G. Crockett Award, is presented to the senior student who earns the highest average in pharmacy courses. The third, for \$50 and known as the Frank P. Pitts Award, is presented to the senior student who earns the highest average in chemistry courses. The names of the recipients are published in the commencement program and the awards are presented at the annual meeting of the Virginia Pharmaceutical Association.

The Merck Award. An award, consisting of the current editions of *The Merck Index* and *The Merck Manual*, is presented to a graduating senior. The award is based on the highest grade point average improvement for the three professional pharmacy years. One award is presented for each fifty graduates.

The Upjohn Award. A public service achievement award consisting of a plaque and a \$50 stipend is given to the graduating senior who has demonstrated excellence in the type and amount of public service projects participated in while enrolled as a student in the School of Pharmacy.

Student American and Virginia Pharmaceutical Association. Students in the School of Pharmacy have an opportunity of becoming members of this national and state-affiliated organization. The group meets regularly, presenting programs of interest to the student body.

Student Chapter Virginia Society of Hospital Pharmacists. Pharmacy students who are interested in the practice of hospital pharmacy may become members.

Professional Fraternities. Chapters of Phi Delta Chi, Kappa Psi, and Kappa Epsilon are active within the student body. These fraternities extend invitations, according to the rules of the Interfraternity Council, to pharmacy students to become members. Eligibility for consideration is based upon academic achievement as determined by the Interfraternity Council and the dean's office.

FINANCIAL AID

Every effort is made to insure that no qualified applicant is denied admission for financial reasons, and once a student is admitted he need not withdraw because of lack of funds if he is capable of doing satisfactory academic work. A full-time financial aid officer works with students. Full information on financial aid and a listing of funds is carried in a pamphlet, *Financial Aid for Students*, available upon request from: Financial Aid Officer, MCV Campus, Virginia Commonwealth University, MCV Station, Box 244, Richmond, Virginia 23298. All applications for financial aid should be submitted no later than April 30 for the year beginning in September. Applications for financial assistance are not considered until a student's application has been approved by the Admissions Committee, and he has matriculated in the School of Pharmacy.

Courses of Instruction in Pharmacy

Professors: Barr (Chairman); Lowenthal; Neuroth; Stepka; Wood

Associate Professors: Fiske; Harrison

Assistant Professors: Hilliard; Hirsch; Salter; Smith; White

Instructors: Cessna; McKenney; Manley; Menz; Myers; Watkins

Pharmacy Program

Anatomy 302	.....See page 137.
Biochemistry 302	.....See page 141.
Microbiology 402	.....See page 146.
Pharmacology 402, 501	.....See page 151.
Physiology 401	.....See page 153.

Pharmacognosy

PMY 401. Pharmacognosy. LH-2; Lab H-2; SH-3; I. A study of drugs derived from vegetable and animal sources, with emphasis on the biological activity and chemical nature of the active constituents.

Pharmacy

- PHA 301-2. Principles of Pharmacy.** LH-4; Lab H-3; SH-11; I and II. A study of the chemical, physioco-chemical, and biopharmaceutical principles fundamental to the development and use of medication dosage forms. Pharmaceutical calculations and technology required to compound and dispense dosage forms for prescription orders are presented. Includes discussion of metrology, kinetics, theory of solutions, powdered systems, colloid systems, suspensions, emulsions, and aerosols.
- PHA 321. Drugs in Society.** LH-2; SH-2; I. An introduction to the role of drugs in society with particular emphasis placed on the importance of the pharmacist as a knowledgeable drug expert. The areas of drug abuse in present and past societies, present health problems, and patient self-medication are discussed as examples. The role of the pharmacist in promoting rational drug therapy is emphasized.
- PHA 401. Principles of Pharmacy.** LH-3; Lab H-3; SH-4.5; PR-302; I. The course is a continuation of Principles of Pharmacy 301, 302. The physico-chemical, pharmaceutical, and biopharmaceutical principles underlying the compounding and use of dermatological products, suppositories, powders, granules, capsules, tablets, and radio nuclides are presented. The application of statistical procedures and computer technology to pharmacy is discussed.
- PHA 411. Elements of Physical Chemistry.** LH-2; SH-2; PR-302; I. The course includes topics of physical chemistry that are not included in Pharmacy 301, 302, and 401. Data representation, calculus, thermodynamics, chemical equilibrium, and chemical kinetics are considered for pharmaceutical dosage forms and pure drugs.
- PHA 412. Biopharmaceutics and Pharmacokinetics.** LH-2; SH-2; PR-411; II. The general kinetics of drug absorption, distribution, and elimination are discussed in detail. The principles are applied to examine the role of the dosage form on the rate and extent of absorption. Physiological factors affecting biologic absorption of drugs are identified by pharmacokinetics.
- PHA 421. Principles of Law—Pharmacy and Drug Laws.** LH-3; SH-3; I. A consideration of law as it affects the practice of pharmacy, including a study of state and federal laws that relate to drugs.
- PHA 432. Orientation to Disease States.** LH-4; SH-4; II. A discussion of the pathology, clinical manifestations of prevalent diseases, and the course of disease processes.
- PHA 501. Pharmacy Administration.** LH-4; SH-4; I. A study of marketing as related to the drug industry and pharmacy. Techniques involved in establishing and maintaining a practice of pharmacy. Elements of accounting adapted to the needs of the pharmacist are included in the discussion.
- PHA 511. Professional Practice.** LH-3; Lab H-6; SH-6; I. Clinical pharmacology, clinical chemistry (laboratory tests), and social aspects of health care

are discussed. Clinical conferences cover therapeutic topics in the medical and pharmaceutical literature. Interdisciplinary patient care is stressed by participation on hospital ward rounds. Compounding and dispensing of medications is done in the hospital pharmacy.

- PHA 512. Professional Practice.** SH-15; II. The course is divided into four clerkship periods in which students participate in interdisciplinary patient care in the teaching institution and practice situations in community and hospital pharmacies. Emphasis is placed on the team approach to health care. Included are student-patient interviews, rational drug therapy, drug interactions and adverse effects, and drug information retrieval.
- PHA 531. Pharmaceutical Product Development.** LH-2; Lab H-4; SH-4; I. A study of the pharmaceutical, physico-chemical, biopharmaceutical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms for hospitals and industry.
- PHA 532. Pharmaceutical Product Development.** LH-2; Lab H-4; SH-4; II. A continuation of Pharmacy 531.
- PHA 533. Non-Prescription Medication.** LH-2; SH-2; I. The pathological and clinical manifestations of disease states that lead society to self medication are discussed. Stress is placed on critical evaluation and rational use of non-prescription drug products promoted for patient selection and self medication.
- PHA 552. Hospital Pharmacy Administration.** LH-3; SH-3; I. An introductory course dealing with hospital pharmacy administration. Subject matter includes the responsibilities, services provided, systems, methodologies, and administrative principles used by pharmacists to coordinate and to direct hospital pharmacy operations.
- PHA 571. Undergraduate Research.** LH-6; SH-3; I, II. Elective for selected students in the several areas of pharmaceutical sciences.

GRADUATE STUDY COURSES

Pharmacy

- PHA 601. Advanced Pharmaceutical Product Development.** LH-3; Lab H-4-10; SH-5-8; I. An advanced study of the pharmaceutical, physico-chemical, and engineering principles and technology underlying the development of various pharmaceutical dosage forms.
- PHA 602. Advanced Pharmaceutical Product Development.** LH-3; Lab H-4-10; SH-5-8; II. A continuation of Pharmacy 601.
- PHA 605. Legal Aspects of Drug Development and Evaluation.** LH-3; SH-3; I. A study of the requirements of the regulatory agencies in the development of a "new drug" in accordance with the IND and NDA process through all phases of laboratory and clinical testing, including pertinent statistics. The current and probable future requirements of "good manufacturing practice" will be treated.
- PHA 608. Clinical Radiopharmacy.** LH-1; Lab H-2; SH-2; II. Students receive training in the safe use, preparation, calibration, quality control, and clinical diagnostic use of current and investigational radiopharmaceuticals in nuclear medicine practice. Emphasis will be placed on obtaining patient medication histories for the evaluation of agents capable of in vivo and in vitro radioisotopic test modification.

- PHA 611. Advanced Physical Pharmacy.** LH-3; Lab H-4; SH-5; I. Detailed application of physico-chemical principles to areas of pharmaceutical interest, including colloids, rheology, phase rule, complexation, kinetics, drug stability, and micromeritics.
- PHA 612. Advanced Physical Pharmacy.** LH-3; Lab H-4; SH-5; II. A continuation of Pharmacy 611.
- PHA 621. Advanced Biopharmaceutics.** LH-2; SH-2; I. A study of the interrelationships between the physico-chemical properties of drugs and drug dosage form and the metabolic fate of the drug. Particular emphasis will be placed on anticipation of potential drug interactions. Some laboratory work will be included to illustrate principles involved.
- PHA 622. Advanced Biopharmaceutics.** LH-2; SH-2; II. A continuation of Pharmacy 621.
- PHA 624. Pharmacokinetics.** LH-2; SH-2; II. An advanced treatment of the kinetics of drug absorption, distribution, and elimination utilizing mathematical models, analogue and digital computers for analysis of linear and non-linear biologic systems.
- PHA 625. Biopharmaceutic Assay.** LH-2; Lab H-2-6; SH-3-5; I. Theory and laboratory practice for systematic qualitative and quantitative analysis of drugs and metabolites in body fluids and tissues, such as are required for drug metabolism in pharmacokinetic studies. (Given jointly with the pharmaceutical chemistry department.)
- PHA 626. Biopharmaceutic Assay.** LH-2; Lab H-6-10; SH-5-7; II. A continuation of Pharmacy 625 with particular emphasis on the identification of drug metabolites.

Hospital Pharmacy

- PHA 590. Pharmacy Seminar.** LH-1; SH-1; I, II. Required of all graduate students in pharmacy.
- PHA 631. Advanced Hospital Pharmacy Management.** LH-3; SH-3; I. An in-depth study of contemporary hospital pharmacy problems and practice. Case studies in hospitals will be used for illustration.
- PHA 632. Advanced Hospital Pharmacy Management.** LH-3; SH-3; II. The subject matter discussed is an extension of Pharmacy 631 with stress placed on managerial abilities in handling various levels of personnel in the hospital.
- PHA 634. Adverse Drug Reactions.** LH-2; Lab H-2; SH-3; II. Epidemiology and etiology of drug-related, iatrogenic diseases are discussed. Detection, clinical evaluation, and appropriate management as well as methodology for the prevention of adverse drug reactions are emphasized. Students are required to participate in group discussions and give presentations based on current literature. Students receive clinical exposure to the detection, evaluation, and management of drug induced diseases.
- PHA 635. Advanced Clinical Pharmacy.** LH-2; Lab H-2; SH-3; PR-511; I. The rational choice of drugs with respect to disease conditions is discussed. Emphasis is placed on clinical differences between drugs. Clinical application of biopharmaceutics, pharmacokinetics, therapeutic effectiveness, drug interactions, and adverse effects are stressed. Students make case presentations to illustrate drug therapy in disease states.

- PHA 636. Advanced Clinical Pharmacy.** LH-2; Lab H-2; SH-3; II. A continuation of Pharmacy 635.
- PHA 650. Special Topics in Pharmacy.** LH-1-4; SH-1-4; I. Presentation of subject matter is by lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses as part of the research training.
- PHA 690. Research in Pharmacy.** SH-1-15. Research leading to the M.S. or Ph.D. degree. Time for all graduate courses to be arranged at the first meeting for each course.

Pharmaceutical Chemistry

Professors: Smith (Chairman); Andrako; Weaver
 Associate Professors: Boots; Richard; Stubbins; van't Riet
 Assistant Professors: Miller, Windridge
 Instructor: Harvie

- PHC 301. Organic Chemistry.** LH-3; Lab H-4; SH-5; I. A study of the chemical and physical properties of aliphatic and aromatic compounds. Fundamental theories and reactions are covered with emphasis on those areas which serve as a basis for organic medicinal chemistry and biochemistry. The laboratory work involves an examination of the physical properties and reactions of functional groups commonly found in medicinal agents.
- PHC 302. Organic Chemistry.** LH-3; SH-3; PR 301; II. A continuation of 301.
- PHC 311. Pharmaceutical Analysis.** LH-3; Lab H-4; SH-5; I. The theory and application of equilibria involved in solubility, acid-base, and redox systems and absorption of radiation in assay methods of pharmaceutical interest. Both classical and instrumental methods are used for drug analysis in the laboratory.
- PHC 402. Organic Pharmaceutical Chemistry.** LH-3; SH-3; II. A study of synthetic and natural organic compounds of medicinal and pharmaceutical interest with emphasis being placed on physical and chemical properties and on the relationships between chemical structure and pharmacological activity.
- PHC 503. Organic Pharmaceutical Chemistry.** LH-3; SH-3; PR 402; I. A continuation of 402.
- PHC 506. Advanced Medicinal Chemistry I.** LH-3; SH-3; PR 503; II. A study of pharmacodynamics, theories relating to drug action, and the general principles of drug design.
- PHC 511. Physical Chemistry.** LH-3; SH-3; I. A first course in physical chemistry with emphasis on those topics most relevant to the health sciences, including electrolyte solution theory, kinetics, and the physical chemistry of macromolecules.
- PHC 512. Physical Chemistry.** LH-3; SH-3; PR 511; II. A continuation of 511.
- PHC 513. Experimental Physical Chemistry.** Lab H-4; SH-2; I. The laboratory work includes a number of basic experiments in physical chemistry along with techniques and procedures of special interest to students in the health sciences.

- PHC 514. Experimental Physical Chemistry.** Lab H-4; SH-2; PR 513; II. A continuation of 513.
- PHC 521. Drug Assaying.** LH-2; Lab H-4; SH-4; I. A consideration of the chemical assaying of U.S.P. and N.F. preparations, including synthetic and naturally occurring drugs.
- PHC 551. Structural Determination of Potential New Drugs and Drug Metabolites.** LH-3; SH-3; I. A study of the most useful instrumental and classical techniques for the elucidation of structures of natural products, new drugs, and drug metabolites.
- PHC 572. Advanced Analytical Pharmaceutical Chemistry.** LH-3; SH-3; II. Theories and principles involved in analytical techniques, such as spectrometry, electrochemical analysis, titrations in non-aqueous solvents, radioisotope techniques, and chromatography.
- PHC 590. Pharmaceutical Chemistry Seminar.** LH-1; SH-1; I, II. In addition to reports that are presented by students, staff, and visiting lecturers, current problems, and developments in pharmaceutical chemistry are discussed.
- PHC 607. Advanced Medicinal Chemistry II.** LH-3; SH-3; PR 506; I. A study of the structure-activity relationships and mode of action of selected group of drugs.
- PHC 622. Stereochemistry.** LH-2; SH-2; II. A study of the number and kinds of stereoisomers of organic compounds, the differences in chemical and physical properties between stereoisomers.
- PHC 632. Heterocyclic Chemistry.** LH-3; SH-3; II. A series of lectures covering a number of the more important heterocyclic systems.
- PHC 650. Special Topics in Pharmaceutical Chemistry.** LH-1-4; SH-1-4; I, II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as a part of the research training.
- PHC 681. The Ultracentrifuge.** LH-2; SH-2; I. The optical systems of the ultracentrifuge are discussed, as well as the applications of the ultracentrifuge in the study of the properties of macromolecules such as proteins and nucleic acids.
- PHC 690. Research in Pharmaceutical Chemistry.** SH-1-15; I, II. Research leading to the M.S. or Ph.D. degree.

Other graduate courses suitable for credit towards an advanced degree are listed in the *Arts and Sciences Graduate Bulletin*, Chemistry Section, published by VCU's Academic Campus.

SCHOOL OF NURSING

ADMINISTRATIVE OFFICERS

Doris B. Yingling, R.N., B.S., M.A., Ed.D.

Dean

Helen Wiesmann, R.N., B.S., M.S.

Associate Dean

Edna H. Treasure, R.N., B.S., M.S., Ed.D.

Associate Dean

HISTORY

The School of Nursing originated in 1893 when the University College of Medicine (UCM) opened a two-year training school for nurses in its Virginia Hospital. In 1895, the Medical College of Virginia inaugurated its school of nursing when Miss Sadie Heath Cabaniss established a two-year training school for nurses in the Old Dominion Hospital.

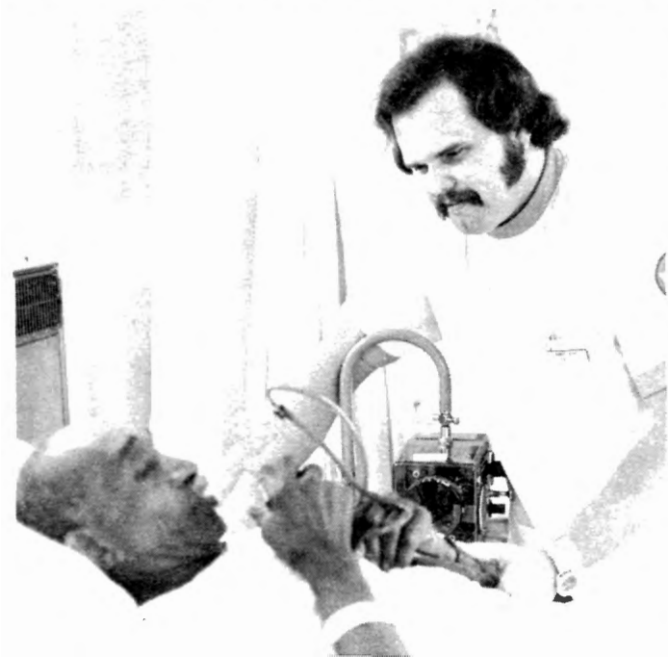
When Memorial Hospital, now known as MCV South Hospital, was opened in 1903, the Old Dominion Hospital was closed and the student nurses were transferred to the Memorial Hospital Training School for Nurses. It was at that time that the curriculum was changed to three years in length.

With the consolidation of UCM and MCV in 1913, the Memorial Hospital and Virginia Hospital Training School for Nurses were consolidated and named the Medical College of Virginia School of Nursing.

From 1920 to 1962, the Saint Philip School of Nursing for Negro students was operated. This school was administered by the MCV School of Nursing but was operated as a separate entity. The Saint Philip School of Nursing opened a special program in public health nursing in 1936. This program led to standard certification in public health nursing; a similar program was opened to white students in 1944.

In 1942, the MCV School of Nursing initiated a curriculum in addition to the diploma program which led to the degree of bachelor of science in nursing for students who had completed two years of selected liberal arts courses in an approved college or university prior to admission to the school. In 1952, a four year basic baccalaureate degree program was approved by the Board of Visitors. Its implementation terminated both the previous diploma and the five-year degree programs. From 1958-62 an associate degree program was offered at the MCV School of Nursing. Because of demand for admission to the baccalaureate program, the associate degree program was discontinued.

The school takes pride in its long history of service to the profession of nursing and its record of accomplishments. Many "firsts" are listed in the official archives. Regular studies of its graduates and employers of graduates attest to the school's high standards of quality education and performance in the practice of nursing.



In 1968 the School of Nursing revised the curriculum of the four-year degree program. Students now pursue the freshman and sophomore requirements of the baccalaureate degree program at the Academic Campus of VCU or at any other accredited junior or senior college of their choice. The student then enters the nursing major as a junior student for the study of clinical nursing and health sciences.

PHILOSOPHY

The faculty of the school believe that education, nursing, other health services, and society are interdependent and are, therefore, accountable one to the other.

The purposes of education are to help individuals understand the world in which they live and to enhance their capacities to become agents for positive change. Professional education develops conviction for continuing involvement in learning and service.

The primary goal of nursing is to assist individuals, sick or well, in the performance of those activities contributing to health or its recovery, or to a peaceful death, that they would perform unaided had they the necessary strength, will or knowledge.¹ The uniqueness of nursing is encompassed in its primary responsibility for giving personal care on a continuing basis, in a variety of settings.

The professional nurse using the holistic approach, gives patient care and directs other nursing personnel in giving care. She functions interdependently with members of other disciplines in working toward health goals of individuals, families, and their communities. These goals are achievable through organization and provision of care, the nature of which is both therapeutic and preventive.

We believe the baccalaureate degree in nursing is the minimum level of education required for the practice of professional nursing.

PROGRAMS

The programs of the School of Nursing described in detail in this bulletin include the baccalaureate degree program and the master's degree program, in that order. The program in continuing education is described briefly. Offerings of this program are numerous and varied and are published separately. These may be obtained by writing to the Director, Continuing Education Program.

Bachelor of Science. The purpose of the baccalaureate degree program in nursing is to provide learning opportunities whereby the student acquires a sound body of knowledge and skills that are essential to begin the practice of professional nursing and that may be used as a basis for advanced study in nursing.

¹Virginia Henderson, *The Nature of Nursing* (New York: The Macmillan Company, 1967), p. 15.

Master of Science. This program is built upon the premise that graduate education provides opportunities for specialization in one clinical area in nursing. Emphasis is placed on preparing the graduate to deal with the continuing and expanding body of knowledge as it relates to the practice of nursing and to the modern concepts of health and illness.

The master's degree program in nursing is an offering of the School of Basic Sciences and Graduate Studies, and applicants must meet admission and academic requirements as established by that school.

Continuing Education. Because of the faculty's awareness of the needs of those engaged in the practice of professional nursing to continue their education, Virginia's first program in continuing education staffed with full-time faculty was established in 1965. It offers a variety of non-credit educational opportunities for practicing registered nurse learners to update knowledge, to increase competencies in providing quality patient care, and to become involved in rapidly changing health delivery services. The philosophy of adult education is used in meeting the needs of registered nurse learners by building on past learning and experience and by recognizing that education for nursing is a continuing process.

FACILITIES

The Nursing Education Building is located at 1220 East Broad Street. Administrative and faculty offices, and classrooms are housed in this building. The laboratories and lectures in basic sciences are held in the facilities used by other schools on the MCV Campus.

The clinical laboratories for the nursing courses are conducted in the MCV Hospitals, in health agencies in the community and adjacent areas, and in other hospitals in the area. The student is given a wide diversity of experiences in both hospital and community-oriented nursing.

ACCREDITATION

The Medical College of Virginia, of which the School of Nursing was an integral part, was the first institution of its kind to be admitted to membership in the Southern Association of Colleges and Schools. As Virginia Commonwealth University, this accreditation has been continued.

The baccalaureate degree program in nursing is accredited by the National League for Nursing Department of Baccalaureate and Higher Degree Programs for students with no previous preparation in nursing and for graduates of diploma and associate degree programs. The program is accredited also by the Virginia State Board of Nursing; graduates are eligible to write the licensing examinations for registration.

The master's degree program is accredited by the National League for Nursing Department of Baccalaureate and Higher Degree Programs. The School of Basic Sciences and Graduate Studies is a member of the Council of Graduate Schools of the United States.

ANNUAL LECTURESHIPS

Outstanding scholars in various fields are brought to the campus through a variety of resources. Students in the School of Nursing have access to special programs of an intellectual and cultural nature on both campuses of the university.

The Annual Nursing Leadership, established in 1966 by contributions from graduates and friends of the School of Nursing, brings to the campus each year a person of national stature related to the field of nursing. Alumni and faculty plan and implement the lectureship, which serves as an open forum to many publics in the health fields.

HONORS AND AWARDS

Dean's List. Recognition of high quality academic achievement is made through inclusion on the Dean's List, published at the close of each semester. Students who have carried at least 12 semester hours' credit and who have earned a grade of C or higher in all courses with an overall average of 3.1 are named to the Dean's List.

Yingling-Lyons Senior Achievement Award. Gifts to the institution at the time of the marriage of Dean Doris B. Yingling of the School of Nursing and Dean Harry Lyons of the School of Dentistry were used to establish an annual award in their names to be made to a senior student in the schools of nursing and dentistry, based on recognition of outstanding leadership ability and potential professional growth as determined by a selection committee of faculty and students.

Mable Montgomery Award. This award was established through gifts of faculty and students in honor of Miss Mable E. Montgomery, executive secretary of the Virginia State Board of Nursing, 1949-70. The award alternates annually between a senior student and a faculty member. Leadership, excellence in nursing, and outstanding personal qualities are considered in selecting the recipients.

Baccalaureate Degree Program

ADMISSION REQUIREMENTS

Basic Students

Applications for admission are welcomed from men and women who have a sincere interest in preparing for a career in professional nursing. In selecting students for admission, the Admissions Committee looks for evidence of character, ability, maturity, and sound academic preparation. The committee attempts to choose applicants who give the greatest promise of profiting from the opportunities offered by the university and of

preparing for a positive contribution to the practice of nursing and to community life.

The student applying for admission must either be eligible for re-admission or be in good standing at the college last attended. Usually, only those credits earned within 10 years preceding admission will be considered for transfer. In addition, credits must be applicable toward a degree at the institution in which they were earned.

A minimum of 60 semester hour credits with a quality point ratio equivalent to 2.0 is required; however, a ratio of 2.50 on a 4.0 scale is recommended. Computation of the quality point ratio utilizes academic courses only.

Procedures. Applicants are required to submit specific records in support of their application. In order to allow sufficient time for the careful and thorough review given to each application, these records should arrive before February 1 preceding admission to the junior year.

1. Formal application for admission to the junior year—Application to be completed by the applicant and submitted as early as possible after September 15 of the year preceding entrance.

2. Secondary school records—Should be sent directly to the admissions office by the school.

3. College transcripts—An official transcript of record listing all work must be submitted from each college attended, including summer sessions.

4. Course summary—Applicants are expected to provide a listing of courses (with titles) that they expect to complete during the year preceding admission to the school of nursing.

5. Test results—All applicants must submit the results of the Scholastic Aptitude Test of the College Entrance Examination Board. If this test has been taken previously, it need not be repeated, but the earlier results must be submitted.

6. Self evaluation—All applicants are expected to complete the self-evaluation form enclosed in the application kit.

7. Personal evaluation—Three evaluations are required of each applicant. Appropriate forms are provided.

8. Personal interview—Interviews are not required. If the applicant desires one, the interview should be arranged in advance.

9. Medical examination—A complete medical examination is required within six months prior to admission. Appropriate forms for the report will be provided.

Upon receipt of all required forms and records, the student's credentials are submitted to the faculty admissions committee for review and decision. Applications received prior to March 1 will be given priority for review.

Applicants will be notified promptly regarding the committee's decision on their application.

Sufficient proficiency in mathematics for computing medication dosages is one requirement for satisfactory completion of N.359—Foundations for Nursing Practice and for admission to the nursing courses of the second semester. For this reason, the student will receive, with his/her letter of acceptance, information for ordering a programmed instruction text in calculating drug dosages along with study guides. Students will be examined on this information during orientation week.

Registered Nurse Applicants. The School of Nursing provides an opportunity for registered nurses to be admitted to the baccalureate program. Graduates from state-approved diploma programs and associate degree programs in nursing, who are currently licensed to practice, may be admitted for part-time or full-time study. Registered nurse students must hold a Virginia license.

Admission Requirements and Procedures. Refer to information under Basic Students. The same lower division prerequisites are required of the registered nurse student as of the generic student.

In addition, the registered nurse applicant must supply:

- a. an official copy of her nursing school transcript;
- b. an official copy of her State Board Examination scores; and upon request, the scores she made on the N.L.N. Graduate Nurse Examination. These are used for counseling purposes.

Establishment of Credit. The registered nurse student may establish credit for courses in several ways: (a) through proficiency examinations as explained below; (b) through transfer of credit from other colleges; (c) through taking courses as offered to basic students.

Proficiency examinations are of several kinds:

- a. those developed and distributed by the College Entrance Examination Board. Information concerning these tests, called College Level Examination Program tests, may be obtained from

College Entrance Examination Board
475 Riverside Drive
New York, New York 10027

These tests are available through the Academic Campus of Virginia Commonwealth University. They are given on a monthly schedule; arrangements may be made for these tests with the Academic Campus one month prior to the testing date. Each examination costs \$15. Subject examinations are available in multiple areas as listed in information available from the College Entrance Examination Board (C.E.E.B). Semester hour credit granted and determination of satisfactory score is granted in accordance with the recommendations of the C.E.E.B. and varies with different subjects. Students may earn full course credit by examination for general education courses.

- b. Those given by the faculty of the School of Nursing. These proficiency examinations in nursing and other closely allied courses include teacher-made and standardized examinations. Students may obtain a course syllabus from the School of Nursing for review prior to the examination. Course credit is given upon successful performance on the examinations. Students may earn full course credit by examination for courses in the nursing curriculum shown below:

BAS 361.	Health Science I
BAS 362.	Health Science II
BAS 363.	Health Science III
BAS 465.	Infection and Immunity
PSY 304.	Human Development
NUR 369.	Nursing of Adults and Children I
NUR 459.	Nursing of Adults and Children II
NUR 379.	Maternity Nursing
NUR 349.	Psychiatric Nursing

Length of Program for Registered Nurses. The length of each registered nurse student's program within the major is determined by performance on the proficiency examinations. The maximum length of full-time study is two academic years on this campus.

It is possible, however, to complete the nursing major requirements in one calendar year. This special plan for the registered nurse who establishes sufficient credit through proficiency examinations starts in June with a seven-week session. Upon satisfactory completion of the summer session, the registered nurse enters the senior year in September and completes requirements for a degree in two semesters. It is mandatory that the registered nurse take all the courses as listed for the generic student in the fourth semester.

In order to qualify for completion of the major in one calendar year, the registered nurse must have completed the liberal arts requirements before the final semester of her senior year. The Advanced Standing Committee, composed of representatives from the faculty and student body of the School of Nursing, from basic sciences, and from nursing services, is responsible for the placement of students in the curriculum. Their decision is based on the performance of the applicant in all previous educational experiences and in the nursing proficiencies.

Once the liberal arts have been procured or a plan for their acquisition is available, application should be made to the School of Nursing. The applicant should request application material following the freshman year of college work or the fall before expected admission into the School of Nursing.

CURRICULUM PLAN

The freshman and sophomore years of the baccalaureate degree pro-

gram may be taken at VCU's Academic Campus or at any any other accredited junior or senior college. If the student elects another college at which to acquire the prerequisites, counseling is provided to assure the proper selection of courses. It is the applicant's responsibility to seek advice from the admissions office or from the School of Nursing on courses taken prior to admission.

The student enters the MCV/VCU School of Nursing with the status of junior for the study of clinical nursing and health sciences. Two years on the MCV Campus are necessary for basic students to complete the requirements for a bachelor of science in nursing.

For admission as a junior, the student must present a minimum of 60 semester hours.

6 semester hours	English Composition
12 semester hours	Natural Sciences (general chemistry, 2 semesters; and either zoology or biology, 1 or 2 semesters)
18 semester hours	Social Sciences (must include history, 2 semesters, general psychology, and general sociology, or cultural anthropology)
3 semester hours	Mathematics (baccalaureate level)
12 semester hours	Humanities (art, music, drama, philosophy, literature, religion, or foreign language)
9 semester hours	Electives—no more than 3 semester hours in an activity course.

The upper division curriculum is as follows:

JUNIOR YEAR		SENIOR YEAR	
	Cr. Hr.		Cr. Hr.
First Sem.		Third Sem.	
BAS 361. Health Science I.....	7	BAS 463. Health Science III.....	3
BAS 365. Infection and Immunity..	3	NUR 473. Nursing Core III.....	3
PSY 304. Human Development	3	NUR 459. Nursing of Adults and Children II.....	5
NUR 359. Foundations of Nursing Practice	4	NUR 349. Psychiatric Nursing* ...	5
	Cr. Hr.	Fourth Sem.	Cr. Hr.
Second Sem.			
BAS 362. Health Science II.....	3	NUR 474. Nursing Core IV.....	2
NUR 372. Theory of Family and Group for Nursing Practice	2	NUR 479. Advanced Clinical Nursing	5
NUR 369. Nursing of Adults and Children I.....	6	NUR 489. Community Health Nursing	5
NUR 379. Maternity Nursing*	5	PVM 488. Introduction to Public Health Science	2

*Maternity Nursing and Psychiatric Nursing are interchangeable.

All courses listed for the first three semesters within the upper division major are prerequisite to the fourth semester. Other prerequisites are shown in course descriptions.

ACADEMIC REGULATIONS

Full-Time Students. The student is classified as a junior when he enters the upper division courses. Calculation of the grade point average is based on grades in the School of Nursing.

Progression to the second semester of the program is based on earning at least a "C" in Foundations of Nursing Practice and a passing grade in other courses. All courses in the first semester are prerequisite to those of the second semester.

Progression to the third semester and classification as a senior student are based upon satisfactory completion of the courses of the first year with the exception of Maternity or Psychiatric Nursing. A student may be deficient no more than three quality points nor have a cumulative grade point average less than 1.91 to progress to the third semester.

All courses of the first three semesters are prerequisite for the courses of the fourth semester.

Part-Time Students. Refer to course descriptions and prerequisites listed with these.

Method of Grading.

Grades assigned for courses at the end of each semester are:

- A—Excellent performance, 4 quality points
- B—Very good performance, 3 quality points
- C—Average performance (minimum passing grade for nursing courses), 2 quality points
- D—Lowest passing performance, 1 quality point

The following grades carry no quality points:

- F—Failure
- I—Incomplete
- WF—Withdrawn failing
- WP—Withdrawn passing
- AB—Absent from final exam
- AU—Auditing course

Grade of I. The grade of incomplete presupposes that the student is doing passing work on the completed portion of the course but because of illness or other emergency situations is unable to meet all the requirements of the course by the end of the term. A mark of incomplete should not be given without an understanding between the instructor and the student. The maximum time for removal of an incomplete grade is

the end of the last day of classes for the next semester following the semester in which the incomplete was incurred. At the end of the succeeding semester an unremoved grade of incomplete is automatically changed to a failing grade. *The student may not receive an incomplete grade in a nursing course if the deficiency is in the clinical laboratory aspect of the course.*

Grade of W. Withdrawn indicates that the student has officially dropped the course before mid-semester exams have been given.

Grade of WF. Withdrawn failing indicates that the student was failing the course at the time of an official drop after mid-semester exams and prior to the last three weeks of class instruction of the semester.

Grade of WP. Withdrawn passing indicates that the student was passing the course at the time of an official drop after mid-semester and prior to the last three weeks of instruction of a semester.

Students are not permitted to drop a class during the last three weeks of class instruction of a semester. A grade of F is automatically assigned in cases of non-attendance during this period.

Grades of AB and WF are included in the courses attempted by a student during a semester, whereas grades of W and WP are not considered a part of student load attempted in a given semester.

Absence from Final Examination. If a student is excused from a final examination by an instructor, the instructor should report an absence (AB) on the grade sheet. Students who omit the final examination due to an emergency must notify the course leader within 48 hours after the examination is scheduled to begin. If the student's absence is not excused, he is automatically given F in the course.

An approved make up examination should be taken at the earliest possible opportunity after the final examination is scheduled.

Audit. Class size permitting, a student may register for a course on an audit basis. Audit students are charged the regular rate for tuition and fees and an audit course is counted as a part of the student's load. A student registered on an audit basis, however, is not subject to attendance regulations and is not required to take tests nor the final examination. Students enrolled for audit are not given a grade and their records are marked AU—Audit. A course taken from audit cannot be given credit by examination at a later date.

Clinical laboratory grading system is Honors, Satisfactory, or Unsatisfactory. A student earning Honors elevates his grade of B, C, or D by one letter grade. A notation is made on the transcript that the grade has been so elevated. Unsatisfactory clinical application results in a grade of F for the course.

Class Attendance. Attendance at all classes and laboratories is expected. Absences without reason are not condoned; requests for absence on a

convenience basis are not granted. For example, medical and dental appointments, except emergencies, do not constitute basis for an excused absence. Students are expected to make up material missed because of absence.

Absence from clinical laboratory must be reported to the instructor by the beginning of the laboratory period and to the unit by the beginning of the shift during which the laboratory hours occur.

Any student who attends fewer than 87 percent of laboratory sessions for any given course will be dropped automatically with a grade of F.

In case of extenuating circumstances, exceptions to this policy may be made by group decision of faculty teaching the course.

Academic Probation. Academic probation indicates that while academically deficient, the student remains enrolled in school. A student is placed on academic probation when either his overall cumulative average falls below 2.0 or a D or below is earned in a nursing course.

Removal of Academic Deficit. Nursing courses with a D grade or below may be repeated once upon recommendation of the course leader and the associate dean for the undergraduate program. When a course is repeated and a grade of D or below is earned, the student must withdraw from the School of Nursing, but may apply for readmission in one year.

Non-nursing courses passed with a D grade may not be repeated. The one exception is as follows: the chairman of the department concerned may recommend that a course be repeated if the course is specifically required in the upper division. Otherwise, the student may select an appropriate substitute in a behavioral or natural science with the approval of the course leader and the associate dean for the undergraduate program.

Non-nursing courses with a grade F may be either repeated or a comparable course may be taken with the approval of the chairman of the respective department.

Separation from the School. A student who wishes to withdraw from the School of Nursing should discuss his plans with the associate dean of the undergraduate program or her designee or the associate dean of student life. Before leaving the school, the proper forms must be obtained and completed by the student.

A student may be dismissed from the school for failure to meet academic requirements or failure to exhibit the attitudes and skills deemed necessary to function as a professional nurse.

The term "good standing" signifies that the student is eligible to continue in or return to the School of Nursing and implies that there is no obstacle to transfer elsewhere.

"Dismissal" is specified as academic or disciplinary. Academic dismissal implies an involuntary separation of a student from the school because of low academic achievement. (The term "academic dismissal" is placed on the student's record whether or not she initiated her separa-

tion from the school. The term “unsatisfactory achievement in the nursing major” is affixed to the record when appropriate.) If the student seeks readmission, her application must come before the Admissions Committee.

Readmission. The student desiring readmission is given equal consideration with other applicants being reviewed at a scheduled meeting of the admissions committee. The procedures for readmission are the following:

1. The applicant for readmission must submit a letter to the Admissions Committee requesting review.
2. Prior to acceptance for readmission the applicant is required to be interviewed by the full Admissions Committee or by individual members thereof.
3. The applicant’s record from the School of Nursing will be used as one criteria for making a decision. The applicant’s employment record, educational record, and other experiences subsequent to termination at the School of Nursing will also be considered.

Requirements for Graduation. To be a candidate for the degree of bachelor of science in nursing, the student must be recommended by the faculty and must have met the following:

Academic Requirements:

1. Completed all requirements for the prescribed curriculum.
2. Earned a cumulative average of C (2.0).
3. Earned a C in all nursing courses.

Residence Requirement.

The student must be enrolled in the School of Nursing for the final two semesters of study.

Other Requirements:

Candidates must have cleared all financial obligations to the university, returned all materials to the library, and fulfilled any other specifically stated special requirements pertaining to the educational program.

Achievement Tests. During the examination period following each semester, students are required to take various standardized achievement examinations in nursing and health sciences. Comprehensive examinations in nursing and general education are given at the completion of the program.

NURSING FACULTY, UNDERGRADUATE PROGRAM COURSES

Professors: Yingling (Dean); Wiesmann (Associate Dean, Undergraduate Program); Borlick (Chairman, Community Health Nursing); Wiley (Chairman, Psychiatric-Mental Health Nursing)

Associate Professors: Moran (Chairman, Medical-Surgical Nursing); Smith (Acting Chairman, Maternal-Child Nursing); Bobbitt; Dauria; Eanes; Fernandez; Francis; Gwaltney; Hecht; Hord; Keller; Mason; Moore; Munjas; Thompson; Wallace; Whisenhunt.

Assistant Professors: Bach; Bampton; Brown; Clark; Downs (Assistant to the Dean); Fowler; Kissinger; Maupin; Morofka; Morris; Munton; Paletti; Richardson; Ritzman; Swenson; Wessells

Instructors: Brooks (Counselor); Durrett; Griffiths; Jones; Lacey; Mancini; Mertig; Regen; Seymour; Tesh; Vipperman; Youngkin
(Listings for basic science faculty are found in the section for basic sciences and graduate studies.)

JOINT APPOINTMENTS WITH DEPARTMENT OF NURSING

Associate Professor: Fritsch (Director, Department of Nursing)

Assistant Professor: Fawcett (Associate Director, Department of Nursing)

Instructors: Davisson (Divisional Director, Pediatric Nursing); Turnage (Medical-Surgical Nursing)

Courses of Instruction— Undergraduate Program

BAS 361. Health Science I. I. LH-6, Lab H-3, SH-7. An interdepartmental course which provides the nursing or dental hygiene student with a basic understanding of anatomy, physiology, nutrition and biochemistry for use in future courses or as a starting point for more advanced study. The didactic part of the course is supplemented by weekly laboratory sessions for the study of microscopic and gross anatomy using human fetal cadavers and the observation and use of equipment for measuring physiological activity in living animals including the dog.

BAS 362. Health Science II. II. PR: BAS 361, 365. LH-3, SH-3. Integrates and correlates pathophysiology, pharmacology and therapeutics, pathogenesis and nutrition in a stress-adaptation rationale. Areas of discussion emphasize broad base pathologies such as water and electrolyte imbalance, acid-base imbalance, fever, pain, edema formation, shock and blood alterations.

BAS 351. Infection and Immunity. LH-2, Lab H-2, SH-3. A study of infectious diseases of man with emphasis on the distribution, properties, and roles of pathogenic microorganisms and various responses of the host. Principles of prevention, control, and chemotherapy of infectious diseases are major components of the study. Microbiological techniques and special topics, as they relate to nursing practice, will be evaluated in laboratory exercises and conferences.

BAS 463. Health Science III. I. PR: BAS 362. LH-3, SH-3. Builds upon BAS 362 concepts and rationale and continues the integration of pathophysiology, pharmacology and therapeutics, pathogenesis and nutrition in more specific pathologies such as autoimmune diseases, infection, allergy,

neoplasia, cardiovascular, hematopoietic, musculoskeletal, nervous system pediatric geriatric pathophysiologies, and metabolic and nutritional disease.

- BAS 468. Elective Study.** I, II, S. PR: Consent. Supervised study planned to meet the learning objectives of the student.
- NUR 349. Psychiatric Nursing.** I, II. PR: NUR 359. CR: NUR 372, BAS 362. LH-3, CI H-8, SH-5. Planned to help the student gain an understanding of mental illness and acquire beginning skills in caring for the person with mental illness. A problem solving approach is utilized to study the behavior of both patient and student to increase his understanding of the dynamics of human behavior and interpersonal processes.
- NUR 359. Foundations for Nursing Practice I.** PR or CR: BAS 361, 365, PSY 304. LH-2, Lab H-4, CI H-4, SH-4. Enables student to see himself as becoming a professional person through the introduction of theory and skills basic to the practice of nursing. Theory emphasizes the nature of man, man's adaptation to stress, man's entry into the health care system, and the development of a general concept of nursing. Includes supervised clinical experiences to assist the student to use theoretical material in the application of the nursing process to the needs of individuals in a variety of settings.
- NUR 369. Nursing of Adults and Children I.** II. PR: NUR 359 LH-4, CI H-8, SH-6. Furthers the student's ability to use the nursing process in the care of hospitalized individuals of all ages who are threatened with or who have pathophysiological and/or psychosocial conditions requiring nursing intervention encompassing preventive, therapeutic, and rehabilitative aspects.
- NUR 372. Theory of Family and Group for Nursing Practice.** II. PR: NUR 359. LH 2, SH-2. To assist the student with nursing intervention in families and groups. Emphasis is on the family as a system, communication within the family, major stressors in the family, and the theory of groups. Supervised clinical application is provided in clinical nursing courses.
- NUR 379. Maternity Nursing.** I, II. PR: NUR 359, PR or CR: NUR 372, BAS 362. LH-3, CI H-8, SH-5. A family centered experience to prepare the student to plan and give care and guidance to the family unit. Encompasses normal and important abnormal aspects of the maternity cycle from the period of preparation for parenthood through the birth process and subsequent growth and development of the newborn.
- NUR 459. Nursing of Adults and Children II.** I. PR: NUR 369. PR or CR: BAS 463. LH-3, CI H-8, SH-5. A continuation of Nursing of Adults and Children I.
- NUR 469. Elective Study.** I, II, S. PR: consent. SH-1 to 5. Supervised study and/or clinical laboratory planned to meet the learning objectives of the student.
- NUR 471. Nursing Core III.** I. PR: NUR 372. CR: a clinical nursing course. LH-3, SH-3. Designed to enable students to explore and acquire knowledge of the health care delivery system. Selected management concepts and principles applicable to the nursing role with the system are identified. Utilizing content from this course and previous courses, opportunity is provided for functioning as a group member in the study of a social system.

- NUR 472. Nursing Core IV. II.** PR: NUR 473. CR: a clinical nursing course. LH-2, SH-2. Broadens the student's concept of nursing by focusing on nursing as a profession, a method of inquiry, and as it relates to health in contemporary society. Theory is applied in concurrent clinical nursing courses.
- NUR 479. Advanced Clinical Nursing. II.** PR: all 300 level courses, NUR 473, 459, BAS 463. LH-2, Cl H-12, SH-5. Provides senior students opportunities for synthesis and practice in comprehensive nursing care. Joint seminars with NUR 489 encompass discussion of nursing care and management problems in clinical and community settings. Clinical experiences in a variety of specialty areas are provided in MCV Hospitals, in other area hospitals, and includes care of both individuals and groups of patients.
- NUR 489. Community Health Nursing. II.** PR: all 300 level courses, NUR 473, 459, BAS 463. LH-2, Cl H-12, SH-5. Emphasizes nursing of people in their normal environments, such as home, school, work, and the community. Provides opportunities for students to study the health care of selected families and to apply public health concepts and principles of management to nursing in a community.
- PSY 304. Human Development. I.** LH-3, SH-3. A survey course covering the years from birth throughout the life span. Discusses the cultural, social, and biological factors in the development of normal maturation. Covers recent advances in behavioral theory as well as advances in ego psychology.
- PVM 482. Introduction to Public Health Science. II.** LH-2, SH-2. Presents the evolution and principles of modern public health practice and their application to current trends in medical care. Content includes demography, epidemiology, community health services, public health care and public health administration, and international health. Correlation of these principles with the holistic approach to the provision of health services and medical care is emphasized.

Graduate Study in Nursing

MASTER OF SCIENCE DEGREE WITH A MAJOR IN NURSING

In 1968, master's students in nursing enrolled at the MCV/VCU School of Nursing, where in 1967 Virginia's first graduate program in nursing had been approved for operation by the State Council for Higher Education.

Graduate study in nursing is offered with emphasis on preparation for teaching or clinical specialization in medical-surgical nursing, maternal-child nursing, or psychiatric-mental health nursing, and teaching or supervision in community health nursing.

Selection of student experiences is based on prior academic work and nursing practice. Course offerings may vary with the individual students. Flexibility permits students to set their own goals, try new ideas, and analyze the results of such efforts. With a team of multi-disciplinary ex-

perts available for consultation and advisement, the student is exposed to varied philosophies of nursing.

Visiting lecturers of unusual stature and nationally known scholars in various health fields provide a unique opportunity for students to be stimulated by leaders in nursing and related health fields.

A maximum of 39 semester hours of course work, exclusive of the six credits assigned for the thesis, is required for the master of science degree. Transfer of six credits in non-nursing course requirements may be accepted. All majors in nursing are required to register for the following courses:

Course

First Sem.

Biometry 521—Statistics 2-3

Nursing 575—Contemporary Nursing 5

Second Sem.

Graduate Studies 660—Methods of Research..... 3

Nursing 600—Research Seminar 1

Nursing 630—Thesis

Third Sem.

Nursing 630—Thesis

In addition to these requirements and nursing courses in the area of clinical interest, the student selects courses in a functional area.

The teaching option requires 12 semester hours in education; the clinical specialist, 12 hours in selected supportive courses. Supervision in community health agencies requires 12 semester hours in management and/or administration courses. All programs are planned with the students on an individual basis, using the student's background as a base and professional goals as a guide.

Accreditation

The master of science program is accredited by the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing.

Scholarships, Grants, Loans

Funds available are allocated as soon as feasible after being appropriated. It is therefore advisable to apply for admission early—even one year in advance of **ADMISSION DATE** and to indicate the need for financial assistance.

Federal Traineeships

A DHEW, NIMH Grant supports students in psychiatric-mental health nursing.

Admission Requirements

B.S.N. from NLN accredited school or equivalent program to MCV/VCU School of Nursing with upper division major in nursing.

Graduate Record Examination scores (Aptitude Test only).

General admission requirements of the School of Basic Sciences and Graduate Studies of the Medical College of Virginia of Virginia Commonwealth University.

Current license to practice as a registered nurse in Virginia.

THE PROGRAMS AND CLINICAL FACILITIES

The Program, Community Health Nursing

The major in community health nursing is organized to include theoretical knowledge in the physical, behavioral, and sociocultural factors that influence human behavior in health and illness. The advanced clinical content in nursing includes opportunities to apply theories and modalities of treatment in family nursing and in meeting health needs of populations and defined community groups. Emphasis is on the identification and practice of innovative roles in nursing within the context of a changing health care system. Related courses in other fields basic to the specialty are selected for their contribution to the major. Students may select a sequence of courses in disciplines related to an area of special interest within the broad scope of community health nursing and develop this area in their clinical practice and research. Graduate study in education, administration, and special areas of interest is shared with graduate students from fields other than nursing and is directed toward not only preparation for teaching, administration, or special practice areas in community health nursing, but also toward building a base for doctoral study.

Resources and Facilities

A variety of facilities and supporting personnel are available for choice of clinical experiences, ranging from a free youth clinic to county and state health departments. A rural or urban setting may be selected in which to identify and evaluate theories and interventions relevant in advanced community health nursing. Practice in the functional area of choice includes opportunities to work with members of the university faculty or members of the administrative staff of a voluntary or official health agency or as an advanced community health nurse practitioner in the area of special interest. There is joint community health nursing faculty association with the Department of Family Practice in the School of Medicine where a program for the preparation of the family nurse practitioner is being developed. Another joint faculty association is with the center for community health which will provide interdisciplinary community health instruction and community experiences for all students on the MCV Campus.

The Program, Maternal-Child Nursing

A student in the maternal-child major becomes a partner in a teacher-learner enterprise with a team of multi-discipline health experts. Opportunities to develop expertise in many facets of episodic distributive health care are available.

Many facets of the maternal-child program help to develop students distinguished by intellectual curiosity and individual creativity.

Resources and Facilities

The facilities available for teaching maternal-child nursing at the graduate level permit broad exploration and selected depth study in a wide variety of settings.

MCV Hospitals provide numerous inpatient and outpatient specialty services to maternity and pediatric patients and their families.

Believing that fragmentation in health services can best be prevented by professional nurses who possess knowledge and skill beyond that needed to effect changes in the patient's immediate hospital situation, home visits and community facilities are integral parts of the student's clinical experiences.

Maternity Nursing

MCV Hospitals:	No. of Beds
Postpartum, Clinic Admissions.....	66
Prenatal, Clinic Admissions	16
Observation Areas	10
Labor and Delivery Suites	
Labor Rooms	12
Delivery Rooms	7
Bassinets	100

Nursing of Children

MCV Hospitals:	No. of Beds
Medical-Surgical Pediatrics	60
Tonsil and Ear Patients.....	12
Acutely Ill Newborn Infants (Surgical Emergencies)	15
Rooming-in-Pediatrics	12
Premature and High Risk Newborn (Mainly Medical)	40
Adolescent Unit	14

Additional Facilities

MCV Hospitals' outpatient department, city and private hospitals, nursery schools, social service agencies, homes for unwed mothers, public health departments, and the Instructive Visiting Nurse Association, private physicians' offices, Consultation and Evaluation Clinic, Virginia Treatment Center, Cerebral Palsy Center, Genetic Counseling within the Division of Pediatric Endocrinology of the Department of Pediatrics at MCV/VCU, Bureau of Crippled Children Clinics (Supported by Children's Bureau of Department of Health, Education and Welfare) including:

- Pediatric Surgery
- Pediatric Neurosurgery
- Pediatric Urology
- Pediatric Burn Surgery
- Cystic Fibrosis
- Pediatric Orthopedic
- Pediatric Eye and Ear
- Congenital Heart

The Program, Medical-Surgical Nursing

MCV Hospitals' patients are drawn from both urban and rural areas of Virginia. The complexity of their illnesses provides a wealth of experiences for the student of medical-surgical nursing. Opportunity to move out into the community, as well as study within the hospital complex, offers the student breadth as well as depth of preparation.

The focus of the graduate program in medical-surgical nursing is predominantly on physiological problems. The advanced nursing courses concentrate on the problems of individuals who experience cardiac, respiratory, neurological, and oncological disorders.

Students electing the teaching option have the opportunity to participate with undergraduate faculty in planning, organizing, implementing, and evaluating undergraduate student experiences. Actual practice in classroom teaching is provided under guidance. A micro-teaching session affords opportunity for student self-evaluation and improvement.

Students electing clinical specialization may select a focus from among the sub-specialties in medical-surgical nursing for in-depth study and concentrated clinical practice. Practicing clinical specialists from MCV Hospitals are available for consultation which affords the student the option to work in concert with those in actual practice.

The Program, Psychiatric-Mental Health Nursing

The student achieves a measure of expertise toward meeting both professional and personal goals through a program of education which is individually planned. The practice in clinical settings is selected on the

basis of goals. Individual supervision is appropriate to the particular clinical situation. The student has access to teams of multidisciplinary experts with whom to work in planning and implementing care for individual patients and their families and for persons in the community. Opportunities for students to participate in seminars, conferences, and informal sessions with scholars in residence are ongoing activities within the School of Nursing.

Resources and Facilities

The campuses of VCU and the metropolitan Richmond area offer graduate students in nursing the gamut of resources and facilities for optimal learning and clinical experience. Students are encouraged to direct their attention and endeavors to areas of individual interest in order to study specific clinical nursing problems.

Clinical facilities include the inpatient services and clinics of MCV Hospitals, Saint Mary's Hospital, and Central State Hospital. Central State Hospital is located in Petersburg, 30 miles south of Richmond. All of these institutions are accredited by the Joint Commission on Accreditation of Hospitals.

Other resources on the MCV Campus include:

The Virginia Treatment Center for Children, a 40-bed psychiatric hospital for children and the division of child psychiatry of MCV/VCU.

MCV/VCU Alcoholic Unit, housing the Bureau of Alcoholic Studies and Rehabilitation, which involves a cooperative relationship between the State Health Department, MCV/VCU, and the University of Virginia. Its purpose is to provide service, training, and investigation in the care of alcoholic patients.

Other community resources include:

Mental Aftercare Program, a joint effort involving the State Department of Health and the Department of Mental Hygiene and Hospitals.

Richmond Area Psychiatric Clinic, an open-door clinic for city residents and for patients discharged from Eastern State Hospital.

Rubicon, a residential treatment facility for drug addicts.

Fan Free Clinic, a walk-in facility in the Fan District.

Other resources within the State of Virginia include: Eastern State Hospital in Dunbar, Riverside General Hospital in Newport News, and Tidewater Mental Health Clinic in Williamsburg; CHAP House, a Community Hospital Action program sponsored by the State and associated with Central State Hospital.

COMMUNITY HEALTH NURSING

Typical Program—Teaching

First Sem.

Nursing	575	Contemporary Nursing
P.H.S.	590	Epidemiology
Biometry	521	Biostatistics
Education	601	Philosophy of Education

Second Sem.

Nursing	500	Advanced Community Health Nursing
Graduate Studies	660	Methods of Research
Nursing	600	Research Seminar
Sociology	603	Seminar in Population Studies
Education	602	Writing Instructional Objectives
Education	615	Curriculum Development

Third Sem.

Nursing	501	Advanced Community Health Nursing
Nursing	571	Teaching Practicum
Sociology	611	Studies in the Community
Nursing	630	Thesis

Typical Program—Supervision

First Sem.

Nursing	575	Contemporary Nursing
P.H.S.	590	Epidemiology
Biometry	521	Biostatistics
Business	641	Organizational Theory

Second Sem.

Nursing	500	Advanced Community Health Nursing
Graduate Studies	660	Methods of Research
Sociology	607	Seminar in Minority Group Relations
Business	599	Seminar in Management
Business	633	Problems in Labor Relations
Nursing	600	Research Seminar

Third Sem.

Nursing	501	Advanced Community Health Nursing
Nursing	513	Practicum in Supervision
Sociology	611	Studies in the Community
Nursing	630	Thesis

Typical Program—Teaching in Medical-Surgical Nursing

First Sem.

Nursing	575	Contemporary Nursing
Biometry	521	Biostatistics
Physiology	503	Mammalian Physiology
Education	615	Curriculum Development

Second Sem.

Nursing	520	Advanced Medical-Surgical Nursing
Graduate Studies	660	Methods of Research
Nursing	600	Research Seminar
Education	602	Writing Instructional Objectives
Psychology	607	Advanced Educational Psychology

Third Sem.

Nursing	521	Advanced Medical-Surgical Nursing
Nursing	571	Teaching Practicum
Nursing	630	Thesis

Typical Program—Clinical Specialization in Medical-Surgical Nursing**First Sem.**

Nursing	575	Contemporary Nursing
Biometry	521	Biostatistics
Physiology	503	Mammalian Physiology

Second Sem.

Nursing	520	Advanced Medical-Surgical Nursing
Graduate Studies	660	Research Methods
Nursing	600	Research Seminar
Psychology	509	Psychology of Personality

Third Sem.

Nursing	521	Advanced Medical-Surgical Nursing
Nursing	573	Selected Clinical Practicum
Nursing	630	Thesis

Typical Sequence of Courses for Teachers in Maternity Nursing Component or Nursing of Children Component**First Sem.**

Nursing	575	Contemporary Nursing
Biometry	521	Biostatistics
Education	602	Writing Instructional Objectives
Education	615	Curriculum Development

Second Sem.

Nursing	542	Advanced Maternal-Child Nursing
Graduate Studies	660	Methods of Research
Education	603	Seminar in Child Growth and Development
Nursing	600	Research Seminary

Third Sem.

Nursing	543	Advanced Maternal-Child Nursing
Nursing	571	Teaching Practicum
Psychology	607	Advanced Educational Psychology
Nursing	630	Thesis

Typical Sequence of Courses for Clinical Specialization in Maternity Nursing Component or Nursing of Children Component

First Sem.

Nursing	575	Contemporary Nursing
Biometry	521	Biostatistics
Physiology	503	Mammalian Physiology

Second Sem.

Nursing	542	Advanced Maternal-Child Nursing
Graduate Studies	660	Methods of Research
Nursing	600	Research Seminar
Biol. and Gen.....	503	Human Genetics

Third Sem.

Nursing	543	Advanced Maternal-Child Nursing
Nursing	573	Selected Clinical Practicum
Sociology	609	Seminar in the Family
Nursing	630	Thesis

PSYCHIATRIC-MENTAL HEALTH NURSING

Typical Program—Clinical Specialization

First Sem.

Nursing	575	Contemporary Nursing
Nursing	551	Advanced Psychiatric-Mental Health Nursing I
Nursing	555	Group Seminar I
Biometry	521	Biostatistics
Psychology	616	Psychopathology

Second Sem.

Nursing	552	Advanced Psychiatric-Mental Health Nursing II
Nursing	556	Group Seminar II
Graduate Studies	660	Methods of Research
Sociology	613	Seminar in Social Organization and Stratification
Public Health Science	590	Epidemiology
Sociology	607	Seminar in Minority Group Relations
Nursing	600	Research Seminar

Third Sem.

Nursing	553	Advanced Psychiatric-Mental Health Nursing III
Nursing	557	Group Seminar III
Nursing	573	Selected Clinical Practicum
Nursing	630	Thesis

Typical Program—Teaching

First Sem.

Nursing	575	Contemporary Nursing
Nursing	551	Advanced Psychiatric-Mental Health Nursing I
Nursing	555	Group Seminar I
Biometry	521	Biostatistics
Education	602	Writing Instructional Objectives

Second Sem.

Nursing	552	Advanced Psychiatric-Mental Health Nursing II
Nursing	556	Group Seminar II
Graduate Studies	660	Methods of Research
Nursing	600	Research Seminar
Psychology	616	Psychopathology
Education	615	Curriculum Development

Third Sem.

Nursing	553	Advanced Psychiatric-Mental Health Nursing III
Nursing	557	Group Seminar III
Nursing	571	Teaching Practicum
P.H.S.	650	Epidemiology
Nursing	630	Thesis

NURSING FACULTY, GRADUATE PROGRAM

Professors: Yingling (Dean); Treasure (Associate Dean, Graduate Program); Borlick (Chairman, Community Health Nursing); Wiley (Chairman, Psychiatric-Mental Health Nursing)

Associate Professors: Moran (Chairman, Medical-Surgical Nursing); Smith (Acting Chairman, Maternal-Child Nursing); Hecht; Francis; Mason; Munjas; Thompson

Assistant Professor: Morofka

Instructor: Seymour

(Listings for basic science faculty are found in the section for basic sciences and graduate studies.)

Courses of Instruction—Graduate Program

The descriptions provided here are for the courses in the major in nursing and are restricted to students in this major. Please see other sections in this catalog for courses in other departments, viz., biology and genetics, biometry, physiology, and public health science.

Courses in related fields and cognate areas which are offered at the Academic Campus are described under the offerings of the various schools e.g., business, education, graduate studies, psychology, and sociology.

- NUR 500. Advanced Community Health Nursing. II.** PR: NUR 575. LH-3, CI H-8, SH-2. Advanced concepts and theories basic to the study of individuals and families in the community. Advanced nursing practice in examining selected conceptual frameworks for family analysis and nursing intervention is provided through intensive work with families encountering problems on an illness-wellness continuum.
- NUR 501. Advanced Community Health Nursing. I.** PR: NUR 575, 500. LH-3, CI H-8, SH-2. Theories and concepts basic to health needs of populations and of change strategies related to community organization and action for health. Clinical practice with families and selected community health planning groups focuses on the role of the nurse as a change agent.
- NUR 513. Practicum in Supervision. I.** PR: third semester standing. LH-1, CI H-8, SH-3. Philosophy, purposes, and elements of the social role of the contemporary supervisor as a developer of human resources and as a functioning member of organizational structures taught through selected supervised practice.
- NUR 542. Advanced Maternal-Child Nursing. II.** PR: NUR 575, LH-3, CI H-8, SH-2. Maternity and Nursing of Children. Study of physiological and psychosocial requirements of the family during childbearing and child-rearing. Parent-child relationships are examined in relation to other family members. Maternity Nursing: Nursing practicum is directed toward the application of selected theories and concepts to the care of women during pregnancy. Nursing of Children: Nursing practicum is directed toward the application of selected theories and concepts for the maintenance or movement toward optimum growth and development during the preschool years.
- NUR 543. Advanced Maternal-Child Nursing. I.** PR: NUR 575, 542. LH-3, CI H-8, SH-2. Theory and practice are directed toward the physiological and psychosocial needs of family members during the intra-partal periods. Nursing of Children: Theory and practice are directed toward the physiological and psychosocial needs during latency and adolescence in relation to optimum growth and development.
- NUR 520. Advanced Medical-Surgical Nursing. II.** PR: NUR 575. LH-3, CI H-8, SH-2. Theory and practice directed toward the nursing care of adults and their families having selected health problems. Emphasis will be placed on complex problems requiring nursing intervention.
- NUR 521. Advanced Medical-Surgical Nursing. I.** PR: NUR 520. LH-3, CI H-8, SH-2. A continuation of Nursing 520. Factors affecting the implementation of nursing interventions will be discussed.
- NUR 551. Advanced Psychiatric-Mental Health Nursing. I.** LH-2, CL H-8, SH-2. Focuses on interpersonal interaction based on a theory of human values in which concepts such as identity, acceptance and esteem, communication, autonomy, and authenticity are stressed. Theory related to systems analysis used to study the milieu. Content provides basis for the care of individual patients and use of the nursing process within the therapeutic community.
- NUR 552. Advanced Psychiatric-Mental Health Nursing. II.** PR: NUR 551. LH-2, CI H-8, SH-4. A continuation of the study of human values and of specific psychiatric nursing concepts such as anxiety and fear. Provides theory dealing with the study of families and family therapy. Clinical practicum provides additional depth in the care of an individual patient and his family and in the care of groups of patients. Practicum

may cut across clinical and/or agency boundaries according to individual interest and needs of the student.

- NUR 553. Advanced Psychiatric-Mental Health Nursing. I.** PR: NUR 551, 552. LH-2, CI H-8, SH-4. Focuses on the synthesis of previously learned psychiatric nursing theory and material from related areas in the assessment of community dynamics and potentials as they affect the mental health of persons within the community. Focus of the clinical practicum is upon community living.
- NUR 555. Group Seminar. I.** LH-1, SH-1. Series of group seminars designed to promote theoretical understanding of group dynamics and psychotherapies in terms of objectives and techniques. Opportunities provided for personal growth through sensitivity training. First seminar focuses on experimental learnings of group and self dynamics.
- NUR 556. Group Seminar. II.** PR: consent. LH-1, SH-1. Designed to provide theoretical understanding of such group dynamics as process, content, pressure, and feedback.
- NUR 557. Group Seminar. I.** PR: consent. LH-1, SH-1. Devoted to objectives and techniques involved in the various group psychotherapies, including such groups as supportive, guidance, insight-oriented, encounter, marathon, sensitivity training, couples, and family therapy.
- NUR 571. Teaching Practicum. I, II.** PR: 6 credit hrs. education courses and 10 credit hrs. nursing courses. LH-1, CI H-8, SH-3. Concentrated study in classroom and clinical teaching content. Supervised practice teaching is provided with undergraduate nursing students under the direction of master teachers.
- NUR 573. Selected Clinical Practicum. I.** PR: Methods of Research, Statistics, 10 credits in nursing courses. LH-1, CI H-8, SH-3. Concentrated study and clinical practicum directed toward clinical specialist preparation in the major area of interest.
- NUR 575. Contemporary Nursing. 1.** PR. B.S.N. or equivalent degree. LH-4, CI H-4, SH-2. A core course developed to provide knowledge of theories, practices, and procedures common to nursing prior to specialization. All graduate students will participate in seminars and planned clinical practice in conjunction with lectures. It is required prior to any course in the area of specialization with the exception of NUR 551 which is taught concurrently.
- NUR 577. Special Topics in Nursing. I, II, S.** PR: 10 sem. hrs. in the major. SH-1 to 3. This course is designed to provide guidance for more detailed independent study of specific topics in nursing covered briefly in the more general courses.
- NUR 600. Research Seminar in Nursing. II.** PR: Methods of Research, Statistics, and Thesis registration. LH-1, SH-1. Examines practical problems in the implementation of nursing research.
- NUR 630. Thesis.** SH-6-12. Required of all students, the master's thesis constitutes carefully planned and executed research under the supervision of an advisor and in conjunction with a thesis committee. The student writes and presents the required thesis in the area of clinical nursing interest.



SCHOOL OF BASIC SCIENCES AND GRADUATE STUDIES

THE BASIC SCIENCES

The departments of anatomy, biochemistry, biometry, biophysics, microbiology, pharmacology, and physiology provide instruction in their disciplines for students in the schools of medicine, dentistry, pharmacy, nursing, and allied health professions. By developing large, strong departments with a good balance of faculty, post-doctoral fellows, and graduate assistants, it is possible to provide quality instruction for all the health profession schools and to maintain strong research, M.S. and Ph.D. programs, including combined M.S.-Ph.D./M.D. and D.D.S. programs. There is also an interdepartmental program in human genetics that performs the same function.

GRADUATE STUDIES

In addition to the major teaching program for large classes in the professional schools, the basic science departments, as well as departments from other health science schools, offer programs leading to the master of science and doctor of philosophy degrees. The rules and procedures for the graduate programs are established by the Graduate Council and administered by the dean of the School of Basic Sciences and Graduate Studies.

GRADUATE COUNCIL MEMBERS, 1972-73

Daniel T. Watts, Dean, School of Basic Sciences and Graduate Studies,
and Chairman, Graduate Council

Juan A. Astruc.....	Anatomy
Seymour Bakerman	Pathology
John W. Chambers.....	Pharmacology
Alexander M. Clarke.....	Biophysics
Richard M. Cribbs.....	Genetics
Benjamin T. Cullen, Jr.....	Hospital Administration
Roger E. Flora.....	Biometry
Dellvina M. Gross.....	Occupational Therapy
E. S. Higgins.....	Biochemistry
Heber H. Newsome, Jr.....	Surgery
Otto D. Payton.....	Physical Therapy
Steven Price	Physiology
Robert B. Scott	Medicine
H. Jean Shadomy.....	Microbiology
Harold L. Smith.....	Pharmacy

Joanne Stephan	Medical Technology
Edna H. Treasure.....	Nursing
Bartholomeus van't Riet.....	Chemistry and Pharmaceutical Chemistry
Raymond P. White, Jr.....	Dentistry

The members of the Graduate Council are appointed by the vice-president for health sciences, upon the recommendation of the department chairmen and the dean, for a three-year term. The council meets monthly or more often if necessary, under the chairmanship of the dean. The council establishes and maintains admission requirements, rules and procedures for awarding the M.S. and Ph.D. degrees, approval of all new degree programs, and consults with and advises the dean on the maintenance of academic excellence in all degree programs.

REQUIREMENTS FOR ADMISSION

The Board of Visitors, the administration, and the faculty of Virginia Commonwealth University are committed to a policy of equal opportunity in education without regard to race, creed, sex, or national origin.

1. The purpose of admission requirements and procedures is to encourage applications from competent students and to insure selection of those whose motivation, ability, education, character, and health qualify them to pursue successfully graduate study in preparation for a scientific career.

2. To be considered for admission to the School of Basic Sciences and Graduate Studies, all applicants must have an earned baccalaureate degree or its equivalent. Additional entrance requirements for specific programs of graduate study are stipulated by the departments.

3. The following credentials constitute an application and should be transmitted to the office of the School of Basic Sciences and Graduate Studies:

- a. Application for admission on a form furnished to the applicant on request;¹
- b. Official transcripts of all undergraduate and graduate records, sent direct from the college or university registrars to the office of the dean;
- c. Letter or letters of recommendation from a teacher (s) who can evaluate the applicant's ability to carry out graduate study;
- d. A personal letter from the applicant summarizing his motivation, education, and aims in pursuing graduate study;
- e. A recent photograph, passport size;
- f. Graduate Record Examination required; scores are to be sent to

¹Applications for the master of hospital administration and master of science in occupational therapy are processed through the School of Allied Health Professions. Please consult this section of the bulletin for application procedures.

- the dean. (For information on this examination, write to: Educational Testing Service, Box 955, Princeton, New Jersey 08540).
- g. Foreign applicants who do not use English as their natural language must have a minimum TOFEL score of 550.
 4. Acceptance of an applicant rests with the dean upon recommendation of the chairman of the major department.

REGISTRATION

While most students register for the first semester, beginning early in September, arrangements may be made to initiate graduate work at other times during the academic year.

SCHOLARSHIPS, ASSISTANTSHIPS, AND FELLOWSHIPS

Graduate students may apply for a number of state or federal teaching assistantships, scholarships, or fellowships, including the A. D. Williams fellowships (college endowment). These usually pay \$2,400-2,800, plus tuition and \$500 per actual dependent, on a calendar year basis.

THE STUDENT'S ADVISOR AND GRADUATE COMMITTEE

1. Each student shall have an advisor and a graduate committee.
2. Appointment and duties of the advisor:
 - a. The advisor shall be appointed by the dean upon recommendation of the chairman of the student's major department. Appointment should be made as soon as possible after acceptance and, in any case, before registration. A change in advisor may be made by the dean upon recommendation of the chairman of the major department.
 - b. The advisor shall be chairman of the student's graduate committee.
 - c. The advisor shall, with the graduate committee, have responsibility for the general guidance of the student.
 - d. The advisor shall work out a plan of study with the student.
 - e. The advisor shall supervise the student's research work and thesis preparation and be one of the examiners of the thesis.
 - f. At the close of each academic year, the advisor shall submit to the graduate school office a statement covering progress of the student and recommendations as to whether his graduate studies should be continued.
3. Appointment and duties of the graduate committee:
 - a. The student's graduate committee shall be appointed by the dean upon recommendation of the student's advisor. Changes in the membership of the committee will be made in the same way. The committee for the Ph.D. candidate shall consist of a minimum of five members as follows: (1) the student's advisor; (2) represen-

tatives of the department in which major work is to be taken; and (3) at least two other representatives of the graduate faculty outside the major department. The committee for the M.S. candidate shall consist of a minimum of three members as follows: (1) the student's advisor; (2) representative of the department in which major work is to be taken; and (3) representative of the graduate faculty outside of the major department. The composition of the graduate committee shall be such that all significant areas of the student's course work are represented. For the purpose of examinations and thesis evaluation, an additional member may be appointed to the graduate committee by the dean.

- b. The graduate committee shall work with the student's advisor in guiding the student's graduate program.
- c. The graduate committee shall recommend and approve a degree program (including foreign language requirements) for the student as soon as practicable. The final degree program for the M.S. or Ph.D. shall be approved by the student's graduate committee (in consultation with the student). The committee shall file with the office of the dean, at least six months before the final examination, the final program for the M.S. candidate. The degree program for the Ph.D. candidate shall be presented to the dean's office at least six months before the comprehensive examinations. In approving a foreign language, the graduate committee is guided by the importance of that language in the scientific literature of the student's major subject.
- d. The student's graduate committee shall conduct his oral comprehensive and final examinations and act as moderators for his thesis.

REQUIREMENTS FOR GRADUATE DEGREES

General Requirements

1. All full-time graduate students are expected to register for 12 semester hour credits per semester, including research. As an example, when a student is registered for 10 credits in formal courses, he is expected to undertake two credits research under his advisor or other approved faculty member.

A. Grade of Incomplete presupposes that a student is doing passing work on the completed portion of the course, but because of emergency situations, is unable to meet all of the requirements of the course by the end of the term. A mark of Incomplete shall not be given without an understanding between the instructor and the student. The maximum time limit for the removal of an Incomplete is the end of the last day of classes of the next semester following the semester (or summer session) in which the Incomplete was incurred. At the end of the succeeding semester, an unremoved grade of Incomplete is automatically changed to a failing grade.

B. Grade of 'W.' Withdrawn indicates that a student has officially dropped the course before mid-semester. A student who withdraws from a course before the end of the second week will not have the course entered on the transcript.

C. Grade of 'WF.' Withdrawn failing indicates that a student was failing the course at the time of the official drop, after the mid-semester (eight weeks), and prior to the last three weeks of class instruction of a semester.

D. Grade of 'WP.' Withdrawn passing indicates that a student was passing the course at the time of the official drop, after the mid-semester (eight weeks), and prior to the last three weeks of class instruction of a semester.

E. Students who drop a class during the last three weeks of class instruction of a semester will automatically receive a grade of 'F.'

2. Grades are assigned with these values: 'A,' excellent, indicating unusual achievements; 'B,' clearly satisfactory; 'C,' passing; 'D,' unsatisfactory for graduate credit; 'F,' failure. The quality point value of the grades shall be 4, 3, 2, 1, and 0 for 'A,' 'B,' 'C,' 'D,' and 'F,' respectively. No student may take the comprehensive examination if his overall quality average is less than 2.50 or if his quality point average for courses within his major department is below 3.0.

3. All cases of unsatisfactory student performance, including any grade of 'D' or 'F,' failure to pass written or oral comprehensive examinations, or thesis or final examinations require action of the graduate council to permit the student to continue in the School of Basic Sciences and Graduate Studies.

4. Each foreign language examination shall be given by an examiner approved by the dean. The dean may elect to accept, as evidence of satisfactory foreign language knowledge, a comparable examination at another graduate school.

5. Five or more copies of the thesis as required, prepared according to standards approved by the Graduate Council, shall be sent to the student's graduate committee in final form at any time, but no later than May 1 before commencement exercises at which the student expects to receive his degree. These copies are to be submitted in temporary binders. Following acceptance of the thesis and passing of the final examination, it shall be the responsibility of candidate to have five copies of the thesis suitably bound and to present these five copies to the dean's office.

6. The dean will recommend the granting of a degree, only after all requirements have been fulfilled, including payment of all fees to the university and after submission of the bound copies of the thesis. Degrees are not granted in absentia unless specific written request is made to the vice-president for health sciences and permission granted by him for a student to be absent from commencement.

Master of Science

1. Work leading to the degree of master of science is offered in the departments of anatomy, biochemistry, biometry, biophysics, chemistry and pharmaceutical chemistry, genetics, medical technology, microbiology, nursing, pathology, pharmacology, pharmacy, physical therapy, physiology, and may be offered by other units with the approval of the university and the State Council of Higher Education.

The professional degree master of hospital administration is offered by the Department of Hospital and Health Administration and the master of science in occupational therapy by the Department of Occupational Therapy. The bulletin section for the School of Allied Health Professions should be consulted for details of these programs.

2. At least one year of residence is required for the degree of master of science. In practice, it is found that two years of study usually are necessary to complete the requirements. A time limit of five calendar years, beginning at the time of first registration, is placed on work to be credited toward the master of science degree.

3. Each department, at its own discretion, may stipulate one foreign language requirement for the master's degree. It is strongly recommended that the student satisfy the foreign language requirement as soon as possible after beginning his program. He must do so at least two months before submission of the thesis.

4. Each student conducts a research study under the guidance of his advisor. This study is reported in a thesis, prepared in acceptable form and style. On approval of the thesis by the advisor, the student submits five or more copies as required to his graduate committee.

5. The thesis is examined by the student's graduate committee members acting as moderators. The dean may appoint one additional moderator from the faculty of the MCV Campus of VCU or some other institution. An external moderator would be selected by reason of his special knowledge and distinction in the field of the candidate's work.

6. Each moderator shall receive a copy of the candidate's thesis and shall decide on its acceptability. The moderators may confer with each other before making their decision. Each student's advisor shall report to the dean that the thesis is acceptable or not acceptable. The thesis is approved only if the moderators accept it unanimously.

7. On approval of the thesis, the student appears for a final oral examination by the advisor and the thesis moderators. The final examination shall be open to the faculty and its time and place—together with the candidate's name, department, and title of thesis—shall be announced at least seven days in advance.

8. A favorable vote of the graduate committee with no more than one negative vote shall be required to pass the oral examination. All members of the committee and the dean or a faculty member representing him will attend the examination and will cast a vote.

9. The candidate, having fulfilled all the requirements for the degree

of master of science, is recommended to the graduate faculty, general faculty, and the president for the degree.

Master of Science in Hospital Pharmacy

1. Candidates for graduate study leading to the degree of master of science in hospital pharmacy are selected from graduates of schools of pharmacy accredited by the American Council of Pharmaceutical Education. Before the degree may be awarded, the student must show evidence for the completion of 1,920 hours of acceptable hospital pharmacy internship or its equivalent.

2. Candidates for the degree of master of science in hospital pharmacy carry out a scientific experimental research study under the guidance of their advisor and prepare an acceptable thesis reporting this study. Comprehensive written and oral examinations are required. Foreign language requirements and details of the thesis examination and final oral examination are the same as for the regular master of science degree.

Doctor of Philosophy

1. Advanced graduate study leading to the degree of doctor of philosophy is offered in the departments of anatomy, biochemistry, genetics, biometry, biophysics, chemistry and pharmaceutical chemistry, microbiology, pathology, pharmacy, pharmacology, and physiology and may be arranged in other units on approval by the university and State Council of Higher Education. An approved program leading to the degree of doctor of philosophy with a major in chemistry became operative in September 1967.

2. At least two years in residence are required for students holding the M.S., M.D., or D.D.S. degrees and at least three years for those with the baccalaureate degree only. A time limit of seven calendar years, beginning at the time of first registration, is placed on work to be credited towards the doctor of philosophy degree.

3. A student becomes an applicant for the doctorate when he has been admitted as such to the School of Basic Sciences and Graduate Studies. No assurance is given that he will become a candidate for the Ph.D. degree until he has given evidence of superior scholarship.

Before admission to candidacy for the doctorate, the student must have satisfied the language requirements and completed required course work; he must also have passed the comprehensive written and oral examinations. A student is admitted to candidacy by the dean upon recommendation of his advisor and his guidance committee, with the approval of his major department.

4. The student must satisfy an examiner or examiners approved by the dean that he has a reading knowledge of a minimum of one foreign language. (Each department has the option of requiring a second language if it chooses.) It is strongly recommended that the student satisfy

the foreign language requirement as soon as possible after beginning his program. He must satisfy this requirement at least two months before the written comprehensive examination can be taken.

5. Upon satisfactory completion of all required formal course work and successful passing of his foreign language examinations(s), the student takes written and oral comprehensive examinations. The written examination is administered by the student's major department. The student's committee may require that he have a minor field of study, in which case he will also take a written comprehensive examination given by that department. In the event of failure in the written comprehensive examination in the major or minor department, the student, with the approval of the graduate council, may be permitted to repeat the written examination in the department in which the failure occurred.

After successfully passing the written examination(s), the student will take the oral portion within one month. This examination is conducted by the student's graduate committee. A favorable vote of the graduate committee with no more than one negative vote (all members being required to vote) shall be required to pass the oral portion of the comprehensive examination. The dean or a faculty member representing him will attend all oral examinations and will cast a vote.

If a student passes the written comprehensive examination, but fails the oral part, he may be re-examined only in the oral part with the approval of the graduate council.

The oral comprehensive examination is open to all members of the faculty. Faculty members in attendance may ask questions of the candidate, but their questions shall not be presented until after the graduate committee has completed its questions. Faculty members other than those on the committee shall not vote on the success or failure of the candidate. The time and place of the examinations shall be posted at least seven days in advance.

The examination must be successfully completed at least six months before submission of the dissertation.

6. The student must conduct a substantial original investigation under the supervision of his advisor and prepare a dissertation reporting the results of this research and analyzing its significance in relation to existing scientific knowledge.

7. When the dissertation has been completed and the advisor considers it acceptable and that all the requirements have been satisfied, he so notifies the dean. Five copies of the dissertation, or more as required, in acceptable form and style are submitted to the graduate committee.

8. The moderators for the dissertation are the student's graduate committee. The dean may appoint an additional moderator from the faculty of the MCV Campus of VCU or another institution. These moderators decide upon the acceptability of the candidate's dissertation. A favorable unanimous vote is required to approve the dissertation, and all examiners are required to vote.

9. If the moderators accept the dissertation, the candidate appears

before them for a final oral examination. This examination is open to all members of the faculty. The final oral examination will be limited to the subject of the candidate's dissertation and related matters. A favorable vote of the candidate's moderators, and no more than one negative vote, shall be required for passing the final oral examination. All moderators must vote. The dean or a faculty member representing him will attend all oral examinations and will cast a vote. There shall be prior announcement of the candidate's name and department, and title of dissertation, together with the day, place, and hour of the final oral examination at least seven days in advance.

10. The candidate, having fulfilled all of the requirements for the degree of doctor of philosophy, is recommended to the graduate faculty, general faculty, and the president for the degree.

SPECIAL STUDENTS

The dean may admit for individual courses students who are not applicants for any particular degree. A plan for the time of proposed study shall be approved by the dean and permission obtained from the instructors to register for the course. Special students who carry full-time employment will be limited to one course per semester, usually about three or four semester hours credit. Part-time employees will have their course load adjusted in proportion to the time employed. The dean will appoint an advisor for each special student.

Summer Registration

Most graduate students devote 10 or more weeks during the summer to full-time research. It is recommended that these students register for this research credit. From time to time, courses listed under departmental offering are given during the summer on a formal basis, with students registering in the usual manner for credit for these courses. This summer registration is indicated by the letter S after the course number.

Training As A Teacher

Currently there is increased emphasis on competence as a teacher, as well as an investigator, for faculty members of colleges, universities, and professional schools. In addition to practical experience in laboratory teaching and lecturing, it is recommended that courses in the theory of learning and teaching be completed by all M.S.-Ph.D. candidates. A listing of education courses available in the university can be found under the School of Education in the Academic Campus general bulletin. Additional information can be obtained from the Office of Graduate Studies, School of Education, 901 W. Franklin Street, Richmond, Virginia 23220, Telephone 770-7332.

COMBINED M.S.-PH.D. AND M.D. OR D.D.S. DEGREE PROGRAMS

Many future physicians and dentists, especially those interested in academic and research careers, need to start in-depth training in research while still in school or residency training. This need can be effectively met by completing the requirements for the M.S. or Ph.D. degree concurrently with the study of medicine or dentistry. The MCV/VCU medical curriculum and dental curriculum, with free time for elective courses and research, provide an excellent opportunity for interested students to enter a combined M.S./Ph.D.-M.D. or D.D.S. program.

Admission of medical and dental students regularly enrolled in these schools to this combined degree program is processed through the office of the dean of basic sciences and graduate studies by established procedures. Medical College Admission test or Dental aptitude test are acceptable substitutes for the Graduate Record Examination. Undergraduate transcripts and references are obtained from the professional school. No application fee is required since the student is already regularly enrolled in a school of the university.

A minimum of 24 semester hours of course and research is required of medical and dental students pursuing the M.S. degree with not more than 6 hours of these being allowed for course work to satisfy professional school requirements. For students pursuing the Ph.D. degree, a minimum of 60 semester hours of graduate credit is required, of which no more than 9 hours will be allowed for courses taken to satisfy professional school requirements.

The minimum residence requirement is one year for the M.S. and two years for the Ph.D. degree. Twenty-four weeks of graduate work (two summers) will be considered equivalent to one year of residence. A time limit of five calendar years for the M.S. and seven calendar years for the Ph.D. degree beginning at the time of first registration in the graduate school applies to work to be credited toward degrees for students in combined programs.

Medical and dental scientists often need broad training in several of the basic disciplines to meet their objectives. This can be arranged through the appointment of the graduate committee with members from both basic sciences and clinical departments. Admission to graduate study and development of the interdisciplinary program will be channeled through the basic science department in which the student indicates a major interest and will conform to all policies and procedures established by the Graduate Council. Courses can be taken in a broad area; research will normally be concentrated in one laboratory or department with consultation and advice from related areas and departments through the student's graduate committee.

Courses of Instruction

DEPARTMENT OF ANATOMY

Professors: Jollie (Chairman); Burke; Weymouth

Emeritus Professors: Ingersoll; Shanklin

Associate Professors: Astruc; Bush; Harris; Norvell; Odor; Owers; Swibel

Associate Clinical Professor: Sheppard

Assistant Professors: Clabough; Haar; Haines; Hightower; Johnson; Jordan; Leichnetz; Meetz; Pakurar; Poteat; Redmond

Instructors: Geeraets; Jackson

Lecturer: Burke

- ANA 302. Principles of Human Anatomy (Pharmacy).** LH-3; Lab H-3; SH-4.5. The structure of the human body is surveyed by organ systems which are studied at several levels of organization. Emphasis is placed on basic concepts and their application to various body components.
- BAS 361. Health Science I.** I. LH-6, Lab H-3, SH-7. An interdepartmental course which provides the nursing or dental hygiene student with a basic understanding of anatomy, physiology, nutrition, and biochemistry for use in future courses or as a starting point for more advanced study. The didactic part of the course is supplemented by weekly laboratory sessions for the study of microscopic and gross anatomy using human fetal cadavers and the observation and use of equipment for measuring physiological activity in living animals including the dog.
- ANA 406. Applied Neuroanatomy (Physical Therapy).** Total LH-8; Total Lab H-8; SH-1. II. The Department of Anatomy presents a series of lecture and laboratory sessions for the purpose of providing some depth in selected areas of the central nervous system with particular reference to the needs of the physical therapists.
- ANA 501. Microscopic Anatomy (Dentistry).** LH-3; Lab H-6; SH-6. I. A study of the normal tissues and organs of the human body at the microscope level, with emphasis on the histological organization and development of the oral cavity.
- ANA 502. Gross Anatomy (Dentistry).** LH-3; Lab H-9; SH-7.5. II. A systematic dissection and study of the human body with clinical correlation, and with emphasis on the head and neck.
- ANA 503. Introduction to Facial Growth and Development (Dentistry).** LH-2; SH-2. I. This is a conjoint effort with the departments of anatomy, pedodontics, orthodontics, periodontics, and the division of occlusion participating. Its purpose is to introduce the dental student to the child patient in his first year and to provide him with knowledge on the sites of facial growth and important anatomical landmarks used in the clinic.
- ANA 505. Anatomy of the Head and Neck (Dentistry).** LH-2; Lab H-4; SH-1.5. II. PR: Human Gross Anatomy. The course provides a comprehensive review of head and neck anatomy with application to clinical conditions. It is of special interest to junior dental students and others concerned with detailed knowledge of the head and neck.
- ANA 510. Neurosciences (Dentistry).** SH-4. II. An integrated study of the human nervous system from anatomical, physiological, and pharmacological points of view and with clinical implications. Emphasis is put on

the brain and spinal cord. The Department of Anatomy teaches the anatomical portion of this course. Variable LH and Lab H.

- M-I Medicine.** I, II. Approximately 11 semester hours of anatomy is taught throughout the integrated medical curriculum with particular emphasis in the first year. Variable LH and Lab H.
- ANA 508. Fine Structure of Cells and Tissues.** LH-5; SH-5. II. PR: ANA 501. A seminar-conference course in interpretive electron microscopy. The ultrastructural features of cellular elements, tissues, and organs are discussed in the light of the most recent research in the field of cell biology.
- ANA 509. History of Anatomy.** LH-1; SH-1. I. Assigned readings and lectures on the historical development of anatomical knowledge. Prescientific era to the present time will be covered in the course.
- ANA 511. Advanced Studies in Anatomy.** LH-3; Lab H-6; SH-6. I. An in-depth course in specific areas of anatomy: histology, gross anatomy, and neuroanatomy.
- ANA 513. Comparative Neuroanatomy.** LH-2; Lab H-2; SH-3. I. PR: Medical or equivalent neurosciences course. An integrated presentation of problems concerning the significance of structural variation with respect to evolution. The fundamental plan of the vertebrate nervous system from fishes through primates shall be studied.
- ANA 514. Techniques in Electron Microscopy.** LH-2; Lab H-6; SH-5. II. PR: ANA 501. Students are taught the basic techniques and theories of ultramicrotomy and electron micrography, as well as the use of the electron microscope.
- ANA 518. Anatomy of the Eye.** LH-3; SH-3. II. The course will cover: (1) evolution of the eye, (2) gross anatomy of the human eye (orbit, eyeball, and adnexa), (3) histology, including fine structure, (4) neuroanatomy of the optic system, (5) embryology of the eye, including congenital defects, (6) comparative anatomy, with emphasis on laboratory animals used in eye research. Lab H variable; Demonstrations movies, histological slides, gross dissection will be added where applicable.
- ANA 530. Embryology.** LH-3; Lab H-9; SH-6. II. 73-74 alt. yr. PR: Human Gross Anatomy. The lecture portion of the course will cover a variety of individual topics of contemporary interest given by authorities in the particular fields. They will emphasize the historic and classic aspects of the topic as related to current research in the concerned fields. An in-depth study of the morphogenesis of each major organ system using prepared slides of hamster embryos and human materials will constitute the laboratory portion of the course.
- ANA 590. Seminar.** LH-1; SH-1. I, II. This course is a joint effort by the faculty and graduate students of the Department of Anatomy. Reviews and reports of original research and significant advances in the basic medical sciences are submitted.
- ANA 690. Research in Anatomy.** SH-1-15. I, II, S.

DEPARTMENT OF BIOMETRY

Professors: Kilpatrick (Chairman); Minton*

Associate Professors: Carter; Flora; Howell

* Adjunct.

Assistant Professors: Cummings; Lachin*; Meydrech
Lecturer: Nemenyi

- M-1. Medicine.** Approximately one semester hour of biometry is taught throughout the integrated medical curriculum with particular emphasis in the first year.
- BIM 521. Statistical Principles of Health Care Information.** LH-2; Lab H-2; SH-3. I. (For students of hospital and health administration; graduate students in nursing; others with consent.) A basic introduction to the nature, use, and analysis of hospital and health care statistics. The collection, presentation, tabulation, and interpretation of statistical data. Classification of measurements and observations, properties of rates, ratios, and indices. Some typical statistical distributions. The use of measures of location and dispersion to describe a distribution. 'Normal' variation and outliers. The elementary laws of probability. The concept of a sampling distribution, the standard error of the mean and confidence limits in large and small samples. Elements of quality control, decision theory, and tests of significance.
- BIM 522. Operations Analysis.** LH-2; Lab H-2; SH-3. PR: BIM 521 or equivalent. (For students of hospital and health administration; others with consent.) Review of the philosophy, concepts, and procedures of operations research and the problems of derivation and implementation of O.R. solutions in health care. Forecasting. Applications of quality control and decision making to hospitals.
- BIM 531. Mathematics of Statistics.** LH-3; SH-3. I. PR: Calculus. A survey of mathematics used in statistics; a review of matrix theory with applications.
- BIM 532. Mathematics of Computing.** LH-3; SH-3. II. PR: Calculus. Fortran programming and the use of computer terminals and existing programs for statistical analyses. Principles and practice in analog computer programming with applications in kinetics, biological systems, and compartmental analysis.
- BIM 534. Operations Research.** LH-4; SH-4. II (alt. yrs. '74-75). PR: BIM 531 or equivalent. An introduction to the theories and techniques used in operations research including linear, non-linear, dynamic, and integer programming, general optimization methods, queuing theory, transportation, and assignment problems. Applications of these methods to health care and health services research.
- BIM 537. Sampling.** LH-3; SH-3. I. An introduction to the theory and methods of sampling and sample surveys including random, stratified, systematic, and probability sampling, estimation of sample sizes, ratio and regression estimates, and analytical surveys.
- BIM 538. Biometrical Methods of Population Research.** LH-3; SH-3. II (1973). PR: 531, 543, or equivalent. The life table with and without competing risks. Population growth and distribution. Reviews of laws of inheritance. Genetic equilibrium under mutation and selection. Statistical methods in human genetics and family studies, detection, and estimation of genetic linkage.

* Adjunct.

- BIM 543. Statistical Methods.** LH-4; SH-4. I. (Primarily for M.S.-Ph.D. candidates and residents.) Elementary concepts of probability distributions. Single parameter estimation. Hypothesis testing and interval estimation using normal theory. Analysis of variance.
- BIM 544. Techniques of Linear Models.** LH-4; SH-3. II. PR: BIM 543. Subsampling in analysis of variance problems, simple and multiple linear regression, polynomial regression, use of general linear model in regression and analysis of variance models, analysis of covariance, techniques for analyzing non-orthogonal data.
- BIM 545. Theory of Probability and Statistical Inference.** LH-4; SH-4. I. PR: one year of calculus. Discrete and continuous probability distributions, moment generating functions and change of variables; limit theorems and laws of large numbers; Bayesian, maximum likelihood, and moment estimators; Neyman-Pearson and likelihood ratio criteria for testing simple and composite hypotheses.
- BIM 546. Linear Statistical Models.** LH-4; SH-3. II. PR: BIM 545. Distribution of quadratic forms under normal theory; general linear model of full rank and less than full rank, Gauss-Markov theorem; estimability.
- BIM 590. Biometry Seminar.** LH-1; SH-1. I and II. Talks by the students, faculty, and visitors describing recent research or reviewing topics of mutual interest.
- BIM 600. Special Topics in Biometry.** SH-1-4. I, II. The faculty (including visiting and adjunct professors) from time to time offer courses in newly developing areas of statistics and biometry. For information, contact the department chairman. LH by arrangement. Lab H by arrangement.
- BIM 641. Advanced Statistical Inference.** LH-4; SH-4. I (alt. yrs. '74-75). PR: BIM 545. Concepts of classical decision theory, the Bayesian approach to decision theory, the use of prior information in arriving at decision procedures, empirical Bayesian tests of hypotheses, estimation of parameters, and other applications. In the second half of this course, the theories of estimation and hypothesis testing introduced in Biometry 545 will be extended.
- BIM 642. Methods of Multivariate Analysis.** LH-4; SH-4. II. PR: BIM 543, 546. Introduction to the theory and methods of analysis of multivariate data; generalization of standard univariate techniques to the multivariate, union-intersection and likelihood ratio tests; multiple, partial, and canonical correlation; principle component analysis; discriminant analysis.
- BIM 650. Design and Analysis of Response Surface Experiments.** LH-4; SH-4. II (alt. yrs. '74-75). PR: BIM 543 and 546. Philosophy, terminology, and nomenclature for response surface methodology, analysis *in the vicinity* of the stationary point, canonical analyses, description of the response surfaces, rotatability, uniform information designs, central composite design and modern design criteria.
- BIM 644. Stochastic Processes.** LH-4; SH-4. II (as required). PR: BIM 545. An introduction to the theory of random walk, Markov chains, queuing, and birth and death, and diffusion processes with applications.
- BIM 646. Nonparametric Statistics.** LH-4; SH-4. I (as required). PR: BIM 545. Theory of distribution-free and order statistics with emphasis on estimation and hypothesis testing.

BIM 550. Design of Experiments. As required. LH-4; SH-3. PR: BIM 546. Analysis and design of factorial experiments, Latin squares and others. Effects of blocking, fractional replication, and confounding.

BIM 690. Research in Biometry. SH-1-15. I, II, S.

DEPARTMENT OF BIOCHEMISTRY

Professors: Abbott (Chairman); Clayton; Higgins; Swell*

Emeritus Professor: Forbes

Associate Professors: Banks; Kline; Liberti; Rogers

Assistant Professors: Bond; Brandt; Collins; DeVries; Diegelmann (Surgery); Eanes (Pediatrics); Gander (Pathology); Grigsby (Dentistry); Guyer; Shelton; A. Redmond

Instructor: Jennings

Lecturer: Young (Pathology)

BIC 302. Biochemistry (Pharmacy). LH-3, 4; Lab H-3; SH-3, 4, or 5½. II. PR: Chem. 301 & 311. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as a part of the fundamental background of modern pharmacy. May be taken by non-pharmacy majors for undergraduate credit with permission of instructor.

BAS 361. Health Science I (Nursing). LH-1; SH-1. I. An interdepartmental course which provides the nursing or dental hygiene student with a basic understanding of anatomy, physiology, nutrition, and biochemistry.

BIC 501. Biochemistry (Dentistry). LH-4; Lab H-2; SH-5. I. PR: Org. Chem. A presentation of structural biochemistry, intermediary metabolism, physiological chemistry, and nutrition as part of the fundamental background of modern dentistry.

M-I Medicine. I, II. Approximately six semester hours of biochemistry is taught throughout the integrated medical curriculum with particular emphasis in the first year.

BIC 503. General Biochemistry. LH-5; SH-5. I. PR: 8 cr. Org. Chem. A comprehensive introductory course for graduate students. Courses 503 and 505 constitute the complete introductory course.

BIC 505. Experimental Biochemistry. Lab H-8; SH-4. I. PR: BIC 503 (or concurrent) or equiv., Quant. Chem. Laboratory work, including theory and practice of biochemical research methods.

BIC 510. Biochemical Preparations. SH-2; per preparation. I, II, S. A study of some of the more common biochemical substances by comprehensive written review of the literature and by preparations from biological material.

BIC 590. Biochemistry Seminar. SH-1. I, II. Reports on recent biochemical literature and research by students and staff.

BIC 601. Lipids. LH-2; SH-2. I (alt. yrs. '73-74). PR: BIC 503. Selected advanced topics in the chemistry and metabolism of lipids.

BIC 602. Proteins. LH-2; SH-2. II (Alt. yrs. '74-75). PR: BIC 503. Biochemistry of proteins.

* McGuire V.A. Hospital.

- BIC 604. Enzymology.** LH-2; SH-2. II (alt. yrs. '74-75). PR: BIC 503. Mechanisms and kinetics of enzyme catalysis.
- BIC 606. Controls of Metabolic Processes.** LH-2; SH-2. II (alt. yrs. '73-74). PR: BIC 503 and permission of the instructor. An advanced course on mechanisms by which metabolic processes are controlled.
- BIC 612. Vitamins and Nutrition.** LH-2; SH-2. II (alt. yrs. '73-74). PR: BIC 503 and permission of the instructor. An advanced course on 503. Advanced study of chemistry and biochemical mechanisms of vitamin function; experimental and practical aspects of nutrition.
- BIC 614. Vitamins and Nutrition (Laboratory).** Lab H-4; SH-2. II (alt. yrs. '73-74). PR: BIC 505. Methods of vitamin assay and food analysis.
- BIC 690. Research in Biochemistry.** SH 1-15. I, II, S. Research leading to the M.S. or Ph.D. degree and elective research projects for students in the professional schools.

DEPARTMENT OF BIOPHYSICS

Professor: Ham (Chairman)

Associate Professors: Clarke; Cleary; Epstein; Geeraets (Ophthalmology); O'Neal

Assistant Professors: Keefe; Williams

Instructors: Campbell; Ruffin

Research Associate: Berry

- BIP 501. Radioisotopes.** LH-3; Lab H-2; SH-4. I. Elements of nuclear physics, statistics of counting, radiation dosimetry, health physics, radiation protection, tracer, and radiographic techniques.
- BIP 502. Applied Electronics in Biology and Medicine.** LH-2; Lab H-2; SH-3. II. Fundamental principles and applications of electronics as related to biological sciences.
- BIP 510. Statistical Mechanics.** LH-3; SH-3. I. PR: Thermodynamics or Physical Chemistry. Review of prerequisites. Lagrangian undetermined multipliers. Boltzmann statistics. Failures of classical statistics. Black body radiation. Bose-Einstein and Fermi-Dirac statistics.
- BIP 520. Quantum Mechanics.** LH-4; SH-4. I and II. Theory of atomic spectra. Experimental evidence. Bohr-Sommerfeld theory. Wave mechanics. Elements of matrix mechanics. Angular momentum theory. Nature of the chemical bond.
- BIP 522. Circuit Design and Analysis.** LH-3; SH-3. II. PR: College Physics, Calculus. Emphasis is placed on the understanding in depth of the analysis and design of electronic circuits. Designed to meet the needs of quantitatively oriented students.
- BIP 524. Optical Physics.** LH-3; SH-3. II. PR: Calculus and elementary physics. Physical principles of the electromagnetic spectrum. Maxwell's equations, microwaves, infrared and ultraviolet radiation, lasers and optical sources, black body radiation, all as related to the interaction with physical or biological systems.
- BIP 525. Photobiology.** LH-2; SH-2. II. Basic principles of photochemistry are covered from a basic quantum mechanical approach including excitation, vibrational, and electronic energy levels, the Franck-Condon prin-

principle and internal conversion. These principles are then applied to interactions of visible and ultraviolet light with biological systems, primarily at the molecular level. Fluorescence and phosphorescence of proteins and nucleic acids are discussed from the viewpoint of applications to determinations of structure and function.

- BIP 590. Seminar.** LH-1; SH-1. I, II. Research reports from members of the staff, discussion of special topics, and lectures by visiting speakers. Participation and at least one presentation each semester by each registered graduate student.
- BIP 601. X-ray Crystallography.** LH-4; SH-4 I (alt. yrs. '74-75). Basic mathematical theory of x-ray crystal analysis including Fourier transform, convolution, symmetry operations, and reciprocal space will be taught. The powder film identification, Weissenberg camera and Precession camera techniques will be introduced. Methods of solution of x-ray crystal structures including heavy atom, Patterson maps, isomorphous replacement, and anomalous dispersion will be covered.
- BIP 602. Molecular Biology.** LH-4; SH-4. II. (alt. yrs. '74-75). PR: undergraduate biology and/or chemistry. Chemistry of nucleic acids; structure and function; protein synthesis; molecular genetics and control.
- BIP 604. Biophysical Techniques.** LH-2; Lab H-2; SH-3. I. Basic theories, description of experimental techniques, and results will be covered in lecture. Experiments by students or demonstrations will be undertaken in the laboratory. Among instruments studied are: X-ray powder patterns and single crystal analysis, electro-optic Kerr effect, nuclear magnetic resonance, Mossbauer effects, transmission and scanning electron microscope, gas chromatography, and liquid scintillation counting.
- BIP 690. Research in Biophysics.** SH-1-15. I, II, S. Opportunities are available for graduate students to conduct original investigations under the supervision of members of the staff in molecular biology, radiobiology, biological effects of thermal and laser radiation, and other areas of quantitative research on living systems at the molecular level.

DEPARTMENT OF HOSPITAL AND HEALTH ADMINISTRATION

The Department of Hospital and Health Administration offers the master of hospital administration degree. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Allied Health Professions section of this bulletin.

- AHP 581. Administration in Allied Health Professions.** SH-3; S. (Interdepartmental)
- AHP 582. Supervision in Allied Health Professions.** SH-3; S. (Interdepartmental)
- HHA 501. Hospital Organization and Administration.** SH-3; I.
- HHA 502. Health Care Organization.** SH-3; II.
- HHA 505. Health Economics.** SH-3; I.
- HHA 506. Financial Management I.** SH-3; II.
- HHA 507. Financial Management II.** SH-3; S.

- HHA 511. Hospital and Medical Law.** SH-3; I.
- HHA 514. Health Institution Planning.** SH-3; II.
- HHA 515. Community Health Planning.** SH-3; S.
- HHA 516. Seminar in Applied Health Planning.** SH-3; S.
- HHA 544. Community Research Seminar I.** SH-3; II.
- HHA 545. Community Research Seminar II.** SH-2; S.
- HHA 547. Organizational Behavior.** SH-3; I, II.
- HHA 550. Medical Terminology.** SH-0; I.
- HHA 552. Applied Quantitative Methods.** SH-2; S.
- HHA 556. Seminar in Hospital and Health Care Policy.** SH-2; S.
- HHA 558. Hospital Personnel Administration.** SH-3; II.
- HHA 562. Health Care and the Political Process.** SH-3; I, II.
- HHA 564. Current Issues in Hospital and Health Administration.** SH-2; S.
- HHA 598. Thesis I.** SH-3; II.
- HHA 599. Thesis II.** SH-2; S.
- HHA 602. Advanced Seminar in Health Administration.** SH-3; I and II.
- HHA 702. Administrative Residency.** SH-6; I and II.

PROGRAM IN HUMAN GENETICS

Associate Professors: Cribbs (Chairman); Grundbacher; Townsend
 Emeritus Professor: Hughes
 Assistant Professor: Chen

- GEN 501. General Genetics.** LH-3; SH-3. I. An introductory course designed to acquaint graduate students with the concepts of genetics.
- GEN 503. General Genetics Laboratory.** Lab H-2; SH-1. PR: Concurrent with General Genetics 501. Laboratory experiments that illustrate basic genetic principles.
- GEN 504. Biochemical Genetics.** LH-3; SH-3. II. PR: Microbiology and Biochemistry. The chemical nature of genetic material and its role in cell division and in protein synthesis in both procaryotic and eucaryotic systems.
- GEN 506. Biochemical Genetics Laboratory.** Lab H-2; SH-1. II. PR: Concurrent with Biochemical Genetics 504. Laboratory techniques used in bacterial and somatic cell genetics.
- GEN 507. Medical Genetics.** LH-2; SH-2. I. PR: General Genetics or equivalent. Principles of inheritance and variation in man with particular reference to clinical entities.
- GEN 511. Human Cytogenetics.** LH-2; SH-2. I. Principles of cytogenetics and the significance of chromosome diseases in man.

- GEN 513. Human Cytogenetics Laboratory.** Lab H-2; SH-1. I. PR: GEN 511 or concurrent enrollment. Cytogenetic techniques including blood leucocyte cultures, fibroblast cultures, photographic microscopy of chromosomes, and karyotyping.
- GEN 516. Population Genetics.** LH-3; SH-3. II. Genetic and ecological factors affecting normal and abnormal variation within and between populations of organisms, especially man.
- GEN 530. Genetics (Dentistry).** LH-1; SH-1. II. For dental students: the basis of inheritance and variation in man, including simple and complex modes of inheritance, the nature of mutations, human chromosomal aberrations, variation in proteins and antigens, genetic aspects of some syndromes, and birth defects.
- GEN 590. Genetics Seminar.** LH-1; SH-1. I and II. Selected topics in genetics presented by students and staff.
- GEN 650. Special Topics in Genetics.** SH-1.4. I and II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.
- GEN 690. Genetics Research.** SH-1.15. I and II. Research leading to the M.S. or Ph.D. degree; elective research projects for students in the professional schools.
- M-1. Medicine (Cell Biology).** Approximately two semester hours of genetics is tangent as a part of cell biology during the first year of the integrated medical curriculum. Variable LH.
1 SH. Genetic lectures are given in courses throughout the School of Nursing curriculum. Variable LH.
- GEN 531. Genetics (Physical Therapy).** SH-1. I. For physical therapy students: genetic principles, including birth defects with a genetic etiology.

DEPARTMENT OF MEDICAL TECHNOLOGY

The Department of Medical Technology offers the master of science degree. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Allied Health Professions section.

- MET 505. Advanced Hematology.** SH-4; I.
- MET 510. Interpretative Clinical Hematology.** SH-2; I, II.
- MET 570. Seminar and Practicum in Allied Health Teaching.** SH-3; I, II.

DEPARTMENT OF MICROBIOLOGY

Professors: Bradley (Chairman); Coleman; Hench (Pathology); Knighton (Dentistry); Welshimer

Emeritus Professor: Reid

Associate Professors: Formica; Hsu; Shadomy, H. J.

Visiting Associate Professor: Tankersley

Assistant Professors: John; Jones; Kolstad; Mardon; Morahan; Phibbs; Punch; Tew

Instructors: Hylemon; Parker

- MIC 365. Infection and Immunity (Nursing).** LH-2; Lab H-2; SH-3. I. A study of infectious diseases of man with emphasis on the distribution, properties, and roles of pathogenic microorganisms and the varied responses of the host. Principles of prevention, control, and chemotherapy of infectious diseases are major components of the course. Microbiological techniques as they relate to nursing practice will be evaluated in laboratory exercises and conferences.
- MIC 402. Microbiology (Pharmacy).** LH-3; Lab H-3; SH-4½. II. A study of the fundamental principles of microbiology with special emphasis on those aspects of the subject that are of importance in pharmacy. Offered in the School of Pharmacy and open to pharmacy students in the junior year; others by permission of the instructor.
- MIC 501. Bacterial Physiology and Metabolism.** LH-3; SH-3. PR: Microbiology 504. Studies on cellular composition, organization, and chemical and metabolic reactions as related to their functions and interactions in the life of bacteria.
- MIC 502. Animal Virology.** LH-2; Lab H-4; SH-4. II. A comprehensive introduction to animal virology emphasizing the molecular aspects of viral replication and the cellular responses following infection with lethal and oncogenic viruses.
- MIC 504. Cell Physiology (Same as Physiology 504).** LH-5; SH-3.5. II. The application of physics and chemistry to the study of the functional properties of living cells is the subject matter of cell physiology. Topics discussed include origin and evolution of cells, cytochemistry, bioenergetics, secretions and transport of material across membranes, regulation, control, and genetics.
- MIC 505. Immunobiology.** LH-2; Lab H-4; SH-4. I. A survey of immunobiology as a total host response to foreign agents, including the nature and reactions of antigens and antibodies, the biology of the immune response, and laboratory diagnostic techniques.
- MIC 507. Medical Mycology.** LH-2; Lab H-4; SH-4. I. A comprehensive study of fungi pathogenic to man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.
- MIC 508. Bacterial Physiology and Metabolism Laboratory.** LH-3½; Lab H-18; SH-4. S. (Six weeks). PR: MIC 504 or BIC 503. Laboratory exercises in those techniques and methods in common use in bacterial physiology.
- MIC 510. Medical Parasitology.** LH-1; Lab H-2; SH-2. II. An introduction to the animal parasites of man with emphasis on both the biological and the medical aspects of the host-parasite association.
- MIC 514. Principles of Oncology.** LH-2; Lab H-4; SH-4. II. A goal oriented presentation of neoplasia pertaining to: the cancer cell, tumor host interrelationship carcinogenesis, immunology of cancer, tumor growth and cell kinetics, common cancer related to sex and age, basic and practical concept of therapy and the role of the various medical and paramedical personnel involved in cancer.
- MIC 515. Pathogenic Bacteriology.** LH-2; Lab H-4; SH-4. I. A survey of the bacteria that cause infections in man with an emphasis on their properties, pathogenesis, and laboratory diagnosis.

- MIC 520. Microbiology (Dentistry).** LH-3; Lab H-4; SH-5. I. A lecture and laboratory study of the disease-producing microorganisms of man with special emphasis on the role of microorganisms in oral lesions.
- MIC 540. Microbiology Seminar.** LH-1; SH-1. I & II. Presentation and discussion of research reports and topics of current interest to the departmental seminar or special group seminar.
- MIC 650. Special Topics in Microbiology.** SH-1.4. I. or II. Lectures, tutorial studies, and/or library assignments in selected areas of advanced study not available in other courses or as part of the research training.
- MIC 690. Research in Microbiology.** SH-1.15. I. & II. Research leading to the M.S. or Ph.D. degree and elective research projects for other students.
- M-II. Medicine.** I. Approximately six semester hours of microbiology is taught as a part of the integrated medical curriculum with emphasis during the first semester of M-II.

SCHOOL OF NURSING

The School of Nursing offers the master of science degree. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Nursing section.

- NUR 500. Advanced Community Health Nursing I.** SH-5; II.
- NUR 501. Advanced Community Health Nursing II.** SH-5; I.
- NUR 513. Practicum in Supervision.** SH-3; I, Summer.
- NUR 520. Advanced Medical-Surgical Nursing I.** SH-5; II.
- NUR 521. Advanced Medical-Surgical Nursing II.** SH-5; I.
- NUR 542. Advanced Maternal-Child Nursing I.** SH-5; II.
- NUR 543. Advanced Maternal-Child Nursing II.** SH-5; I.
- NUR 551. Advanced Psychiatric-Mental Health Nursing I.** SH-2; I.
- NUR 552. Advanced Psychiatric-Mental Health Nursing II.** SH-4; II.
- NUR 553. Advanced Psychiatric-Mental Health Nursing III.** SH-4; I.
- NUR 555. Group Seminar. I.** SH-1; I.
- NUR 556. Group Seminar II.** SH-1; II.
- NUR 557. Group Seminar III.** SH-1; I.
- NUR 571. Teaching Practicum.** SH-3; I, II, Summer.
- NUR 573. Selected Clinical Practicum.** SH-3; I, Summer.
- NUR 575. Contemporary Nursing.** SH-5; I.
- NUR 577. Special Topics.** SH-1-3; I, II, Summer.
- NUR 600. Research Seminar in Nursing.** SH-1; II.
- NUR 630. Thesis.** SH-6-12; I, II, Summer.

DEPARTMENT OF OCCUPATIONAL THERAPY

The Department of Occupational Therapy offers the master of science degree. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Allied Health Professions section.

- OCT 501. **Woodworking.** SH-2; I.
- OCT 512. **Pediatrics.** SH-3; II.
- OCT 533. **Medical Lectures II.** SH-2; I.
- OCT 534. **Medical Lectures.** SH-2; II.
- OCT 535. **Psychiatry.** SH-2; II.
- OCT 601. **Therapeutic Modalities.** SH-3; II.
- OCT 611. **Therapeutic Techniques.** SH-2; I.
- OCT 612. **Clinical Practicum.** SH-6; S.
- OCT 613. **Clinical Techniques.** SH-3; I.
- OCT 618. **Group Process.** SH-2; II.
- OCT 621. **Theory of Physical Dysfunction.** SH-3; I.
- OCT 623. **Advanced Physical Dysfunction.** SH-3; I.
- OCT 630. **Theory of Psychosocial Dysfunction.** SH-3; I.
- OCT 631. **Advanced Psychosocial Dysfunction.** SH-3; I.
- OCT 635. **Organization and Administration.** SH-2; I.
- OCT 641-642. **Seminar.** SH-1-4; I and II.
- OCT 651-652. **Clinical Experience.** SH-0; I, II, and S.
- OCT 661-662. **Directed Studies.** SH-1-6; I and II.
- OCT 671. **Research in Occupational Therapy.** SH-3; I.
- OCT 682. **Social Aspects of Rehabilitation.** SH-3; II.
- OCT 701. **Thesis.** SH-3-6; II.

DEPARTMENT OF PATHOLOGY

See School of Medicine section for faculty.

- PAT 501. **General Pathology (Dentistry).** LH-3; Lab H-6; SH-6. I. Instruction in the basic principles regarding alteration of structure and function in disease and in the genesis and effect of disease in the various organ systems.
- PAT 509. **Basic Immunohematology.** LH-1-4; SH-1-4. A study of the blood groups in man, their mode of inheritance, and clinical significance. Pertinent laboratory exercises will be carried out in the blood bank.
- PAT 510. **Basic Clinical Immunohematology.** LH-4; SH-4. II. PR: Basic Immunohematology 509. Indications for the transfusion of blood, blood

components, and derivatives. Laboratory experience related to the collection and storage of blood, blood components, and blood derivatives.

- PAT 513. Blood Banking Laboratory.** Lab H-8; SH-4. I. PR: Basic Immunohematology. The laboratory is devoted to exercises in blood grouping, typing, genotyping, antibody screening, antibody identification, detection of Australia antigen (HAA), and the collection of blood from normal donors.
- PAT 521. Clinical Chemistry.** LH-1-4; SH-1-4. I. PR: General Biochemistry 503. This course consists of three parts which may be taken together or separately. Clinical enzymology—a discussion of clinical laboratory data with emphasis on differential clinical interpretation: 2 credits. Clinical hematology: 1 credit. Concepts of current methods of analysis in the clinical chemistry laboratory: 1 credit.
- PAT 522. Clinical Chemistry.** LH-1-4; SH-1-5. II. PR: BIC 503. This course consists of three parts which may be taken separately or together. Hormone changes in disease: 2 credits. Acid–base and electrolytes changes in disease: 1 credit. Current methods of analysis in the clinical chemistry laboratory: 1 credit.
- PAT 560. Advanced Oral Pathology.** LH-2; SH-2. I, II. PR: PAT 501. A didactic course on the etiology, clinical histopathologic characteristics, prognosis, and treatment of oral and paraoral lesion.
- PAT 561. Oral Pathology Seminar.** LH-1; SH-1. II. A thorough review of assigned topic from the current literature will be required. Students will then report on the clinical, histological, and biological characteristics of the assigned entity.
- PAT 580. Experimental Pathology Seminar.** LH-1; SH-1. I, II.
- PAT 590. Clinical Chemistry Seminar.** LH-1; SH-1. I, II. Graduate students, residents, and staff present topics of current interest in clinical chemistry.
- PAT 602. Experimental Pathology of Infectious Diseases.** LH-2; Lab H-6; SH-5. II. Gross and microscopic pathology will be studied in relation to biochemical changes in the disease process. Various infectious and noninfectious diseases will be utilized for comparison of the mechanisms of disease.
- PAT 606. Biochemistry of Disease.** LH-2; SH-2. II. PR: BIC 503. A detailed study of the biochemical mechanisms involved in the pathogenesis of certain diseases.
- PAT 610. Physiology of Blood Coagulation.** LH-1; Lab H-4; SH-3. I, II. PR: BIC 503 and PIO 502. The historical development of bleeding and clotting disorders with current diagnostic methodology and treatment.
- PAT 613. Pathogenesis of Infectious Disease (Viral Agents).** LH-2; Lab H-4; SH-4. I. PR: Animal Virology or equivalent. Discussion of the pathogenesis and epidemiology of viral and rickettsial diseases emphasizing interrelationships of host, parasite, and environment. Students will learn to evaluate virological procedures as well as the interpretation of laboratory results and their application to diagnostic problems in clinical areas.
- PAT 614. Pathogenesis of Infectious Disease (Bacterial Agents).** LH-2; Lab H-4; SH-4. II. PR: Pathogenic Bacteriology or equivalent. Emphasis will be upon the pathogenesis and epidemiology of infectious disease. The dynamic interaction between the host, microorganism, and environment

will be documented using the data obtained from MCV Hospitals. Students will have the opportunity to apply laboratory data and techniques to present microbiological problems in clinical areas.

- PAT 620. Special Topics in Modern Instrumental Methods.** LH-1; Lab H-2; SH-2. I, II. A study of some of the modern research methods of molecular biology. The student will have experience with the technique concomitant with discussions with faculty. The student will write a comprehensive review of the technique studied.
- PAT 690. Research in Pathology.** SH-1-15. I, II, S. Research leading to M.S. or Ph.D. degree.

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

The Department of Pharmaceutical Chemistry offers the master of science and doctor of philosophy degrees. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Pharmacy section.

- CPC 402. Organic Pharmaceutical Chemistry.** SH-3; II.
- CPC 503. Organic Pharmaceutical Chemistry.** SH-3; I.
- CPC 506. Advanced Medicinal Chemistry I.** SH-3; II.
- CPC 511. Physical Chemistry.** SH-3; I.
- CPC 512. Physical Chemistry.** SH-3; II.
- CPC 513. Experimental Physical Chemistry.** SH-2; I.
- CPC 514. Experimental Physical Chemistry.** SH-2; II.
- CPC 521. Drug Assaying.** SH-1-4; I.
- CPC 526. Research Techniques in Pharmaceutical Chemistry.** SH-1-4. II.
- CPC 590. Pharmaceutical Chemistry Seminar.** SH-1; I, II.
- CPC 607. Advanced Medicinal Chemistry II.** SH-3; I.
- CPC 622. Stereochemistry.** SH-2; II.
- CPC 632. Heterocyclic Chemistry.** SH-3; II.
- CPC 650. Special Topics in Pharmaceutical Chemistry.** SH-1-4; I, II.
- CPC 681. The Ultracentrifuge.** SH-2; I.
- CPC 690. Research in Pharmaceutical Chemistry.** SH-1-15; I, II.

See the Academic Campus bulletins for additional courses in chemistry.

DEPARTMENT OF PHARMACOLOGY

Professors: Harris (Chairman); Borzelleca; Larson; McKennis; Watts; Woods

Emeritus Professor: Ambrose

Associate Professors: Bowe; Dewey; Hudgins; Rosecrans

Associate Clinical Professor: Wasserman

Assistant Professors: Adams; Chambers; Egle; Freund (part time); Friedman; Winters

Research Associates: Bowman, E.; Bowman, F.; Sprouse; Harlow (part time)

Lecturers: Funderburk; Owen

PMC 402. Principles of Pharmacology (Pharmacy). LH-3; Lab H-2; SH-4. II. The basic principles of pharmacology that apply to drugs in general and a consideration in depth of the absorption, distribution, biotransformation, excretion, and mechanisms of action of these agents. Toxicology, drugs acting on the autonomic nervous system, and drug evaluation also will be discussed. (Introductory course for graduate students with graduate credit.)

PMC 501. Pharmacological Agents (Pharmacy). LH-3; SH-3. I. Major classes of therapeutic agents, including specific drugs, discussed in detail. Includes chemotherapeutic, cardiovascular, central nervous system, and endocrine agents. (This is a continuation of Pharmacology 402 and should be taken as part of the introductory course for graduate students.)

PMC 509. General Pharmacology (Dentistry). LH-3; Lab H-1; SH-4. I. The basic principles of pharmacology, including mechanisms of absorption, distribution, biotransformation, elimination; dose-response relationships; drug-receptor interactions are presented. Followed by detailed discussions of the various classes of drugs, with special consideration given to mechanisms of action and upward effects. An introduction to the fundamentals of toxicology. Emphasis on applications of basic principles to the practice of dentistry.

PMC 511. Pain Control (Dentistry). LH-2; Lab H-0.5; SH-2. I. The pharmacology of drugs which are used in dentistry to control pain and related symptoms are discussed in detail. These include local anesthetics; general anesthetics; analgesics, tranquilizers, and sedatives.

PMC 525. Biochemical Pharmacology. LH-3; SH-3. I. PR: Biochemistry 503. Selected topics dealing with the activation and inactivation of drugs and the effects of drugs on enzyme systems. Lectures and assigned reading.

PMC 520. Introduction to Pharmacological Research. Lab H-12; SH-4. I, II, S. PR: Permission of instructor. Exposure to pharmacological research from many different aspects.

PMC 530. Special Topics in Pharmacology. SH-1.4. I, II. PR: Permission of instructor. Special topics covered in less detail in other courses will be studied in depth in this course. The specific material covered will vary from student to student. To be arranged LH. To be arranged Lab H.

PMC 532. Central Nervous System Pharmacology. LH-3; SH-3. II.—Semi-annually. PR: Permission of the instructor. The effects of drugs on behavior and the biochemical mechanisms of the brain. The use of drugs as tools in brain research.

PMC 535. Principles of Toxicology. LH-4; Lab H-2; SH-5. II. The basic principles of the various aspects of toxicology. Correlations of functional, morphological, carcinogenic, teratogenic, and mutagenic responses with biochemical and toxicological lesions will be attempted. Toxicological test procedures will be performed. Environmental and industrial toxicology, food and agricultural chemicals, pertinent legislation, and principles of forensic toxicology will be presented.

- PMC 537. Cardiovascular-Autonomic Pharmacology.** LH-3; SH-3. II. Specialized advanced course in the pharmacology of drugs which affect these systems.
- PMC 548. Drug Dependence: Pharmacological and Sociological Aspects.** LH-3; SH-3. Spring and fall. PR: Principles of Pharmacology. This course will discuss the behavioral pharmacological effects of drugs and the impact of drugs and drug users on societies from a sociological point of view. This course will be interdisciplinary in nature and will primarily involve the departments of pharmacology and sociology/anthropology.
- PMC 590. Pharmacology Seminar.** LH-1; SH-1. I, II. Throughout the year members of the departmental staff, students, and visiting lecturers participate in discussions on topics of current and historical interest.
- PMC 690. Research in Pharmacology.** SH-3.18. I, II, S. Intended for advanced graduate students in the Department of Pharmacology.
- M-I & M-II. Medicine.** I, II. Approximately six hours of pharmacology is taught during the first and second year of the integrated medical curriculum.

DEPARTMENT OF PHARMACY

The Department of Pharmacy offers the master of science, doctor of philosophy, and master of science in hospital pharmacy degrees. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Pharmacy section.

- PHA 601. Advanced Pharmaceutical Product Development.** LH-3; Lab H-4-10; SH-8; I.
- PHA 602. Advanced Pharmaceutical Product Development.** LH-3; Lab H-4-10; SH-8; II.
- PHA 605. Legal Aspects of Drug Development and Evaluation.** LH-3; SH-3; I.
- PHA 608. Clinical Radiopharmacy.** LH-1; Lab H-2; SH-2; II.
- PHA 611. Advanced Physical Pharmacy.** LH-3; Lab H-4; SH-5; I.
- PHA 612. Advanced Physical Pharmacy.** LH-3; Lab H-4; SH-5; II.
- PHA 621. Advanced Biopharmaceutics.** LH-2; SH-2; I.
- PHA 622. Advanced Biopharmaceutics.** LH-2; SH-2; II.
- PHA 624. Pharmacokinetics.** LH-2; SH-2; II.
- PHA 625. Biopharmaceutic Assay.** LH-2; Lab H-2-6; SH-5; I.
- PHA 626. Biopharmaceutic Assay.** LH-2; Lab H-6-10; SH-5-7; II.
- PHA 631. Advanced Hospital Pharmacy Management.** LH-3; SH-3; I.
- PHA 632. Advanced Hospital Pharmacy Management.** LH-3; SH-3; II.
- PHA 634. Adverse Drug Reactions.** LH-2; Lab H-2; SH-3; II.
- PHA 635. Advanced Clinical Pharmacy.** LH-2; Lab H-2; SH-3; PR-511; I.
- PHA 636. Advanced Clinical Pharmacy.** LH-2; Lab H-2; SH-3; II.
- PHA 650. Special Topics in Pharmacy.** LH-1-4; SH-1-4; I, II.

- PHA 681. Pharmacy Seminar.** LH-1; SH-1; I.
- PHA 682. Pharmacy Seminar.** LH-1; SH-1; II.
- PHA 690. Research in Pharmacy.** SH-1-15; I, II.

Time for all graduate courses to be arranged at the first meeting for each course.

DEPARTMENT OF PHYSICAL THERAPY

The Department of Physical Therapy offers the master of science degree. The following courses are available for graduate credit. A listing of the faculty and descriptions of these courses appear in the School of Allied Health Professions section.

- PHT 501. Advanced Analysis of Human Motion I.** SH-3; I.
- PHT 502. Advanced Analysis of Human Motion II.** SH-3; II.
- PHT 520. Clinical Specialty Practicum.** SH-1-9; I, II, S.
- PHT 530. Clinical Specialty Seminar.** SH-1-3; I, II, S.
- PHT 540. Special Topics in Physical Therapy.** SH-1-4; I, II, S.
- PHT 590. Physical Therapy Seminar.** SH-1; I, II.
- PHT 690. Research in Physical Therapy.** SH-1-15; I, II, S.

DEPARTMENT OF PHYSIOLOGY

Professors: Briggs (Chairman); Bogdanove; Edwards; Huf; Hoff

Emeritus Professor: Fischer

Associate Professors: Price, S.; Szumski

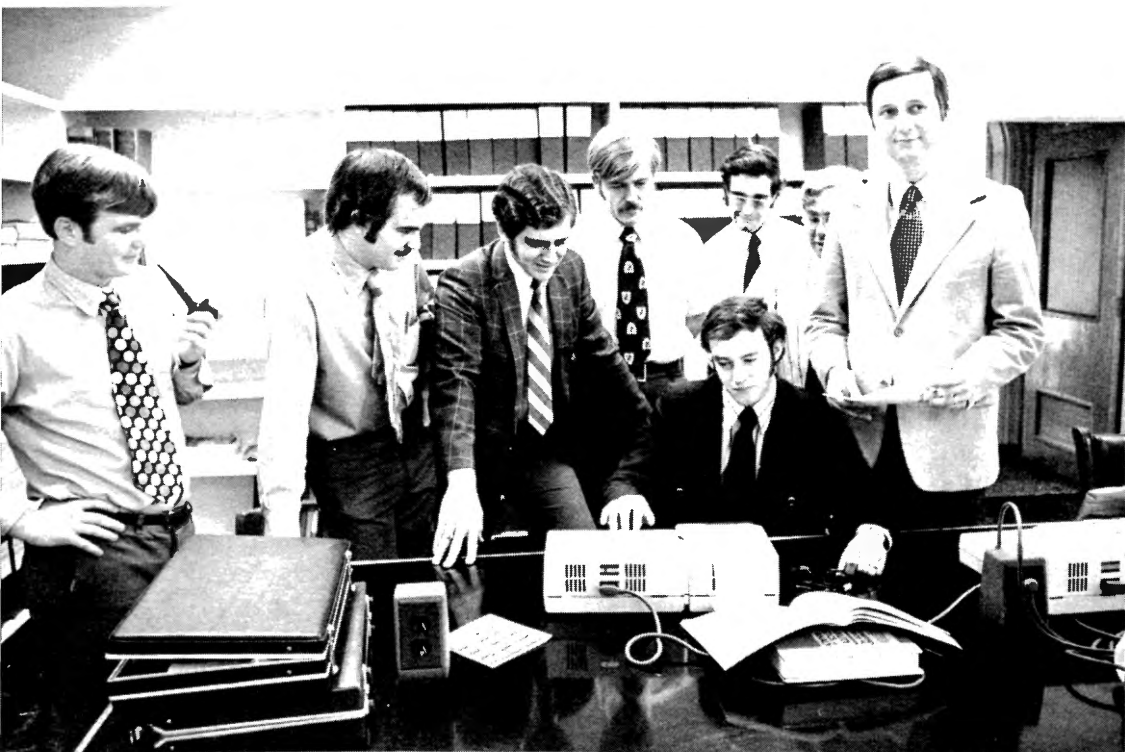
Assistant Professors: Bond; Conklin; Corley; Ford; Hess; Hardie; Mayer; Poland; Price, D.; Ridgway; Spath; Trowbridge; Witorsch; Cable

Research Associate: Martin

Instructors: Campbell; Solaro; Wise

- PIO 361. Health Sciences I (Nursing).** LH-6; Lab H-3; SH-7. I. An interdepartmental course which provides the nursing or dental hygiene student with a basic understanding of anatomy, physiology, nutrition, and biochemistry.
- PIO 401. Mammalian Physiology (Pharmacy).** LH-4; Lab H-3; SH-5. I. A comprehensive study of the function of mammalian organ systems for students in pharmacy and physical therapy and for graduate students in disciplines other than physiology.
- PIO 502. Mammalian Physiology (Dentistry).** LH-4; Lab H-3; SH-5. II. A comprehensive study of the function of mammalian organ systems, except for the nervous system, for dental students.
- M-I. Medicine.** I, II. Approximately nine semester hours of physiology is taught throughout the integrated medical curriculum with particular emphasis in the first year.

- PIO 504. General Physiology (Same as Microbiology 504.)** LH-5; SH-5. II. A description of the functional properties of cells in terms of physics and chemistry. Topics discussed include cell structure and cytochemistry, bioenergetics, secretion, and transport of material across membranes, excitation, and contractility. Taught jointly with the Department of Microbiology.
- PIO 551. Advanced Mammalian Physiology I.** LH-4; SH-4. I. Classical concepts and current research problems will be examined in neuro, cardiovascular, and pulmonary physiology.
- PIO 552. Advanced Mammalian Physiology II.** LH-4; SH-4. II. Classical concepts and current research problems will be examined in gastrointestinal, renal, acid-base, and endocrine physiology.
- PIO 553. Advanced Mammalian Physiology, Laboratory I.** Lab H-4; SH-2. I. This course will permit students to examine, by repetition, some of the classic experiments described in Physiology 551.
- PIO 554. Advanced Mammalian Physiology, Laboratory II.** Lab H-4; SH-2. II. This course will permit students to examine, by repetition, some of the classic experiments described in Physiology 553.
- PIO 590. Physiology Seminar.** LH-1; SH-1. I, II. Reports on current physiological research and problems presented by graduate students, staff, and visiting lecturers.
- PIO 690. Research in Physiology.** SH-1.15. I, II, S. Research in physiology; to be arranged LH.
- PIO 505. Landmarks in Physiology.** LH-2. II. 74-75 PR: Physiology 551, 553, or permission of the instructor. Study of a selection of original papers illustrating major advances in physiology. To be arranged LH. (Taught if there is a sufficient number of applicants.)
- PIO 530. Special Topics in Physiology.** SH-1.4. I, II. PR: Permission of the instructor. This course is designed to provide study of specific topics in physiology. The topics offered include neurophysiology, cardiopulmonary physiology, renal-gastrointestinal physiology, and endocrinology.
- PIO 604. Membrane Transport.** LH-2; SH-2. II. 74-75. PR: Physical Chemistry. A quantitative treatment of the energetic and kinetic aspects of movements of non-electrolytes and electrolytes across membranes. Principles derived from the thermodynamics and electrochemistry will be used to analyze membrane transport. (Taught if there is a sufficient number of applicants.)
- PIO 606. Mathematical Physiology.** LH-3; SH-3. II. 73-74. Introduction to mathematical techniques used in research. Included will be matrices, linear operators, vectors and tensors, partial differentiation, numerical methods, Fourier Series, and La Place transformations. (Taught if there is a sufficient number of applicants.)
- PIO 510. Neurosciences (Dentistry).** LH-3; Lab H-1; SH-4. II. An integrated study of the human nervous system from anatomical, physiological, and pharmacological points of view and with clinical implications. Emphasis is put on the brain and spinal cord.



SCHOOL OF ALLIED HEALTH PROFESSIONS

ADMINISTRATIVE OFFICERS

Thomas C. Barker, B.S., M.S., Ph.D.
Dean

Benjamin T. Cullen, Jr., B.S., M.A., Ed.D.
Assistant Dean

The School of Allied Health Professions was established in 1969 for the administration of programs in the allied health professions already in existence at VCU and as an administrative structure for emerging programs. This school looks toward the enlargement of present programs and the development of future ones in health-related professions.

Departments and programs currently in this school and the degrees or certificates conferred on their graduates are:

DEPARTMENT OF MEDICAL TECHNOLOGY

Bachelor of Science in Medical Technology
Master of Science

PROGRAM OF RADIOLOGIC TECHNOLOGY

Associate in Science in Radiologic Technology

DEPARTMENT OF OCCUPATIONAL THERAPY

Bachelor of Science in Occupational Therapy
Master of Science in Occupational Therapy

PROGRAM OF PATIENT COUNSELING

Postgraduate Certificate in Patient Counseling

DEPARTMENT OF PHYSICAL THERAPY

Bachelor of Science in Physical Therapy
Master of Science

DEPARTMENT OF HOSPITAL AND HEALTH ADMINISTRATION

Master of Hospital Administration

DEPARTMENT OF NURSE ANESTHESIA

Certificate in Nurse Anesthesiology

Plans for a multi-story educational building on the MCV Campus are now in the proposal stage. This building will house the School of Allied Health Professions, the School of Nursing, the School of Pharmacy, and the Department of Pharmacology.

While nearly all course offerings in the schools are provided by departments and programs, selected graduate courses considered applicable to many students in these programs have been assigned to the School of Allied Health Professions:

AHP 581. Administration in the Allied Health Professions. LH-3; SH-3; S. Study of the health delivery systems, administrative processes and techniques, budgeting, and program development.

AHP 582. Supervision in the Allied Health Professions. LH-3; SH-3; S. Study of the supervisory process and staff development, training in communication and interpersonal skills, and public relations within the health facility.

Two courses offered by the School of Education, Academic Campus, are also specifically oriented to graduate students interested in teaching, administration, or supervision:

EDU 474. Allied Health Education—Theory. LH-3; SH-3; I. Study of the relationships between allied health education and higher education in general, current essentials and proposed standards in allied health, and theoretical approaches to the implementation of these essentials in both academic and clinical learning. Emphasis on modes of adapting to future needs of the professions. Role of graduate and continuing education in the professions.

EDU 574. Allied Health Education—Practicum. LH-1; Lab H-4; SH-3; PR: EDU 474; I, II, & S. Medical technology, occupational therapy, and physical therapy sections. Preparation, presentation, and evaluation of selected educational experiences in the appropriate undergraduate program. Each student will work with several types of learning media and will make one self-analysis videotape of his/her classroom activities.

Department of Medical Technology

HISTORY

Medical technologists have been trained at MCV since 1932. However, the School of Medical Technology was not formally established until 1952. The school began as a certificate and/or degree program, meeting the requirements of the American Medical Association as implemented through the Board of Schools of the American Society of Clinical Pathologists (ASCP). In 1961-62 the certificate program was discontinued, and all students accepted must have completed 90 semester hours which included medical technology prerequisites. Upon completion of the course, the students were awarded a bachelor of science degree in medical technology.

In 1952 the program was established as six months of didactic experience with lectures and laboratory sessions held in the school, followed

by a six-month rotation through the clinical laboratories. From 1952-1967, two classes were admitted each year. This practice was discontinued, however, because of graduation complications and the small enrollment in the spring classes.

In 1967 a graduate program for medical technologists was begun. This program leads to a master of science degree, with majors in one of the four main disciplines of medical technology; namely, clinical chemistry, hematology, immunohematology, clinical microbiology. Graduate studies in medical technology are offered for those who would become teachers and supervisors.

PHILOSOPHY

The medical technologist is in a unique position. The area of interest while predominantly intellectual, also requires specialized manual and technological skills.

The university medical center affords the most favorable environment to acquire this varied knowledge.

The faculty is available to provide expertise in all areas; the large hospital provides a wide spectrum of pathological conditions, and the library is able to fulfill all literature requirements.

Education in close proximity to that of the medical student, intern, and resident, as well as interaction with the other health-related professions gathered into the School of Allied Health Professions, introduces the student to his position as a member of the medical team.

OBJECTIVES

The primary objective of the Department of Medical Technology is to provide the student with superior basic and advanced studies in medical laboratory science.

Most careful attention is given to the development of the professional personality of the medical technologist. A mature responsible approach to the acquisition of the knowledge of medical laboratory science will establish a pattern for his entire career and provide strong knowledgeable leaders in the clinical laboratory area.

FACILITIES

The department is located on the ground floor of Randolph-Minor Annex, College and Broad streets. Thirty students are accepted each year.

The teaching laboratory is well-equipped with the latest equipment used in today's methods of laboratory medicine.

ACCREDITATION

The Department of Medical Technology is accredited by the Council on Medical Education of the American Medical Association in collaboration with the American Society of Clinical Pathologists. In order

to establish eligibility for the national examination given by the Board of Registry (of the American Society of Clinical Pathologists), all seniors must attend school for 12 months. Students passing this examination receive national certification. A bachelor of science degree in medical technology is granted by Virginia Commonwealth University upon satisfactory completion of the prescribed curriculum. This is not an affiliate program.

UNDERGRADUATE PROGRAM

Applications are accepted upon completion of the sophomore year. Classes start each year in June. After a summer session, students have a short break before the fall semester begins in September.

The course is divided into two semesters of six months each. The first semester is devoted to lectures and laboratory exercises in clinical microscopy, hematology, serology, immunology, blood banking, clinical biochemistry, clinical microbiology, and parasitology.

During the second semester, student technologists learn by precept and performance in a rotating internship in the laboratories of MCV Hospitals.

The students admitted in June of 1974 will be the last class admitted for the one-year program.

With the rapid advancement of knowledge in the field of laboratory medicine, the need for highly skilled and knowledgeable medical technologists has been recognized as a national problem. With the establishment of two other programs for laboratory workers (clinical laboratory assistants and medical laboratory technicians*) to meet the demands for personnel, the baccalaureate degree-holding medical technologists will be the trouble shooters, problem solvers, and supervisors of all of the employees in the laboratory. It has been recognized that the length of time the student spends in the department must be increased from the current one-year requirement to two years.

ADMISSION REQUIREMENTS

One-Year Curriculum:

Undergraduate for seniors entering in 1973 and 1974:

Admission requirements are a minimum of three years (90 semester or 135 quarter hours) of collegiate course work in an accredited college or university. This work should be as the first three years of a baccalaureate program in medical technology. To provide the general education base implicit in any professional program, this work should include English, social sciences, arts, and humanities.

*a. Clinical laboratory assistants (CLA) requires one year after high school in an approved hospital-based school.

b. Medical laboratory technicians (MLT) is a joint community college and hospital program which requires two years; the student receives an AA degree.

All applicants are required to have satisfactorily completed the following courses:

Chemistry. A minimum requirement of 16 semester hours (24 quarter hours) of course work acceptable toward a major in chemistry. This course work must include one complete academic year (2 semesters or 3 quarters) of a general college chemistry course, lecture and laboratory, and one semester (or equivalent) of quantitative analytical chemistry. Elective courses to complete the requirement may be chosen from qualitative analysis, organic, biochemistry, physical chemistry, or other courses acceptable toward a chemistry major. Survey courses are unacceptable.

Biological Sciences. A minimum requirement of 16 semester hours (24 quarter hours) of course work acceptable toward a major in biological science. This must include one complete academic year (2 semesters or 3 quarters) of a general biology and/or zoology course presented by lecture and laboratory. Elective courses to complete the requirement may be chosen from physiology, comparative anatomy, bacteriology, parasitology, histology, techniques, genetics, and other biology courses acceptable toward a major in biological science.

Mathematics. A minimum of 3 semester hours (4 quarter hours) of college mathematics is required.

Physics. It is strongly recommended that a preparatory course include physics.

Certification of proficiency in any of the above-required courses by an accredited college or university will be accepted in lieu of these requirements. The three-year, 90 semester hour, or 135 quarter hour minimum requirement, however, must still be met before certification.

Two-Year Curriculum:

Entrance requirements for juniors entering the two-year curriculum starting in the fall of 1974 and thereafter:

Total hours required: 60 semester hours

Including: 16 hours of chemistry, 16 hours of biology, 3 hours of mathematics, and 6 hours of English. 16-19 hours of electives from the arts, humanities, social sciences

Preferred Chemistry:

8 hours of general, including qualitative
4 hours of organic
4 hours of quantitative

Preferred Biology:

- 8 hours of general
- 4 hours of bacteriology
- 4 hours of basic human anatomy, or
- 4 hours of human physiology

HONORS AND AWARDS

Kupfer Award. This award was given first in 1965 in memory of Dr. Henry G. Kupfer who was medical director of the School of Medical Technology from 1952 until his death in 1964. It is given to the senior who is considered to be the best all-around technologist. Through the year, he/she must demonstrate an outstanding sense of responsibility in all phases of medical technology, a keen concern for the patients, and the ability to work with others. He/she must show a desire for personal and professional growth.

The selection of the student to receive the award is made by nominations from the clinical instructors in the various areas of rotations. The final decision is made by the faculty of the Department of Medical Technology.

CURRICULA PLANS

Present Undergraduate:

	Sem. Hrs.
MET 401. Biochemistry	5.5
MET 451. Clinical Laboratory	3
MET 402. Microbiology, Serology, Mycology	5.5
MET 452. Clinical Laboratory	2.5
MET 403-404. Parasitology, Microscopy	5
MET 454. Clinical Laboratory	1
MET 405. Hematology	5
MET 455. Clinical Laboratory	2
MET 406. Immunohematology	3
MET 456. Clinical Laboratory	2
	<hr/>
	Total 35.5

The one-year curriculum will terminate with the completion of the class admitted in June 1974.

The following are the plans for the two-year curriculum:

Junior Year

- Biochemistry
- Microbiology, Serology
- Parasitology
- Microscopy
- Hematology
- Immunohematology
- Seminar—laboratory diagnosis
- Research paper

Senior Year

Management and Supervision

Education course (to be designed)

Statistics

Use of computers (course to be designed for laboratory use)

Interpretative Hematology

Interpretative Chemistry

Problem Solving in Blood Banking

Problem Solving in Microbiology

Advanced Clinical Practicum

Seminars

Rotations in clinical laboratory in each of the hospital laboratories

The present undergraduate offerings of the Department of Medical Technology are part of an integrated curriculum in which subject matter is provided in blocks of time which do not conform with the academic calendar. Classes will begin on June 25, 1973 and students will assume assignments in the clinical laboratories of the MCV Hospitals near the first of December.

FACULTY

Professor: *Vennart (Medical Advisor)

Associate Professor: *Izard (Chairman)

Assistant Professor: *Stephan

Assistant Clinical Professor: Stephan

Instructors: Ford, *Hill, Odom, Prentice

COURSE DESCRIPTIONS

- MET 401. Biochemistry.** SH-5.5. Lecture and laboratory course introducing the chemical reactions that occur in normal and diseased processes of the body. It presents a thorough study of the principles and methods used in testing them.
- MET 402. Microbiology, Mycology, and Serology.** SH-5.5. Fundamental principles of immunology, serological methods used in testing for immunology, serological methods used in testing for immunological reactions, and microbiological aspects of infectious disease. Emphasis is placed on techniques, methods, and differential media used to isolate and identify pathogenic bacteria. Methods of identification of mycology infections of man also are studied.
- MET 403-404. Parasitology.** SH-5. A study of the life cycle of clinical infections and technics used for isolation and identification of common parasites found in man. A study of the principles and practices of urinalysis, pregnancy test, liver function, gastric analysis, and cerebrospinal fluid.
- MET 405. Hematology.** SH-5. A thorough study of the blood and blood forming tissues, including normal and abnormal morphology and a study of the coagulation mechanism. A detailed discussion of the use of radioisotopes in the study of abnormal hematopoises.
- MET 406. Immunohematology.** SH-3. Theory and principles of blood banking are introduced, and techniques of cell typing, antibody identification, and component therapy are offered.

* Graduate Faculty

Courses above MET 450 designate rotating assignments through the clinical laboratory in the hospital.

Additional information regarding admission requirements or the curricula may be obtained by writing to: Dean of Admissions, MCV Campus, Virginia Commonwealth University, MCV Station, P. O. Box 163, Richmond, Virginia 23298.

GRADUATE PROGRAM

The Department of Medical Technology offers a program leading to a master of science degree in medical technology. It is designed to provide advanced theoretical and practical education to the individual whose aim is to teach, to coordinate a junior college program, or to serve in administrative or supervisory capacities in the field of medical technology. Students may specialize in one of the following disciplines: clinical hematology, microbiology, clinical chemistry, or immunohematology. The core curriculum was developed by making use of existing courses in medicine, dentistry, and the graduate school. Education and administrative courses have been added to supplement the basic course work.

ADMISSION REQUIREMENTS

In addition to the general requirements for admission to the graduate school, the applicant must hold a baccalaureate degree and must be a registered medical technologist, MT(ASCP).

The student should have a minimum of two years' experience since successful completion of the registry examination. Current policy requests that at least one year of the experience of the applicant be in the area of medical technology in which he will specialize. Applications should be accompanied by a curriculum vitae.

CURRICULA PLANS

M.S. Degree Program in Medical Technology with Emphasis in Immunohematology

Courses	Sem. Hr. Cr.	Courses	Sem. Hr. Cr.
M-II 503. Reticulo-Endothelial System	2	PSY 211. Introduction to Statistics	3
PIO 503. Physiology-Dental Curriculum or	7	EDU 474. Allied Health Education—Theory	3
PIO 501. Biochemistry-Dental Curriculum		EDU 574. Allied Health Education—Practicum	3
PAT 510. Immunohematology	7	AHP 581. Administration in the Allied Health Professions	3
MIC 505. Immunobiology	2	AHP 582. Supervision in the Allied Health Professions	3
PAT 610. Physiology of Blood Coagulation	3	Electives, Research, Thesis	
GEN 507. Medical Genetics	2		

M.S. Degree Program in Medical Technology with Emphasis in Clinical Hematology

Courses	Sem. Hr. Cr.	Courses	Sem. Hr. Cr.
M-II 503. Reticulo-Endothelial System	2	PAT 510. Immunohematology	7
PIO 503. Physiology-Dental Curriculum	7	PSY 211. Introduction to Statistics	3
BIC 501. Biochemistry-Dental Curriculum		EDU 474. Allied Health Education—Theory	3
PAT 510. Interpretative Clinical Hematology	4	EDU 574. Allied Health Education—Practicum	3
PAT 505. Advanced Hematology	4	AHP 581. Administration in the Allied Health Professions	3
PAT 610. Physiology of Blood Coagulation	3	AHP 582. Supervision in the Allied Health Professions	3
		Electives, Research, Thesis	

M.S. Degree Program in Medical Technology with Emphasis in Clinical Microbiology

Courses	Sem. Hr. Cr.	Courses	Sem. Hr. Cr.
MIC 503. Biology of Micro-Organisms	3	EDU 474. Allied Health Education—Theory	3
PAT 601. Clinical Microbiology	5	EDU 574. Allied Health Education—Practicum	3
PAT 602. Experimental Pathology of Infectious Disease	5	AHP 581. Administration in the Allied Health Professions	3
MIC 501. Pathogenic Bacteriology	4	AHP 582. Supervision in the Allied Health Professions	3
PAT 604. Clinical Virology	5	Electives, Research, Thesis	
MIC 502. Animal Virology	4		
MIC 505. Immunobiology	2		
PSY 211. Introduction to Statistics	3		

M.S. Degree Program in Medical Technology with Emphasis in Clinical Chemistry

Courses	Sem. Hr. Cr.	Courses	Sem. Hr. Cr.
BIC 501. Biochemistry (Dental)	4	EDU 474. Allied Health Education—Theory	3
PAT 603. Biochemistry of Disease	2	EDU 574. Allied Health Education—Practicum	3
PAT 520. Interpretative Clinical Chemistry	1	AHP 581. Administration in the Allied Health Professions	3
PAT 620. Special Topics in Modern Instrumental Methods	2	AHP 582. Supervision in the Allied Health Professions	3
PSY 211. Introduction to Statistics	3	Electives, Research, Thesis	



ACADEMIC REQUIREMENTS

Graduate:

The minimum length of time required for completion of the course is 18 months and the minimum credit is 48 hours. The minimum course requirement is 24 hours, although ordinarily more will be recommended.

Each student must acquire appropriate teaching and management experience. Twelve hours of the course work will be devoted to education and/or management courses, with additional electives available. All students are required to participate in the medical technology seminar for each semester they are enrolled except summer. A graduate study conducted under the guidance of an advisor is reported in a thesis. The thesis must be presented in both written and oral form to a thesis committee composed of the student's advisor and three other members, one of which must be from a department other than medical technology.

Limited financial aid is available to those who plan to return to their profession as educators or supervisors.

COURSE DESCRIPTIONS

- MET 505. Advanced Hematology.** LH-4; SH-4; I, II. To enable the student to understand the basis for special procedures used in hematology and their application in differentiating blood dyscrasias. Special procedures to be studied—Vitamin B₁₂ and Folate assays, Shilling tests, serum iron and iron binding capacity, Hemoglobin, and protein electrophoreses.
- MET 510. Interpretative Clinical Hematology.** LH-2; SH-2; I, II. The aim of this course is to present the principles of hematopoiesis and to study related pathological and pathophysiological correlation of hematological disorders.
- MET 590. Medical Technology Seminar.** LH-1; SH-1; I, II. Presentation and discussion of current research and topics of interest by the departmental faculty, graduate students and visiting lecturers.
- MET 650. Special Topics in Medical Technology.** SH-1-4; I, II, S. This course provides for lectures, tutorial studies, and/or library assignments in specialized areas not available in formal courses or research training.
- MET 690. Research in Medical Technology.** SH-1-15; I, II, S. Research leading to the M.S. degree.

Descriptions of the following courses are found in other sections of this catalog:

M-II 503. See page 147.

PIO 401. See page 153.

PIO 504. See page 154.

GEN 507. See page 144.

BIC 501. See page 141.

PAT 510. See page 148.

PAT 602. See page 149.

PAT 610. See page 149.

PAT 620. See page 150.

MIC 501. See page 146.

MIC 502. See page 146.

MIC 505. See page 146.

EDU 474. See page 157.

EDU 574. See page 157.

AHP 581. See page 157.

AHP 582. See page 157.

Program of Radiologic Technology

HISTORY

A program in radiologic technology has been offered by MCV/VCU since the 1930's. A one-year program was offered until 1961 when it was lengthened to 24 months. In 1966, a curriculum was approved by the Council on Technologists Affairs of the American College of Radiology and the Southern Association of Colleges and Schools that offered the graduate an associate in science degree in radiologic technology.

PHILOSOPHY

The program of radiologic technology is maintained with the highest standards involving the art and science of x-ray technology. We believe in the well being of our fellow man and the advancement of health science at the Medical College of Virginia of Virginia Commonwealth University. We cooperate with and assist other allied health departments in making the greatest possible contribution to patient care and to the Commonwealth.

OBJECTIVES

The program of radiologic technology endeavors to provide an educational atmosphere that will engender in students a desire for learning, excellence in clinical performance, and intellectual curiosity. It

strives to maintain an educational environment that keeps abreast of change and new methodology within the fields of radiology and radiologic technology.

FUTURE PLANS

Development of a baccalaureate degree program in radiologic technology, nuclear medicine technology, or radiation therapy technology is now in progress. These programs will be offered within the Department of Radiation Sciences.

FACILITIES

The program of radiologic technology is located on the 18th floor of the MCV West Hospital and includes classroom, student lounge, library, and offices. A radiographic laboratory is located at 1008 E. Clay Street and includes facilities for film processing. A small classroom is adjacent to the laboratory for project critiques.

ACCREDITATION

The program of radiologic technology is accredited by the Joint Review Committee on Education in Radiologic Technology. The Joint Review Committee has replaced the Council on Technologists Affairs and is the official accrediting body of the American College of Radiology and the American Society of Radiologic Technologists.

PROGRAMS

An associate in science degree in radiologic technology is offered by the Department of Radiation Sciences. This program qualifies the graduate to take the national registry examination in X-ray technology.

ADMISSION REQUIREMENTS

Candidates for admission to the program must have completed a minimum of 30 semester hours (45 quarter hours) of prerequisite courses. Applications should be submitted as soon as possible after February 1. Correspondence should be sent to: Dean of Admissions, MCV Campus, Virginia Commonwealth University, MCV Station, Box 163, Richmond, Virginia 23298.

Courses required are:

	Sem. Hr.
Anatomy and Physiology	6
English	6
College Algebra	3
General Psychology	3
Physics—to include properties of matter and basic principles of mechanics, electricity, and magnetism	3
Electives	9

A personal interview is required of all students seeking admission.

HONORS AND AWARDS

E. R. Squibb Award. An annual award is given, on nomination of the faculty, to the student who demonstrates the highest degree of professionalism.

Stipend

A stipend is paid beginning with the spring semester of the second year and continues up to graduation.

SCHOOL ACADEMIC REGULATIONS

Requirements for academic promotion:

1. Maintain a "C" average—2.00¹
2. Demonstrate professional responsibility during clinical experience.²

Graduation

Requirements for graduation are in accordance with guidelines set down by the Joint Review Committee on Education in Radiologic Technology. The student must have:

- 60 credit hours minimum
- 2,400 hours minimum of hospital-based practicum

CURRICULUM PLAN

First Year

		RAT 206-207. Applied Radiography	4	4
	Cr.	RAT 208. Topographical Anatomy	1	—
Prerequisite courses	30	RAT 209. Film Critique	—	2
		RAT 210. Radiation Safety	—	2
		RAT 211. Radiation Therapy and Radioisotopes	2	—

Second Year

	Cr.	RAT 212. Departmental Administration	—	1
RAT 200. Radiographic Physics	3	Practicum ..96 Hours	264	Hours
RAT 203-204. Radiographic Positioning	3		—	—
RAT 205. Patient Care	1		14	12

¹ A student whose grade point average is below 2.00 ("C" average) will be placed on academic probation. Academic probation status must be removed by the end of the semester, except in unusual circumstances. To continue in the program on academic probation, the student must petition the board, composed of faculty members, and justify such continuation. Students who fail to reestablish their eligibility to continue after one semester are subject to immediate dismissal.

² Students are required to demonstrate professional responsibility during clinical experience to the faculty of the school. Students failing to demonstrate sufficient professional responsibility will be subject to dismissal from the school upon recommendation of the board.

Summer Session

	Cr.
RAT 101-102. Radiography	5
RAT 105. Introduction to Patient Care	1
Practicum	40 hours
	—
	6

Third Year

	Cr.
Clinical Practice	2,000 Hours
Total	62 Credits
	2,400 Hours

Faculty

Medical Advisor: Ranniger
 Instructor: Gerhold (Chairman)
 Assistant Instructor: Thorpe
 Clinical Instructor: Cook

RAT 101-102. Radiography. LH-10; SH-5; S. The student is introduced to the history, construction, operation of the x-ray tube, the qualities of a radiograph, and factors affecting these qualities; grids; intensifying screens; darkroom facilities; x-ray film and film processing; x-ray television; and radiographic technique in general.

RAT 105. Introduction to Patient Care. LH-1; SH-1; S. General care of patients in the radiology department, with particular emphasis on patient handling. Aseptic techniques and sterile field are taught. Responsibilities of the technologist regarding ethical principles are explained with emphasis on the relationship between the patient-technologist and the doctor-technologist.

RAT 200. Radiographic Physics. LH-3; SH-3; I. Course designed to provide clear understanding of all sources and uses of medical radiation. Includes the study of radioisotopes, the production of x-rays, the interaction of radioactive material, the units of radioactive exposure and absorbed dose, and the measurement of radiation.

RAT 203-204. Radiographic Positioning. LH-2; Lab H-2; SH-6; I and II. Radiographic positioning of the anatomy in order to demonstrate various parts and organs. Anatomical positions employed in special radiographic examinations are included. Positioning and practical training in radiographic rooms is correlated.

RAT 205. Patient Care. LH-1; SH-1; I. Designed to further acquaint the student with patient care and handling in the radiographic room. Emphasis is placed on the more critically ill or injured patient and radiographic procedures performed in the presence of a sterile field.

RAT 206-207. Applied Radiography. Lab H-12; SH-8; I and II. Under direct supervision the student is allowed to position the patient or part and adjust the radiographic equipment for routine radiographic examinations.

RAT 208. Topographical Anatomy. LH-1; SH-1; I. A review of anatomy according to regions of the body. Surface contours and landmarks are stressed for the importance they have in locating the positions of deeper structures.

RAT 209. Film Critique. LH-2; SH-2; II. Various problems encountered regarding radiographic technique and/or positioning. Radiographic films and factors relating to their diagnostic quality are reviewed. Designed

to give the student an insight into the needs of the radiologist concerning radiographic film quality.

- RAT 210. Radiation Safety.** LH-2; SH-2; II. To provide maximum safety to patients and personnel, the biological effects of ionizing radiation is taught. Through lecture and demonstrations, radiation hazards and protective measures employed in diagnostic and therapeutic radiology are taught.
- RAT 211. Radiation Therapy and Radioisotopes.** LH-2; SH-2; I. Covers use of radiation as a therapeutic agent; includes dosage, superficial, deep supervoltage, and radioactive materials. An introduction to the fundamentals of nuclear medicine, including characteristics of radioisotopes, principles of radiation detection, and use of radiopharmaceuticals in clinical procedures.
- RAT 212. Departmental Administration.** LH-2; SH-2; II. Organization, function, supervision, and financial arrangements pertinent to the radiology department. The interrelationship of the radiology department with other departments within the hospital. Methods of film filing and the pathological or teaching film file are discussed.

Department of Occupational Therapy

HISTORY

The program in occupational therapy was initiated at what was then Richmond Professional Institute as a war emergency program in 1942. Diplomas and certificates were awarded until 1945. Since that time the bachelor's degree has been offered.

In 1965 the graduate program leading to a master of science degree was initiated. The School of Occupational Therapy became a department in the School of Allied Health Professions in 1969.

PHILOSOPHY AND OBJECTIVES

Occupational therapy is the art and science of directing man's response to selected activity to promote and maintain health, to prevent disability, to evaluate behavior, and to treat or train patients with physical or psychosocial dysfunction.

The objective of the Department of Occupational Therapy is to prepare students with the ability to become competent, critically thinking, problem solving, registered therapists. The student must develop a deep sense of respect for the dignity of man and of his basic needs related to the present and future of health care delivery system.

FACILITIES

The administrative offices and educational facilities are currently located on the Academic Campus. Upon the completion of the proposed new health sciences building in 1976, the program will be relocated on the MCV Campus.

ACCREDITATION

The undergraduate course of study in occupational therapy at Virginia Commonwealth University was first accredited by the American Medical Association, Council on Medical Education, and the Accreditation Committee of the American Occupational Therapy Association in 1943. The graduate program was granted accreditation in 1966.

PROGRAMS

Three courses of study are offered:

1. A curriculum leading to the bachelor of science in occupational therapy degree, which requires the completion of a minimum of 124 credits of work.
2. Master's degree program. This program leads to the master of science in occupational therapy degree and is designed for college graduates who wish to become occupational therapists. This program is four semesters in length, including a thesis or project plus eight months of clinical experience.
3. A master's degree program for those who are registered occupational therapists. This program is individually designed in special areas of concentration including a minimum of 30 semester hours including a thesis.

ADMISSION REQUIREMENTS

Undergraduate

Students wishing to pursue a course of study leading to a bachelor of science degree in occupational therapy offered through the School of Allied Health Professions will be admitted to the School of Arts and Sciences for the first two years of their work. Please note on your application your interest to study occupational therapy at the junior level.

Applications for admission to the third and fourth-year professional curriculum will be processed during the second semester of the sophomore year. Criteria for entrance into the professional curriculum will include academic records, personal interview, and a letter presenting reasons for wishing to pursue the professional curriculum. Enrollment will be limited. *No transfers into the junior or senior year of the professional curriculum will be considered until fall 1974 when the first junior class will be admitted.*

A total of 62 credits are required for entrance into the professional curriculum including 40 credits in specific courses outlined below. The remaining 22 credits may be selected from a wide range of electives.

Students who are interested in transferring to an occupational therapy program at another institution should refer to the catalog for specific admission requirements.

Prerequisites for Admission:

ENG 101, 102. Composition and Literature	6
BIO 101-102. General Biology	8
BIO 206. Human Physiology	4
PSY 201. General Psychology	3
PSY 211. Introduction to Statistics	3
PSY 304. Developmental Psychology	3
OR	
EDU 302. Child Growth and Development	
And one of the following:	
PSY 302. Psychology of Adolescence	3
PSY 321. Social Psychology	
PSY 322. Personality and Behavior of the Afro-American	
PSY 407. Psychology of the Abnormal	
PSY 402. Psychology of Personality	
SOC 101. General Sociology	3
and one advanced sociology course	3
AEN 121-122. Principles of Art	4
	<hr/>
	40
(electives)	+ 22
	<hr/>
	62

Correspondence relating to admission requirements or to the curriculum in occupational therapy should be addressed to:

Chairman, Department of Occupational Therapy
School of Allied Health Professions
Virginia Commonwealth University
901 West Franklin Street
Richmond, Virginia 23220

CURRICULA PLANS

Beginning with the 1974-75 academic year, a complete revision of the occupational therapy curriculum will be initiated. The successful completion of this curriculum will lead to eligibility for registration in the American Occupational Therapy Association.

The curriculum will be presented on a developmental sequence from birth through death with emphasis on experiential learning.

The specific courses required are in process of organization; however, the following content areas will include:

First Sem. Junior Year: The Study of Pediatrics

16 sem. cr.

COMMUNICATIONS

Health Concepts
Medical Terminology
Interpersonal Relationships
Observation Skills
Occupational Therapy and Mental Health

FUNDAMENTALS OF MOVEMENT FOR OCCUPATIONAL THERAPY

Functional Anatomy and Kinesiology

HUMAN DEVELOPMENT AND DYSFUNCTION

Normal Human Neuromotor Development
Cultural Social Development
Normal Human Psychology and Perceptual Development
Pediatric Conditions of Dysfunction

**DEVELOPMENTAL MODALITIES AND OCCUPATIONAL THERAPY
FUNCTION**

FIELD WORK EXPERIENCE*
SKILLS**

Second Sem. Junior Year: The Study of Adolescence

16 sem. cr.

COMMUNICATIONS

Introduction to Allied Health Professions
Professional Literature—I
How to Interview (communicating with patients)
How to interpret data and technical writing
Introduction to Occupational Therapy
Problem Solving Approach to Learning

FUNDAMENTALS OF MOVEMENT IN OCCUPATIONAL THERAPY

Human Neuroanatomy and Neurophysiology

HUMAN DEVELOPMENT AND DYSFUNCTION

Identity and Developmental Tasks and Career Patterns and Goal Setting
Learning to Cope and Problem Solving (defense mechanisms)
Ego Building and Personality Theory
Psychopathologies
Introduction to Pathologies of Physical System—Neurological Condition

* Field work experiences are arranged individually. A minimum total of 960 clock hours are required. Twelve weeks (approximately 430 clock hours) of this must be spent full time.

** Skills: The skills requirement is individually arranged, but will include a wide variety of hand skills such as woodworking, weaving, and ceramics. Length of program will be announced, but will not exceed 2 calendar years.

DEVELOPMENTAL MODALITIES AND OCCUPATIONAL THERAPY FUNCTION

Psychosocial Evaluation (activity battery)
Evaluations (ROM, Manual Muscle Testing, A.D.L.)

FIELD WORK EXPERIENCE* SKILLS**

First Sem. Senior Year: Adult Years, Function and Dysfunction. 16 sem. cr.

INTEGRATING THE YOUNG ADULT

Normal Human Development	Pre-vocation
Cultural Sociology	Work Habits and Work Readiness
O.T. and Mental Health	Training for Voc. Readiness
Occupational Choice for men and women	Marital Adjustment (or lack of it)
	Parenthood
	Therapeutic Exercise-graded progress activity

THE MIDDLE ADULT YEARS

Pathologies of Physiological Systems—Orthopedic Conditions
Evaluation of Function—(sensory testing)
O.T. for Restoration of Physical Function
Work Simplification Techniques
Handicapped Homemaker

THE OLDER ADULT

Pathologies of Physical Systems—GM&S Conditions
O.T. and Mental Health
O.T. in Geriatrics
Therapeutic Media—Recreation as Habilitation
Dignity of Older Years and Death

FIELD WORK EXPERIENCE* SKILLS**

Second Sem. Senior Year: Professional Performance 16 sem. cr.

ADMINISTRATION

Planning (setting objectives, policies, procedures, techniques)
Organizing (organizational charts, formal and informal lines of authority)
Staffing (recruitment, selection, placement, assignments)
Directing (orientation, obtaining referrals, and the consultation service and liability)
Control (evaluations, tasks, standards, job descriptions)
Specific O.T. Administrative Tasks—delegation, assignment, selection, placement, orientation, in-service training, consultancy, recruiting, establish
O.T. student programs, supervision

* Field work experiences are arranged individually. A minimum total of 960 clock hours are required. Twelve weeks (approximately 430 clock hours) of this must be spent full time.

** Skills: The skills requirement is individually arranged, but will include a wide variety of hand skills such as woodworking, weaving, and ceramics. Length of program will be announced, but will not exceed 2 calendar years.

SUPERVISION

- Skills:
1. administrative
 2. teaching
 3. helping
 4. interviewing
 5. developing contracts, relationships, sets, biases, hidden agendas, expectations
 6. communication processes, traps, games people play, transference
 7. group supervision

RESEARCH

COMMUNITY PRACTICE AND HEALTH RESOURCE AGENCIES

Analysis of Health Legislation
Community Oriented Problem Solving
Welfare Rights

THE CONSULTANCY PROCESS

Private Practice and Grant Writing
Liability

FIELD WORK EXPERIENCE*

SKILLS**

ACADEMIC REGULATIONS

See pages 44-53 of the Academic Campus bulletin.

HONORS AND AWARDS

Ann W. Saxton Literary Award. A \$200 annual award is available to any occupational therapy student at VCU. The award is based on the presentation of a manuscript which is in the opinion of the faculty worthy of publication in the American Journal of Occupational Therapy or a journal of a related science on a topic related to occupational therapy.

GRADUATE DIVISION

Programs leading to the following degrees are offered:

1. A basic professional educational program leading to the master of science in occupational therapy and designed for college graduates who wish to become occupational therapists.

* Field work experiences are arranged individually. A minimum total of 960 clock hours are required. Twelve weeks (approximately 430 clock hours) of this must be spent full time.

** Skills: The skills requirement is individually arranged, but will include a wide variety of hand skills such as woodworking, weaving, and ceramics. Length of program will be announced, but will not exceed 2 calendar years.

2. A master's degree program for those who are registered occupational therapists. This program is individually designed in special areas of concentration including a minimum of 30 semester hours including a thesis.

ADMISSION REQUIREMENTS

Applicants to the graduate program in occupational therapy must hold a bachelor's degree from an accredited university or college. They should have maintained a C+ average. Exceptions to this are considered. Prerequisites are:

- 12 semester hours of psychology
- 6 semester hours of sociology
- 6 semester hours of applied art
- 6 semester hours of biology including anatomy

The student must submit:

1. Two official transcripts of complete academic record from each institution attended.
2. Health certificate.
3. A letter stating your reasons for desiring to undertake graduate studies in occupational therapy.
4. Personal reference forms should be sent to your undergraduate department head or major advisor, present or former employer (if any), and persons qualified to give information concerning your promise of success in graduate study. Three personal references are required.
5. Application Fee: An application fee of \$10 must accompany application for admission. This fee is not refundable in any instance.
6. Small, recent photograph.
7. Scores from Standard Aptitude Test of the Graduate Record Examination.
8. A personal interview with the Faculty Admission Committee, in the Department of Occupational Therapy.

Basic Professional Education Program

A course of study leading to a master of science degree in occupational therapy.

The curriculum is currently undergoing revision and will be adjusted accordingly for fall 1973 applicants.

All candidates, in addition to meeting the general requirements for the master's degree, must complete the following program or their accepted equivalencies:

Course Number	1st sem. cr.	Course Number	2nd sem. cr.
BIO 305. Human Anatomy	4*	OCT 512. Pediatrics	3
OCT 332. Medical Lectures I	2*	BIO 525. Kinesiology (Human)	2
OCT 501. Woodworking	2	BIO 529. Neuroanatomy	3
OCT 535. Psychiatry	2	OCT 534. Medical Lectures	2
OCT 611. Therapeutic Techniques	2	OCT 601. Therapeutic Modalities	3
OCT 630. Theory of Psychosocial Dysfunction	3	OCT 618. Group Process	2
	<hr/>		<hr/>
	15		15

Summer

OCT 612. Clinical Practicum	6
-----------------------------	---

Course Number	1st sem.	Course Number	2nd sem.
OCT 533. Medical Lecture II	2	OCT 701. Thesis	6
OCT 613. Clinical Techniques	3	OR	
OCT 621. Theory of Physical Dysfunction	3	OCT 661. Project	3
OCT 635. Organization and Administration	2	Electives (OCT 641-2, OCT 661-2, 682, other)	up to 13
OCT 671. Research in Occupational Therapy	3		<hr/>
OCT 631 or 623. Advanced Psychosocial or Physical Dysfunction	3		6 to 16
	<hr/>	Summer	
	16	OCT 651. Clinical Experience (three months)	0
		OCT 652. Clinical Experience (three months)	0

Master of Science in Occupational Therapy for Registered Occupational Therapists

This course of study leads to a master of science degree in occupational therapy. It is designed for college graduates with a baccalaureate degree who have successfully completed the basic professional education in occupational therapy.

This program will allow students to concentrate their studies in the major area of their own interest.

All candidates for this program must, in addition to meeting the general requirements for the master's degree, complete the following: A minimum of 16 semester hours credit (including three semester hours devoted to the thesis or project) in courses offered by the department of occupational therapy.

NOTE: Because of the individual interest and program of each student and because of the sequence of courses and prerequisites, it is *not* expected that the student will complete this program in two semesters.

Scholarships and assistantships are available to graduate students and are administered by the individual schools and departments. Information

* No graduate credit

about these programs is available from the dean or chairman of the schools and departments.

Graduate students at VCU are eligible for funds administered under the National Defense Loan and college work-study programs. Full-time graduate students may borrow up to \$2,500 under the National Defense Loan Program. Repayment does not begin until one year after the completion of the program. Part-time graduate students are also eligible for NDEA loans commensurate with their hourly program. Only full-time graduate students are eligible for work-study positions. Grants range from \$750-2,000 and are paid bi-weekly salaries for work completed.

For further information contact: Director of Financial Aid, Virginia Commonwealth University, 901 W. Franklin Street, Richmond, Virginia 23220.

FACULTY

Associate Professors: Kooiman (Chairman); Wolfe

Assistant Professors: Brollier; Gross (Coordinator of Graduate Studies);

T. Romeo; Saxton; Schroepfer

Instructors: Graham; Harvey

Clinical Instructor: S. Romeo

COURSE DESCRIPTIONS

Prerequisites for all courses: admission to program, instructor's permission, other prerequisites as indicated.

- BIO 305. Human Anatomy.** LH-2; Lab H-4; SH-4; I; PR: BIO 101-102. A study of the basic structure of the human body using the dissected cadaver. (No graduate credit.)
- OCT 332. Medical Lectures I.** LH-2; SH-2; I; PR: BIO 206, concurrent with Bio. 305. Study of variety of general medical symptoms, etiology, and treatment.
- OCT 501. Woodworking.** Lab. H-4; SH-2; I. Use and maintenance of hand and machine tools as applied to wood, metal, and plastics.
- OCT 512. Theory of Occupational Therapy in Pediatrics.** LH-2; Lab H-2; SH-3; I. A comprehensive overview of physical and psychosocial aspects of normal growth and development, including perceptual-motor, pertinent to the child from infancy through adolescence. Occupational therapy evaluation and treatment planning for the child with dysfunction is stressed. Therapeutic application of toys and activities is included.
- OCT 525. Human Kinesiology.** LH-1; Lab H-2; SH-3; II. PR: BIO 305. Study of the principles of human motion via study of the human body.
- OCT 529. Neuroanatomy.** LH-2; Lab H-2; SH-3; II. A study of the functions of the central nervous system.
- OCT 533. Medical Lectures II.** LH-2; SH-2; I. Study of neurological and orthopedic conditions from the standpoint of etiology, prognosis, clinical signs and symptoms, and treatment.

- OCT 534. Medical Lectures III.** LH-2; SH-2; II. Physical medicine and rehabilitation treatment of major diagnostic entities.
- OCT 535. Psychiatry.** LH-2; SH-2; I. Psychopathology, symptomatology, and treatment of selected emotional and mental disorders.
- OCT 601. Therapeutic Modalities.** LH-1; Lab H-5; SH-3; II. Orientation and utilization concerning techniques and equipment used in activities of daily living to foster independence and adjustment of the physically disabled. Orientation to orthotics and adapted equipment.
- OCT 611. Therapeutic Techniques.** Lab H-4; SH-2; I. Treatment procedures and methods, with development and use of skills in therapy stressed.
- OCT 612. Clinical Practicum I.** SH-6; S-full-time. Treatment procedures, techniques, and use of skills will be explored in depth. Clinical affiliation in a selected occupational therapy department. A minimum of 8 full consecutive weeks.
- OCT 613. Clinical Practicum II.** SH-3; CH-6; I. Practical experience in selected occupational therapy departments. Activity analysis, rehabilitative concepts, prevention, and interdisciplinary communication will be explored in relation to occupational therapy concepts.
- OCT 614. Clinical Practicum III.** SH-4; CH-8; I, II. Practical experience in selected occupational therapy department. This experience will be selected in relationship to the individual's specific area of interest. Students will use this time to strengthen their theoretical knowledge as well as their practical application.
- OCT 618. Group Process.** Lab H-4; SH-2; I. An experiential learning situation in which development of relationships, group roles, leadership, and interaction among members is studied. Emphasis is placed on awareness of self and modification of individual and group behavior to provide more effective use of self in therapeutic groups.
- OCT 621. Theory of Physical Dysfunction.** LH-2; Lab H-2; SH-3; I. Occupational therapy concepts, procedures, and techniques used in the treatment and rehabilitation of the physically disabled person.
- OCT 623. Advanced Theory in Physical Dysfunction.** LH-2; Lab H-2; SH-3; II. PR: 621. Advanced theory, application of media, and equipment for specific physical dysfunctions.
- OCT 630. Theory of Psychosocial Dysfunction.** LH-3; SH-3; II. The application of occupational therapy concepts and methods to the emotionally disabled person from infancy to geriatrics is covered via a treatment plan approach. Evaluation, treatment, and rehabilitation techniques are discussed and current trends in psychiatric occupational therapy are explored.
- OCT 631. Advanced Theory of Psychosocial Dysfunction.** LH-3; SH-3; I; PR: 618, 630. An in-depth study of various aspects of psychiatric occupational therapy including: community psychiatry concepts, evaluation of occupational therapy via diagnostic activity batteries, social and vocational rehabilitation groups, the changing role of the occupational therapist in mental health work, and dynamics in the interdisciplinary team approach.
- OCT 635. Organization and Administration.** LH-2; SH-2. Concepts and approaches to developing an occupational therapy department; defining

objectives, criteria, and methods are explored. Use of staff is studied in light of job descriptions, dynamics of supervision, and inservice training programs. Establishment of student affiliation programs will be covered.

- OCT 641-642. Seminar.** LH-3; SH-1 to 4; I, II. Individual study in selected areas of interest as determined by student and program.
- OCT 651-652. Clinical Experience.** SH-0; CH-full-time; I, II. Supervised clinical experience in an approved center. Experience will include work with both the physical and psychosocial dysfunctions in respective hospitals.
- OCT 661-662. Directed Studies.** LH-3; SH-1 to 6; I, II. Individual investigation other than thesis or some special problem as it relates to the field of occupational therapy. Studies may be focused in the following areas: administration, education, physical dysfunction, psychosocial dysfunction, and research.
- OCT 671. Research in Occupational Therapy.** LH-3; SH-3; I, II. Various methods of research suitable for application in occupational therapy are explored.
- OCT 682. Social Aspects of Rehabilitation.** LH-3; SH-3; II; PR: consent of instructor. Examination of social and social psychological factors influencing the rehabilitation process and the delivery system of rehabilitation as it effects change. The "social epidemiology" of disability, variations in perceptions and response to handicapping conditions, and the occupational and organizational patterns for disability management are discussed.
- OCT 701. Thesis.** LH-3; SH-6; I, II. Under the supervision of an adviser and in conjunction with a thesis committee, student writes and presents a thesis in the area of his choice.
- EDU 474.** See page 157.
- EDU 574.** See page 157.
- AHP 581.** See page 157.
- AHP 582.** See page 157.

Program of Patient Counseling

HISTORY

"Patient Counseling" is a relatively new title for an ancient practice of communicating empathic concern and offering support and sensitive counsel to the physically or emotionally troubled person, and assisting him through the traumas of life. There is a long history of a concerted effort toward this end at the MCV Hospitals of Virginia Commonwealth University. With the appointment of the Reverend Dr. George D. Ossman as chaplain in 1943, the administration gave clear evidence of its awareness of the need for a specialized caring ministry to the hospitalized patient and his family. The chaplaincy program was significantly expanded in 1958 and was certified to begin training clergymen

in the area of pastoral counseling of troubled persons. Since 1958, a continuous certificate-awarding, accredited program has been in existence and has evolved into the present program in patient counseling, which includes a faculty of three qualified men. Patient counseling, as it exists today, became an integrated program in the School of Allied Health Professions in 1970.

PHILOSOPHY

With the rapid growth of health care and the increasingly complex problems of medical ethics and viable delivery systems, it is very important to educate qualified persons to deal with the human dimensions of illness and the personal and family stress related to it. Through this program, Virginia Commonwealth University has an opportunity to make a needed impact upon health education in terms of emphasizing the human needs related to crises of living. By so doing, this university has a significant role to play in the important task of keeping health care human and utilizing technical and scientific methodology in the context of a deep respect for the total life of persons under stress.

OBJECTIVES

The Program in Patient Counseling is designed to assist an individual to work in the health field as one skilled in dealing with the whole person in the context of his crisis and in a cooperative interprofessional team approach. It is offered to persons who have an existing identity in a helping, or counseling, profession. This will include clergy, social workers, institutional counselors, education specialists, psychologists, community health workers, and others in various aspects of the health professions. Basically, the program is designed to educate persons in understanding and counseling those who are involved in crisis situations, such as illness, impending death, injury, emotional collapse, family adjustment to health crisis or loss, unwanted pregnancy, and other such life crises.

FUTURE PLANS

A master's degree with a major in health and crisis-related personal and family counseling, emphasizing the practical and clinical competence of such counseling, is currently in the planning stages. A soundly-based research program is a recognized need and a projected goal.

FACILITIES

Newton House is the base for the educational program and limited space is available in clinical areas to work with persons and families in crises.

ACCREDITATION

The program is certified by the Association for Clinical Pastoral Education, Incorporated. Advanced residents, upon vote of the faculty, may be presented to the Association for Clinical Pastoral Education and/or the American Association of Pastoral Counselors for certification and accreditation.

PROGRAMS

Students and residents serve in the dual capacity of providing service while learning. Classes are primarily patient oriented, with actual patient contact as the learning vehicle. Didactic classes are coordinated with the entire learning process. Seminars comprise 10 hours per week, other classes eight hours per week, service care of patients the remainder. Night duty and weekend duty in rotation is required of all students in the program. Each student receives weekly individual supervision by a member of the faculty.

Several courses are offered for persons at different levels of experience and training:

1. (A) Part-time programs are available for local persons who wish to commute. This requires two days per week (plus overnights) for 16 weeks. These programs are offered twice per academic year, in the fall and spring semesters.

(B) One day per week for both semesters.

2. A course for 11 weeks in the summer session is full time and is available to postgraduate students.

3. A one-year internship is available to five mature, experienced persons.

4. A second-year residency is available to three selected persons in supervisory training.

5. Two senior residents function administratively as departmental assistants and teaching fellows.

Interns and residents receive stipends for services rendered. Information about stipends may be secured by contacting the admissions chairman.

ADMISSION REQUIREMENTS

1. Fall and spring semester programs:

B.A. or its equivalent

B.D., M.Div., M.A., Ph.D., or equivalency

Professional standing in the community

Personal interview with a member of the supervisory staff

2. Summer session (11 weeks):

B.A., or its equivalent

Enrollment in an accredited graduate school or its equivalent, or demonstration of professional competence

Personal interview with representative of the program

3. Intern:

B.A., or its equivalent

B.D., M.Div., M.A., Ph.D., or equivalency

Recognition in the professional community

Demonstration of personal maturity

Personal interview with supervisory staff

4. First-year resident:

B.A., or its equivalent

B.D., M.Div., M.A., Ph.D., or equivalency

Professional standing in the community

2 to 5 years experience in chosen profession

An expressed interest in pursuing the supervisory training process

Demonstration of personal psychotherapeutic or counseling experience

Intern year in an accredited center

Personal interview with supervisory staff

5. Second-year resident:

All of first-year resident requirements, plus two full years of training in an accredited center

Endorsement for supervisory training by the Regional Certification and Accreditation Committee of the Association for Clinical Pastoral Education, Inc.

FACULTY

Professor: Prest (Chairman)

Assistant Professor: Woodruff

Instructor: Mauney

Lecturer: Oglesby

COURSES OF STUDY

PAC 511. One day per week, I.

PAC 512. One day per week, II.

PAC 531. Two days per week, I

PAC 532. Two days per week, II. A continuing education course utilizing the clinical method under close supervision—patient visitation, seminars, videotape, verbatims, and individual conferences are the methods used.

Course participants integrate professional functioning in the community with care of persons and families in stress.

PAC 513. Full time for 11 weeks, S. Course open only to graduate students and professionals for full-time commitment to a health-oriented institution. Patient care, daily seminars, weekly individual supervision, video and audio tapes, verbatims, book reports, and original papers comprise the context of the course. Personal meaning and philosophy in the midst of responsible care of sick persons is the goal with a wholistic concern for man in family and society.

Department of Physical Therapy

HISTORY

The Department of Physical Therapy of the School of Allied Health Professions was established in 1945 as the School of Physical Therapy at the Medical College of Virginia. Between 1945 and 1954 the program consisted of a 12 months' professional course based upon at least three years of college work or the possession of an R.N. title. In 1954 a two-year program was initiated leading to the bachelor of science degree in physical therapy. In 1955 the school offered the degree of bachelor of science in physical therapy to eligible graduates for the first time. The last 12 months' professional course was offered during the school year of 1954-55. Between 1956 and 1968 the two-year program leading to the bachelor of science degree was the only program offered.

In 1946 a graduate program offering the master of science in physical therapy degree was established and continued to function until 1952 when it was discontinued. The program was revived in 1968 and expanded in 1971 under a full-time director.

PHILOSOPHY OF PHYSICAL THERAPY EDUCATION

The philosophy upon which our total educational program is built encompasses both academic and clinical components.

We believe that excellence in the educational process involves:

1. Providing for the student a stimulating and challenging environment which permits learning through intellectual inquiry and discovery.
2. For the student to develop facilities for self-expression and self-evaluation and to learn to share experiences with classmates, instructors, and others.
3. For the student to discover that learning for and within a profession is a lifelong process.
4. For the student to develop a sense of responsibility toward his patient. This implies an inquisitive attitude toward the total treatment of his patient and a compelling sense of obligation to provide for the patient the best form of treatment possible at all times.

5. For the members of the faculty to be given the opportunity to develop professionally and personally toward self-gratification.

6. For the faculty to be functioning in an atmosphere which permits individual expression and promotes mutual respect.

OBJECTIVES

The objectives of the School of Physical Therapy as stated by the faculty are as follows:

a. To provide the best possible education for the student in physical therapy.

b. To provide an environment which allows the student to develop the capacity for participating in any of the various areas of physical therapy practice.

c. The student must acquire the ability to analyze and interpret his observations.

d. Based on medical prescription, the student must be capable of evaluating the patient's status and selecting specific appropriate treatment procedures.

e. The student must develop understanding for total patient care as related to other health professions both in institutional care, in community facilities, and in the patient's home.

f. The student must develop ability to assume responsibilities in the administration of different types of treatment facilities.

g. The student must further develop the facilities to continue self-education.

h. The student must continue to develop and improve skills of communication and personal relationships.

i. The student must be able to grow professionally and possibly contribute in supervision, instruction, or research.

j. The student must develop respect for the dignity of man and understanding of basic human needs.

FUTURE PLANS

Planning for the future centers around a continuing re-evaluation of the present curriculum in order to achieve an adequate degree of integration of the various areas of subject matter, as well as a high level of integration between academic and clinical learning. New approaches to clinical education are being considered as part of the effort to provide each student with the best possible opportunities for effective learning experiences in the patient oriented environment.

One of the most important activities which engages the staff and faculty at present is planning adequate facilities for a new building that will allow the department to increase its undergraduate enrollment from the present 70 to 100 students.

FACILITIES

The Department of Physical Therapy is located on the third and fourth floors of MCV South Hospital at the southeast corner of Twelfth and Broad streets.

This building houses, for the academic program, administrative and faculty offices, classrooms and physical therapy laboratories, and student facilities, such as a small professional library, locker rooms, and lounge. Classrooms and laboratories in other buildings on campus are used as needed for some courses.

Clinical education experiences for the students are offered in physical therapy clinics throughout Virginia and in other states east of the Mississippi.

During the junior year students observe the behavior of normal children and disabled children in child care facilities in the city of Richmond.

In both the junior and senior academic year students observe, assist and treat patients in clinical facilities in the city of Richmond and surrounding counties. Facilities that participate in this program are:

- Chippenham Hospital
- Crippled Children's Hospital
- McGuire Veterans' Administration Hospital
- Medical College of Virginia Hospitals
- Physical Therapy Clinic, Ms Ellen Baab, RPT
- Richmond Cerebral Palsy Center
- Richmond Memorial Hospital
- Richmond Nursing Home
- St. Mary's Hospital

ACCREDITATION

The program offered by the Department of Physical Therapy, first accredited in 1945, was reaccredited in 1969 by a joint committee of the American Physical Therapy Association and the Council on Medical Education of the American Medical Association.

PROGRAMS

Undergraduate

Students are admitted as juniors in September after the completion of two years of undergraduate college work. The program extends over a period of two years and leads to the degree of bachelor of science in physical therapy. The two-year curriculum consists of seven phases of academic and clinical work which has as its common thread the life span of the human being.

Phases one and two comprise the first two academic years of study and concentrate on relating structural and functional aspects of the

human being to various abnormalities on a broad level. An attempt is made to integrate all classroom material to provide the student with a meaningful sequence of learning. In addition to integrating classroom material, carefully planned clinical experiences are provided to complement and parallel the student's academic learning.

Each junior student spends one-half day each week during this entire academic year observing, assisting, and treating patients under the supervision of qualified clinical educators.

Phases three through seven constitute the second year of the student's study and concentrate on relating structural and functional aspects of the human being to specific pathology. Included in the student's second year of study are six months of academic work followed by an eight-week period of clinical education, which is the student's first exposure to an extended, uninterrupted period of patient contact. After his first eight-week clinical experience, the student returns to the academic setting to learn of advanced treatment procedures, administrative, and supervisory principles, and additional medical information. His final eight-week clinical period represents the culmination of two years of study.

HONORS AND AWARDS

Frederick E. Vultee Memorial Award. This award was first given in 1964 in memory of Frederick E. Vultee, M.D., who was medical director of the School of Physical Therapy from 1960 until his death in 1962. This award is given, in recognition of superior clinical performance during the senior year, to the student who demonstrates an outstanding sense of responsibility for his patients, for his colleagues, and for his profession and who shows exceptional pursuit of personal and professional growth. The award includes a certificate and a \$50 U.S. savings bond.

ADMISSION REQUIREMENTS

A minimum of two years of college (64 semester hours or 96 quarter hours) is required including the requirements listed below. A student must obtain a grade of C or higher in all required courses. Required courses may not be taken on a pass-fail basis without permission of the Admissions Committee.

A. English. Must have completed an equivalent of 6 semester hours or 9 quarter hours.

B. Biological Sciences. Minimum of 8 semester hours or 12 quarter hours of general biology or general zoology or the equivalent. Additional courses may be selected from the following which must be laboratory courses:

Comparative Anatomy
Histology
Physiology

Vertebrate Anatomy
Embryology

C. Physical Sciences. Must have completed 8 semester hours or 12 quarter hours in general chemistry and 8 semester or 12 quarter hours in general physics. These must be laboratory courses.

D. Mathematics. Must have completed college algebra and plane trigonometry or the equivalent.

E. Social Sciences. Minimum 12 semester hours or 18 quarter hours, including at least 6 semester hours or 9 quarter hours of psychology, 3 of which must be in general psychology. The remainder should be selected from the following:

Adolescent Psychology
Child Psychology
Anthropology
Economics
History

Personality Development
Philosophy
Psychology of Adjustment
Sociology
Statistics

Other highly recommended courses are: Latin, French, German, analytic geometry and calculus, and physical education courses, such as gymnastics, tumbling, and modern dance.

A qualifying examination and personal interview may be required of all students seeking admission.

The fulfillment of scholastic entrance requirements and the ability to complete the payment of tuition and other fees do not themselves constitute a right to study physical therapy. Those who are selected still are required to demonstrate throughout the two-year course ability and personal qualifications necessary for the professional responsibilities of a physical therapist.

For information concerning the profession of physical therapy or the program at Virginia Commonwealth University write to: Department of Physical Therapy, School of Allied Health Professions, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298.

For applications and catalogs write to: Mr. William Robertson, Dean of Admissions, MCV Campus, Virginia Commonwealth University, MCV Station, Richmond, Virginia 23298.

STATE LICENSURE AND REGISTRATION

Graduates are eligible for registration in the state of Virginia and throughout the United States and its territories. Examinations sponsored by the State Board of Medical Examiners are offered twice yearly.

FINANCIAL ASSISTANCE

A limited amount of financial assistance is available to both junior and senior physical therapy students. The amount of assistance awarded the individual student is based on the availability of funds and the need shown by the student. MCV/VCU provides three types of student assistance: scholarships, loans, and campus employment.

For information on financial assistance, write: Financial Aid Officer, MCV Campus, Virginia Commonwealth University, MCV Station, Box 224, Richmond, Virginia 23298.

CURRICULUM PLAN

Junior Year	Sem. Hr. Cr.	Senior Year	Sem. Hr. Cr.
PHT 301-302. Functional Anatomy	14.0	PHT 401. Physiology	5.5
PHT 303. Microscopic Anatomy	3.5	PHT 403. Pathology	2.0
PHT 305. Embryology	1.0	PHT 406. Applied Neuroanatomy	1.0
PHT 307-308. Functional Neuroanatomy	8.5	PHT 407-408. Therapeutic Exercise	5.5
PHT 309. Introduction to Physical Therapy Procedures .....	.5	PHT 409. Electrotherapy and Electrotesting	2.5
PHT 311. Human Development	1.0	PHT 411-412. Physical Modalities	3.5
PHT 313. Psychology	0	PHT 413-414. Professional Literature	3.0
PHT 316. Massage	1.0	PHT 416. Clinical Education ...	6.0
PHT 317-318. Muscle Testing and Geoniometry	2.0	PHT 418. Administration	1.0
PHT 319. Rehabilitation	3.5	PHT 420. Geriatrics	0
PHT 321-322. Clinical Education	3.0	PHT 421-422. Medical Lectures .	1.0
Total	38.0	PHT 423. Orthopedics	2.0
		PHT 426. Neurology	1.5
		PHT 428. Psychiatry .....	.5
		Total	35.0

DEPARTMENTAL ACADEMIC REGULATIONS

The minimum passing grade is D; a higher passing grade may be established for students required to repeat any course.

A final grade of F precludes further examination. The course must be repeated. Only one re-examination is permitted. The passing grade after re-examination cannot exceed a D. Failure to pass the re-examination constitutes a grade of F. Grade reports are given to students as each course is completed. A report of grades will be sent to the parents only on request of the student.

Academic promotion is determined by the student evaluation committee. The student is expected to:

1. Maintain a credit ratio of 2.0 or better.
2. Complete satisfactorily all non-credit courses.
3. Have a passing grade in all courses.
4. Maintain the personal attributes outlined for admission standards.
5. Complete the payment of all fees.

The clinical education requirements must be completed to the satisfaction of the clinical and academic faculty.

DEPARTMENTAL COURSE OFFERINGS

Faculty

Professor: Hirt (Chairman)

Associate Professors: Jones; Payton

Assistant Professors: Lamb; MacQueen; McDonald

Instructors: Plumstead; Sevier

Clinical Instructors: Hatcher; Pepper; Satterwhite

The Department of Physical Therapy has an integrated curriculum in which subject matter is taught in blocks of time which does not lend itself to identification by lecture or laboratory hours per week. In lieu of this the hours are identified more realistically by total hours taught.

- PHT 301-302. Functional Anatomy.** Total LH-180; Total Lab H-100; SH-14; I, II. Planned specifically for the physical therapy student to develop a thorough understanding of those fundamental facts and principles that apply most directly to his future work. Particular emphasis is placed upon the anatomy of the musculoskeletal and neuromuscular systems. Abnormal functions, as encountered later during clinical work, are discussed and related to normal living structure and function. Students are required to dissect the human body.
- PHT 303. Microscopic Anatomy.** Total LH-53; SH-3.5; I. A study of the basic principles of living tissue. Emphasis is placed on structural and functional relationships with the needs of the physical therapist in mind.
- PHT 305. Embryology.** Total LH-12; SH-1; I. A study of the development of the form of the human body emphasizing structural and developmental relationships between the musculoskeletal and nervous systems.
- PHT 307-308. Functional Neuroanatomy.** Total LH-130; SH-8.5; I & II. A study of the basic structural and functional aspects of the human nervous system. Clinical phenomena are introduced for the purpose of promoting understanding of function and relating the subject to the practice of physical therapy.
- PHT 309. Introduction To Physical Therapy Procedures.** Total LH-12.5; Total Lab H-5; SH-5; I. Designed to orient the beginning physical therapy student to the hospital setting and to his future professional role. Instruction is given in safety procedures, transfer techniques, the medical record, vital signs, medical aseptic technique, and principles of bandaging.
- PHT 311. Human Development.** Total LH-16; SH-1; I. Discussions center on: (1) prenatal influences that affect the developing child in utero, (2) the stages of labor and the role of the mother, father, and health professional during labor and delivery, (3) the major characteristics of the infant at birth, and (4) the normal motor developmental sequence from birth to age five.
- PHT 313. Psychology.** Total LH-9; Total Lab H-3; SH-0; I. Designed as an opportunity for the student to study human behavior in its various forms. The approach and content varies with the needs of the student.
- PHT 316. Massage.** Total LH-8; Total Lab H-22; SH-1; II. Lectures deal with the effects, indications, contraindications, and techniques of massage. The major portion of the course is devoted to laboratory practice to develop ability in the application of massage.

- PHT 317-318. Muscle Testing and Goniometry.** Total LH-11; Total Lab H-32; SH-2; I & II. Designed to teach some of the basic measurement procedures used by the physical therapist in patient evaluation. These include measurement of the length and girth of body parts, measurement of joint range, and manual muscle testing.
- PHT 319. Rehabilitation.** Total LH-50; Total Lab H-15.5; SH-3.5; II. The student is acquainted with the role of the physical therapist in the measurement, adjusting, fitting, and training in the area of orthotics, prosthetics, crutches, canes, and walkers. Problems peculiar to the various disability groups are discussed. The use of patients for teaching purposes is emphasized.
- PHT 321-322. Clinical Education.** Total CH-150; SH-3; I & II. Supervised clinical experiences are provided for one-half day each week throughout the entire junior year in several different facilities. The student has the opportunity to observe and compare behavior patterns in normal and disabled children; observe, assist with, and treat patients in clinical settings and in public health facilities.
- PHT 401. Physiology.** Total LH-67.5; Total Lab H-48; SH-5.5; I. A lecture-laboratory course on the basic mechanisms of action and interaction of the various body systems with special emphasis on the function of the neuromuscular system and its relationship to the treatment procedures in physical therapy. (Offered in conjunction with Pharmacy 401, Physiology.)
- PHT 403. Pathology.** Total LH-30; SH-2; I. An introduction to the fundamentals of general pathology with emphasis on the correlation between pathological processes and the clinical signs, symptoms, and course of disease. Specimens of gross pathology are demonstrated. Students are given opportunities to observe autopsies.
- PHT 406. Applied Neuroanatomy.** Total LH-16; SH-1; II. A series of lecture and laboratory sessions are presented for the purpose of providing some depth in selected areas of the central nervous system with particular reference to the needs of the physical therapist.
- PHT 407-408. Therapeutic Exercise.** Total LH-79; Total Lab H-30; SH-5.5; I & II. Study of exercise as a therapeutic measure is approached through scientific principles acquired from the basic medical sciences. Included are the general principles of exercise and their application to pathological conditions, tests and measurements, posture and body movement analysis, normal and abnormal sensorimotor development, and basic principles and techniques of facilitating responses desired in the performance of exercise.
- PHT 409. Electrotherapy and Electrottesting.** Total LH-28; Total Lab H-13; SH-2.5; I. Basic physical principles related to electricity and electronics are reviewed. Lectures pertain to physical and physiological effects of the low frequency currents and their therapeutic indications and contraindications. In laboratory practice, particular emphasis is placed on therapeutic and diagnostic use of these electrical currents.
- PHT 411-412. Physical Modalities.** Total LH-45; Total Lab H-22.5; SH-3.5; I & II. A study of the theory and therapeutic application of heat, cold, light, sound, water, and pressure. Material presented includes the basic physics of the modality, the physiological concepts related to the effects of each modality, and the indications and contraindications in patient treatment.

- PHT 413-414. Professional Literature.** Total LH-42; SH-3.5; I & II. Designed to allow the student to acquaint himself with professional literature and public speaking by preparing independently a written and oral report on a scientific topic or by preparing a selected project related to his profession.
- PHT 416. Clinical Education.** Total CH-640; SH-6; II. Full-time supervised experiences in the evaluation, program planning, and treatment of patients with a variety of conditions are provided. During two eight-week affiliations in two different clinic settings the student gradually assumes increased responsibility for the total care of his patients.
- PHT 418. Administration.** Total LH-20; SH-1; II. The student is to gain understanding and appreciation of professional activities related to organization and administration.
- PHT 420. Geriatrics.** Total LH-18; SH-0; II. Lectures and discussions are provided to acquaint the student with the special physiological, medical, psychological, and social needs of the elderly patient.
- PHT 421-422. Medical Lectures.** Total LH-15; SH-1; I & II. A series of lectures by representatives of various medical specialties and allied fields is presented. Emphasis is placed on principles and conditions of particular significance to the physical therapist.
- PHT 423. Orthopedics.** Total LH-27; SH-2; I. Common orthopedic conditions are discussed by the orthopedic surgeon and the physical therapist with major emphasis on the after effects and treatment of disease and injury. Visits to orthopedic clinics and surgery are made.
- PHT 426. Neurology.** Total LH-21; SH-1.5; II. Lectures and demonstrations in neurology covering the neurological examination, tests used in neurology (EEG, EMG, X-rays, and spinal fluid), chronic neurological diseases, lesions of peripheral nerves, disease of muscles, brain trauma, brain tumors, cerebrovascular disease, and spinal cord syndromes, and some basic principles of neuro-surgical procedures.
- PHT 428. Psychiatry.** Total LH-10; SH-.5; II. Series of lectures and case demonstrations to develop appreciation and understanding in the student of clinical syndromes and psychodynamics of the psychiatric patient.

GRADUATE DIVISION

HISTORY

The current graduate program in physical therapy, which was initiated in 1968 with one student, began to expand in 1971 with the appointment of a full-time director. In September 1972, there were 10 graduate students in physical therapy.

PHILOSOPHY AND OBJECTIVES

In a world where knowledge is doubling every few years, continuing education has become a way of life for most professional people. Many of yesterday's truths have been disproven and tomorrow's truths are being generated in today's laboratories and clinics. Physical therapy, an integral part of the health care system, is involved both broadly and deeply in this

atmosphere of change and growth. Expanding knowledge and skills in the basic and clinical sciences and changes in the needs and mandates of society have placed new demands on physical therapists and have created many new responsibilities and opportunities.

These changes have not only altered the existing basic professional preparation programs but have also stimulated the development of a variety of new and innovative postgraduate and continuing education programs. The master's degree program at MCV/VCU is designed to meet the needs of many practicing physical therapists who want to increase their skills and competencies in specialized aspects of their profession. The guiding principle of this program is flexibility which provides for adaptation to the specific interests and goals of the individual student. The student may elect courses from most of the graduate departments of both the MCV Campus and the Academic Campus of VCU (e.g. anatomy, physiology, health and hospital administration, psychology, education, etc.) in addition to courses from the graduate program of the Department of Physical Therapy in order to build a meaningful, integrated, individualized program of studies.

Prospective students are encouraged to have their goals clearly defined before they start a graduate program. Typical goals might include specialization as a clinician, educator, researcher, consultant, or administrator with expertise in a basic science or in a clinical speciality.

Physical therapy is a unique application in a clinical setting of a unique combination of basic sciences. Therefore, the student is expected to make a contribution to the professional literature by means of a research thesis, either in a combination of sciences basic to physical therapy or in its clinical application.

FUTURE PLANS, FACILITIES

In addition to the usual classroom facilities, the department is developing a kinesiological research laboratory with equipment for both bioelectrical and photographic studies. Graduate students interested in education do their teaching practicum in the undergraduate classes and laboratories and in the clinical departments of MCV Hospitals. A clinical specialty practicum may be individually arranged in appropriate facilities in or out of Richmond.

Present courses and facilities will be expanded as enrollment and student interests indicate a need.

ADMISSION REQUIREMENTS

1. All general requirements for admission as specified by the School of Basic Sciences and Graduate Studies of the Medical College of Virginia of Virginia Commonwealth University.

2. Graduation from a physical therapy program approved by the Council on Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association (or, for

foreign students, its equivalent as determined by the Physical Therapy Graduate Program Admissions Committee).

TRAINEESHIPS AND ASSISTANTSHIPS

In the past, the department has been able to offer a limited number of federal traineeships (stipend, tuition, and fees) and clinical assistantships (salary). These will continue to be offered as funds allow. Interested students should make inquiries to the program director.

DEPARTMENTAL COURSE OFFERINGS

Faculty

Professor: Hirt (Chairman)

Associate Professors: Jones; Payton

Director, Graduate Division: Payton

Assistant Professors: Lamb; MacQueen; McDonald

Instructors: Plumstead; Sevier

Course Descriptions

- PHT 501. Advanced Analysis of Human Motion I.** LH-2; Lab H-2; SH-3; I. An introduction to the use of modern instrumentation in the study of both normal and pathological human motion. Each student will design, conduct, and report several pilot kinesiological studies using different instrumental approaches, including polygraph, various transducers, electromyography, and telemetry.
- PHT 502. Advanced Analysis of Human Motion II.** LH-1; Lab H-4; SH-3; II. A continuation of PHT 501. Study will include photography, cinematography, electrogoniometry, and other techniques.
- PHT 520. Clinical Specialty Practicum.** CH-40; SH-1 to 9; I, II, S. Concentrated clinical experience in the student's chosen area of specialization under the guidance of an approved preceptor. Must be taken concurrently with PHT 530. Prerequisites: appropriate courses in sciences basic to area of specialization. 1 semester hour's credit per 60 clinical hours.
- PHT 530. Clinical Specialty Seminar.** SH-1 to 3; I, II, S. Individual paper dealing in depth with the history, current status, and problems in a given area of clinical specialization. It is anticipated that the student will identify several potential thesis topics in the course of preparing this paper. Must be taken concurrently with PHT 520.
- PHT 540. Special Topics in Physical Therapy.** SH-1 to 4; I, II, S. Guided independent study of specific topics not discussed in other courses or discussed in less detail in other courses. Student's topic of desired study must be identified and approved prior to enrollment.
- PHT 590. Physical Therapy Seminars.** LH-1; SH-1; I, II. Reports on current problems and issues in the field of physical therapy. May be repeated to a maximum of 4 credits.
- PHT 690. Research in Physical Therapy.** SH-1 to 15; I, II, S. Research in preparation for the master's degree thesis.

EDU 474. See page 157.

EDU 574. See page 157.

AHP 581. See page 157.

AHP 582. See page 157.

Department of Hospital and Health Administration

HISTORY

The Department of Hospital and Health Administration was first organized in 1949 as an affiliated program in the Hospital Division of the Medical College of Virginia. Its first class was admitted in 1950, and its educational programs have been in continuous operation since that time.

During the early years of the department, graduates were awarded a certificate in hospital administration. In 1956, it was approved as a graduate program by the Association of University Programs in Hospital Administration and the first master of hospital administration degrees were awarded in 1957. The graduate program has maintained full accreditation continuously since 1956 and is an active member of the Association of University Programs in Hospital Administration.

Since January 1969, the graduate program has been included for general administrative purposes in the School of Allied Health Professions. On July 1, 1972, the program was accorded departmental status by university administration.

OBJECTIVES AND PHILOSOPHY

At the inception of the Department of Hospital and Health Administration, one objective was paramount: the education of persons to exercise leadership in the developing field of hospital and health administration, primarily in the Commonwealth of Virginia and neighboring states. This purpose has been maintained throughout the years and is the underlying basis for continued existence of the graduate program. The geographic area served by these graduates now encompasses the entire nation and extends to many foreign countries. The growing size and complexity of the health care system has enlarged the career opportunities of these graduates to include administrative positions in health planning agencies, medical group practice organizations, governmental agencies and facilities, medical schools, and other health organizations in addition to hospitals.

Today, the principal objective of the department is to provide high quality graduate education leading to careers in the administration of health organizations. Two concurrent objectives have been adopted as

necessary corollaries. These are: to sponsor research concerning the organization, financing, and administration of health services; and to serve the community—its people and institutions—through various programs involving both departmental faculty and students.

The philosophy of an organization can be defined as the system of principles that guide its activities. The Department of Hospital and Health Administration is guided by three fundamental principles. The first of these principles is that the caliber of administration within the health care system is a critical determinant of its effectiveness; the second is that the caliber of health administration can be improved through sound programs of basic and continuing education and through systematic research; and the third principle is that—to meet its fundamental responsibilities—the department must continually evaluate and strengthen its program of education, research, and community service.

The philosophy of the department is, in short, characterized by the belief that administration is a very important function within the health care system and that the faculty must strive in all of its activities to improve the quality of administration through education, research, and community service activities.

FUTURE PLANS

In the context of a rapidly changing health care system, our educational institutions must anticipate and meet the changing educational needs of their students. Accordingly, the Department of Hospital and Health Administration must constantly evaluate and modify its educational programs to insure that its graduates are prepared to function in the health system as it exists now and as it will be in future years. Moreover, these graduates must have the knowledge, skills, and attitudes that will permit them to work effectively in planning and implementing actions that will serve to improve the health care system and its components.

The future plans for the Department of Hospital and Health Administration, therefore, involve a continuing thrust toward strengthening all phases of the graduate program to better serve its students, its graduates, and the public. The department will continue to have a special responsibility toward the Commonwealth of Virginia and its people; but, when appropriate, will also strive to serve the region and the nation through its programs of education, research, and community service.

FACILITIES

The Department of Hospital and Health Administration is housed in an historic church building. Facilities include classrooms, reading room, conference room, kitchen, and faculty offices. Within a few years, the department will move to a new health sciences building which will house the schools of allied health professions, nursing, and pharmacy. The plans for this new building include the latest in physical plant and modern educational technology. It is expected to be completed in 1976.

ACCREDITATION

The department and its program is accredited by the Accrediting Commission on Graduate Education in Hospital Administration, the accrediting agency for all graduate programs in hospital and health administration. The graduate program was originally accredited in 1956, the eighth program in the nation to receive this status. It has maintained full accreditation since that time.

ANNUAL LECTURESHIPS AND ENDOWED PROFESSORSHIPS

The Charles P. Cardwell Lectureship Series was inaugurated and endowed by the program alumni. It is held annually in conjunction with the annual meeting of the American College of Hospital Administrators. The series is coordinated and speakers are selected by a standing committee of the departmental Alumni Association. Mr. Ray E. Brown, Executive Vice President, Northwestern University Medical Center, was selected to be the first speaker in the series which began in 1973.

Endowed professorships have been established in honor of individuals who have played vital roles in the development of the Medical College of Virginia of Virginia Commonwealth University. The Arthur Graham Glasgow Professorship of Hospital Administration was established in 1957 in honor of Dr. Glasgow who provided so generously in his will for the Medical College of Virginia and who had shown such a vital interest in hospitals. The Glasgow Professorship is normally held by the chairman of the department.

PROGRAM OF STUDIES

For the master of hospital administration degree, the program includes:

First Year

The academic phase includes three semesters, including a 12-week summer semester. Course selections equalling or exceeding 51 credit hours are required.

Specific sequences of academic courses, including both required and elective courses, have been arranged in the following subject areas:

1. Hospital and Health Care Organization and Administration (up to 4 courses)
2. Health Economics and Financial Management (up to 3 courses)
3. Health Politics and Planning (up to 4 courses)
4. Management/Organization and Behavior (up to 3 courses)
5. Quantitative Methods (up to 3 courses)
6. Social Sciences in Health (up to 3 courses)
7. Labor Relations and Personnel Administration (up to 3 courses)

Students may elect to pursue one or more of these sequences while

fulfilling overall degree requirements. In addition, a specific area of concentration is available in health planning. (See the following section, "Curriculum Plan: 1973-1974.")

Second Year

1. Administrative Residency

The administrative residency is a requirement for all candidates for the master of hospital administration degree. Six credits are assigned this clinical education phase. Approximately 9 months are required in a residency program in a hospital or other health organization under the active direction and guidance of a qualified administrator (preceptor) in an approved institution. Extended work may be required when additional time is deemed necessary by the faculty to ensure satisfactory completion of the total educational program. During the residency, a three-credit course, HHA 602, Advanced Seminar in Health Administration, is a required offering.

The purpose of a residency is to provide the student an opportunity:

- (1) to associate closely with a hospital or health care environment;
- (2) to work closely with the variety of persons in the health system;

and

- (3) to meet, under supervision and guidance, the multiplicity of responsibilities and duties that are involved in hospital and health care administration.

2. Research Project

All candidates for the degree are required to complete an investigation in the field of applied research during the residency period. The subject of the project must be approved by the student's preceptor and faculty advisor. Upon completion of the project, a formal report must be presented in writing and defended before a committee of the faculty.

3. Thesis (Optional)

A degree candidate may elect to write a thesis in lieu of (a) the project and (b) elective courses amounting to five credits. The thesis must demonstrate the student's ability to select a problem in the field of his major interest; and to organize, analyze, and present the results of an investigation of the problem. The subject of the thesis must be approved in advance by the student's advisor and by a committee of the faculty of the program, both of whom must also approve the completed report. After the thesis has been accepted, the student must satisfactorily pass an oral defense of the report before a faculty committee.

Appointment to Residency

The administrative residency follows the satisfactory completion of academic year requirements, i.e. maintaining grade point average of 3.0

on a four-point scale for all course work during the three semesters. The student must also, in the judgment of the faculty, give evidence of sufficient maturity to constitute readiness for a clinical experience.

The student participates actively in the selection of his residency assignment from an approved listing in consultation with the chairman of the department, his advisor, and preceptors in the affiliated institutions. When a student has definite interest in some type of special purpose hospital or health care institution, a tailored residency program may be established.

Appointment to residency is for a specified minimum period subject to extension when necessary. Announcement of appointment is made between February 1 and May 1 of the student's first year. It is noted, however, that should a student fail to meet the requirements for entering his residency after the appointment is made, he becomes ineligible for this assignment and the residency will be cancelled until such time as the deficiency is removed.

The ability of the individual student to fulfill on-campus commitments during his residency experience is an essential criterion to determining geographical location of the affiliated institution. Where feasible and practical, a diversified residency will serve to extend the area in which assignments may be considered.

On-Campus Commitments During Residency

During the period of residency, the student must attend regularly scheduled, on-campus seminars of the graduate program in hospital and health administration. During these seminars the student may be expected to spend time with his advisor, discuss his project or thesis, and participate in varied educational activities.

Degrees are regularly conferred at the commencement exercises of the university in May. A candidate for a degree in May must be present to receive the degree unless he has been excused from attending by the vice-president for health sciences.

The graduate student must complete all requirements for a degree within three calendar years of matriculating in the program.

CURRICULA PLAN: 1973-1974

Planning Concept

The 1973-1974 curriculum requires a total of 51 semester hours to qualify for the M.H.A. degree. For students who select the *standard curriculum*, 27 hours are fulfilled through required courses, 18 hours are fulfilled through elective courses, and 6 hours are fulfilled through an administrative residency. For students who elect to concentrate in *health planning*, 42 hours are fulfilled through required courses, 3 hours are fulfilled through elective courses, and 6 hours are fulfilled through an administrative residency.

In all instances, the elective courses are selected on an individual basis by the student and his or her advisor according to the student's particular career interests and educational needs. These courses are completed during three sequential semesters in the first year of the 21-month program.

In addition to the academic coursework, a student must complete an administrative residency of approximately nine months' duration during which he or she is responsible for conducting a major research project. The culmination of the master's degree program comes with comprehensive examinations taken at the end of the administrative residency period.

The following list presents the required and basic elective courses that are available for the 1973-1974 academic year. Numerous other courses in virtually every school and department of the university are also available to meet specialized student needs.

First Year: Fall Sem.

Required Courses	Cr. Hr.
Department of Hospital and Health Administration:	
HHA 501. Hospital Organization and Administration	3
HHA 505. Health Economics	3
HHA 511. Hospital and Medical Law	3
HHA 562. Health Care and the Political Process	3*
Urban and Regional Planning Program, School of Community Studies (Academic Campus):	
US 671. Planning Methodology I	3*
<hr/>	
Basic required hours	9
Hours required for students concentrating in health planning	15

Elective Courses

Department of Hospital and Health Administration:	
HHA 547. Organizational Behavior	3
HHA 550. Medical Terminology	no credit
Department of Sociology (Academic Campus):	
SOC 699-06. Advanced Principles of Sociology	3
School of Business (Academic Campus):	
BUS 560. Data Systems	3
ECO 601. Contemporary Economic Problems	3
BUS 633. Issues in Labor Relations	3
School of Basic Sciences and Graduate Studies:	
BIM 521. Statistical Principles for Health Care	3
BIM 545. Theory of Probability and Statistical Inference	4

* Course required only for students who are concentrating in health planning.

First Year: Spring Sem.

Required Courses	Cr. Hr.
Department of Hospital and Health Administration:	
HHA 502. Health Care Organization	3
HHA 514. Health Institution Planning	3*
HHA 544. Community Research Seminar I	3
School of Basic Sciences and Graduate Studies:	
BIM 522. Operations Analysis	3
Urban and Regional Planning Program, School of Community Studies (Academic Campus):	
US 672. Planning Methodology II	3*
	9
Basic required hours	9
Hours required for students concentrating in health planning	15

Elective Courses

Department of Hospital and Health Administration:	
HHA 506. Financial Management I	3
HHA 547. Organizational Behavior	3
HHA 558. Hospital Personnel Administration	3
HHA 562. Health Care and the Political Process	3
HHA 598. Thesis I	3
Department of Sociology (Academic Campus):	
SOC 545. Medical Sociology	3
SOC 604. Seminar in Industrial Sociology	3
School of Business (Academic Campus):	
ECO 606. Urban Economic Problems	3
BUS 641. Organization Theory	3
School of Basic Sciences and Graduate Studies:	
BIM 544. Techniques of Linear Models	4

First Year: Summer Sem.

Required Courses

Department of Hospital and Health Administration:	
HHA 507. Financial Management II	3
HHA 515. Community Health Planning	3
HHA 516. Seminar in Applied Health Planning	3*
	6
Basic required hours	6
Hours required for students concentrating in health planning	9

* Course required only for students who are concentrating in health planning.

Elective Courses

Cr. Hr.

Department of Hospital and Health Administration:

HHA 545. Community Research Seminar II	2
HHA 552. Applied Quantitative Methods	2
HHA 556. Seminar in Hospital and Health Care Policy	2
HHA 564. Current Issues in Hospital and Health Administration	2
HHA 599. Thesis II	2

School of Business (Academic Campus):

BUS 634. Advanced Labor Relations	3
BUS 643. Administrative Systems	3

Second Year: Administrative Residency

HHA 602. Advanced Seminar in Health Administration	3
HHA 702. Administrative Residency	6
Total	9

The Curriculum: A Conceptual Model

A basic aim of the faculty in designing the curriculum for 1973-1974 was to strengthen the academic phase of the 21-month program by building a series of *sequential course patterns* into the curriculum. The intent was three-fold: first, to provide more comprehensive instruction in several basic content areas; second, to permit the student with more options for in-depth educational experiences in selected content areas and, therefore, greater opportunity for individualized curriculum development; and third, to gain more effective use of available faculty resources through collaborative planning with other university schools and departments.

It is not necessary for a given student to complete each course in a particular course pattern. To the contrary, various students—because of their individual backgrounds, career interests, and educational needs—may complete all, part, or none of a given course sequence. For example, a student with a limited background in management may choose to complete all three courses in the management/organizational behavior pattern. At the other extreme, a student with very strong preparation in this content area may select an advanced course only—or may opt out entirely and utilize his elective hours in some other content area.

The conceptual model presented in Exhibit A depicts the basic, sequential course patterns that are offered within the *standard curriculum* during 1973-1974. The model presented in Exhibit B depicts the sequential course pattern that comprises the *concentration in health planning* which may be selected by a limited number of students with approval by the faculty.

EXHIBIT A
CONCEPTUAL MODEL:

SEQUENTIAL COURSE PATTERNS WITHIN THE STANDARD CURRICULUM

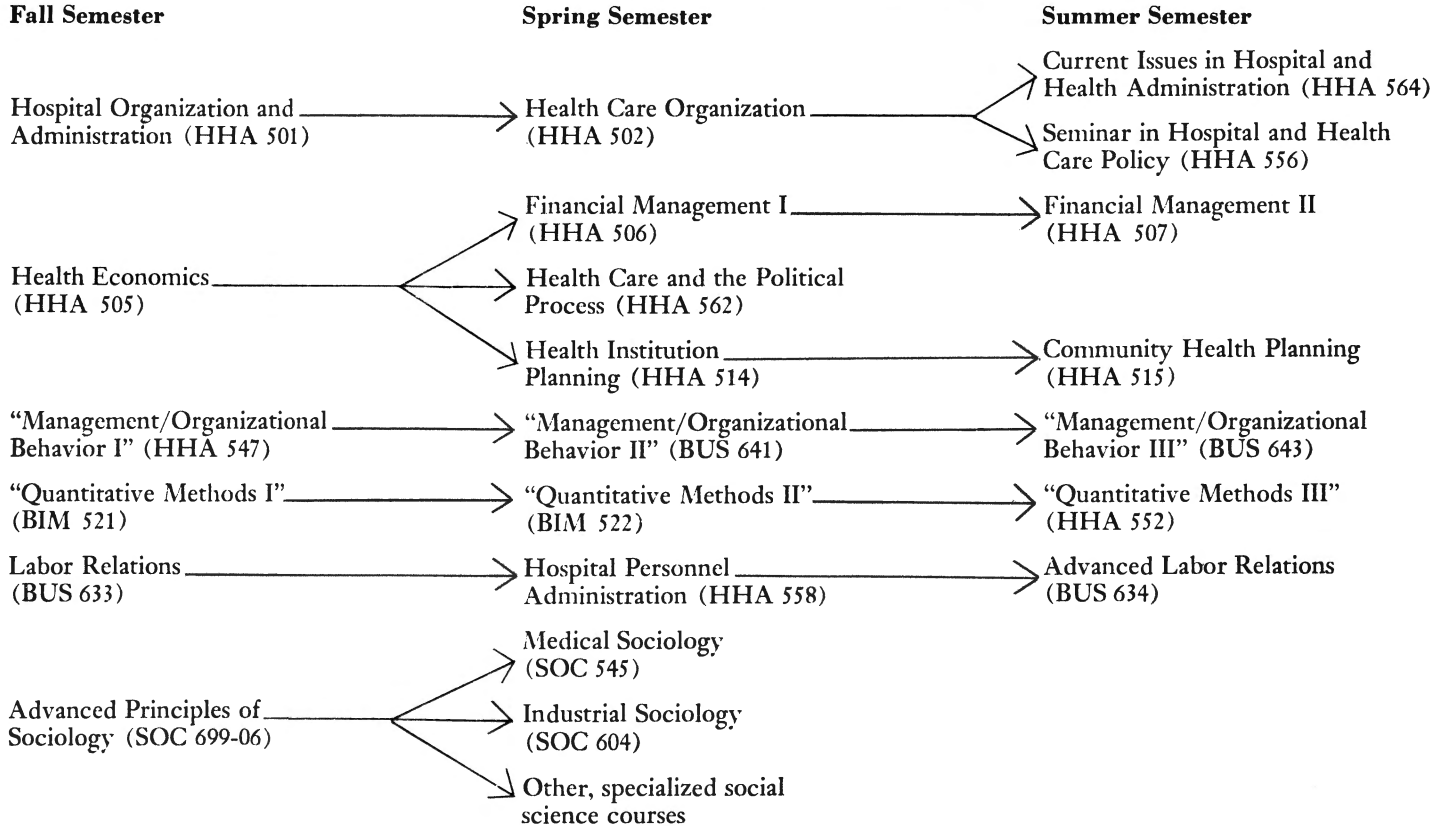


EXHIBIT B
CONCEPTUAL MODEL:

CONCENTRATION IN HEALTH PLANNING

Fall Semester

Planning Methodology I
(US 671)

Health Economics
(HHA 505)

Health Care and the
Political Process
(HHA 562)

Spring Semester

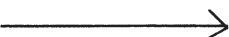
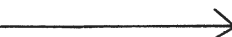
Planning Methodology II
(US 672)

Health Institution
Planning (HHA 514)

Summer Semester

Seminar in Applied Health
Planning (HHA 516)

Community Health Planning
(HHA 515)



ADMISSION REQUIREMENTS

Courses in hospital and health administration are open to any person having the necessary personal and academic qualifications. There is a difference, however, between admission to courses and acceptance as a candidate for a degree. Students pursuing study in the Department of Hospital and Health Administration are classified as either in full status, conditional status, or special status.

Students who have attained *full status* in the Department of Hospital and Health Administration must have met all admission requirements. (See following sub-section.) Students in full status are candidates for a master's degree in hospital and health administration. If an applicant offers qualifications which approximate the admission requirements for the master of hospital and health administration degree program, he may be admitted at the discretion of the faculty in a *conditional status*. In such a conditional admission, the student must satisfy the full requirements prior to becoming a candidate for the degree in hospital and health administration. Advancement to full status may be approved by vote of the faculty with concurrence by the chairman of the department of hospital and health administration when the candidate has fulfilled all admission requirements and satisfactorily completed one semester of graduate study. Full status may be withheld or terminated however as a result of one or more unsatisfactory grades.

An individual who desires to enroll in one or more courses offered by the Department of Hospital and Health Administration but does not intend to work toward a degree offered by this department, may apply for admission as a special student. Admission in *special student status* is limited. Whenever course size must be limited, preference in registration will be given to those students for whom courses offered by the Department of Hospital and Health Administration are required.

Students from other countries are encouraged to apply for admission to the Department of Hospital and Health Administration. Foreign applicants, however, must meet all the regular requirements for admission, take the Test of English as a Foreign Language, and submit evidence of financial responsibility indicating the source of funds required for study at Virginia Commonwealth University.

Applications are encouraged from individuals of all undergraduate fields of study. The Admissions Committee places more emphasis on evidence of sound scholarship and growth potential than on the specific content of the educational program previously completed by the applicant. Although no specific undergraduate major is required, undergraduate preparation should have included at least one college-level course in accounting, economics, and statistics. In addition, a working knowledge of basic, college-level algebra is a prerequisite for departmental courses in quantitative methods. Prospective students who have completed courses in one or more of the fields of social and behavioral sciences, economics, sociology, political science, psychology, finance, accounting, and business

management will have improved their opportunity for admission to the program.

Virginia Commonwealth University is a state-supported institution, and preference is given to applicants with equal qualifications who are residents of Virginia. There is no quota established, however, for Virginia and out-of-state students.

Minimum Qualifications for Degree Candidates

To be considered for admission in full status and as a candidate for the master of hospital and health administration degree, the applicant must meet the following minimum qualifications: (1) present evidence of personal achievement, scholarship, intellectual ability, and professional promise; (2) hold a baccalaureate or higher degree from a college or university which is fully accredited by the Association of American Universities or by a regional accrediting agency, or an acceptable equivalent; (3) have at least a 2.75 grade point average on a four-point scale in his undergraduate major or present solid evidence that he can successfully pursue graduate study; and (4) attain a satisfactory score on the Graduate Record Examination Aptitude Test or the Admissions Test for Graduate Study in Business.

The admission policies of Virginia Commonwealth University are based entirely on the qualification of the applicants, with no consideration whatsoever of race, sex, color, or creed.

Application Procedures

Requests for further information and for application materials should be directed to: Coordinator, Admissions and Financial Aid, Department of Hospital and Health Administration, Virginia Commonwealth University, MCV Station, Box 203, Richmond, Virginia 23298.

New students are admitted to the program only in the fall. The Admissions Committee ordinarily meets the third week of November, December, January, February, and March to consider applications for the following fall semester. Although applications are ordinarily accepted through March, those who apply after February 1 run the risk of the class having been filled. Because of the large number of applications ordinarily received, late applicants are at a serious disadvantage in competing successfully for the limited spaces available.

Financial Assistance

Details of financial assistance programs are reviewed with the applicant at the time of his interview at Virginia Commonwealth University.

The U.S. Public Health Service makes traineeships available to hospital and health administration students on a competitive basis through a special purpose traineeship grant awarded to the school. Depending upon the availability of funds, full or partial tuition and monthly stipends are provided.

A scholarship of up to \$1,000 is awarded annually by each accredited graduate program in hospital and health administration affiliated with the Association of University Programs in Hospital Administration. These scholarships are made possible through a grant to the association from the Foster G. McGaw Charitable Fund. Eligibility for appointment as a McGaw Scholar is limited to first-year students with a demonstrated need for financial assistance to pursue a career in hospital and health administration.

For minority group students who can demonstrate financial need, the Association of University Programs in Hospital Administration offers a Hospital and Health Services Administration National Scholarship and Loan Fund for minority group students. Information concerning applications may be obtained directly from the Association of University Programs in Hospital Administration, Suite 420, One Dupont Circle, Washington, D. C. 20036.

The Department of Hospital and Health Administration also has certain loan funds available. Through the generosity of the W. K. Kellogg Foundation, a revolving fund has been established for graduate students in hospital and health administration. In addition, general university loans are available to supplement student financial resources.

No special financial assistance or separately allocated funds or scholarships are available for foreign students. All scholarship awards are made on a competitive basis, and experience has shown that only exceptional foreign students can compete successfully for these awards.

For information concerning loan funds write to the program or to: Financial Aid Officer, MCV Campus, Virginia Commonwealth University, MCV Station, Box 244, Richmond, Virginia 23298.

Research Assistantships

A limited number of research assistantships that pay a monthly stipend are also available. Research assistants are not selected on the basis of financial need. Applications are accepted during the first week of each semester during the academic year.

HONORS AND AWARDS

Charles P. Cardwell Award. This award was established to honor Dr. Cardwell, one of the founders of the graduate program. It is given annually to the second-year student who, during his period of graduate study has demonstrated most clearly the qualities of leadership so essential to successful management.

DEPARTMENTAL ACADEMIC REGULATIONS

Student policies are published in separate documents by the university and the Department of Hospital and Health Administration. These documents may be obtained by the applicant at the time of his interview at Virginia Commonwealth University.

FACULTY

Professors: Barker; Imirie; Rooke

Emeritus Professor: Cardwell

Associate Professors: Cullen; Jordan; Prybil (Chairman)

Assistant Professors: MacStravic; Mullins (Assistant Chairman); Norville; Perlin

Lecturers: Anderson; Cauble; Delamar; Fritsch; Reid; Scott; Sweat

COURSES OF STUDY

- HHA 501. Hospital Organization and Administration.** LH-3; SH-3; I. A study of the various types of hospitals with regards to organization, role and responsibilities, and their relationships with other institutional components of the health system; an analysis of the process of hospital administration, control, and effectiveness. Didactics are complemented by coordinated field experiences, projects, and seminars with operational personnel.
- HHA 502. Health Care Organization.** LH-3; SH-3; II. Examines the major components of the health care system and their interrelationships; examines the growing size and complexity of the health care system, including the changing roles and responsibilities of the providers of health services; and identifies alternative patterns of health care delivery including social, political, and economic implications.
- HHA 505. Health Economics.** LH-3; SH-3; I. To develop an understanding of: (1) economics as a managerial tool in making choices or decisions that will provide for an optimum allocation of limited health care resources; and, (2) economics as a way of thinking about and approaching issues of public policy in financing and organizing health and medical services. Individual research on crucial or controversial economic issues in the health field.
- HHA 506. Financial Management I.** LH-3; SH-3; II. A theoretical and practical study of organization and functions of health care financial administration. Emphases are on institutional fiscal policies, accounting concepts and practices, internal and external controls, financial statistical reporting, and the use of financial data as management tools.
- HHA 507. Financial Management II.** LH-3; SH-3; PR:506; S. Advanced practices of health care financial management. Emphasis on techniques to aid in financial decision making. Areas of investigation and study include analysis of financial statements, cost allocations, reimbursements, rate setting, budgeting, and capital financing.
- HHA 511. Hospital and Medical Law.** LH-3; SH-3; I. Examines basic principles and practices of law affecting hospitals and medical practice: the legal aspects of patient care and treatment, medical services, and other hospital-patient related functions.
- HHA 514. Health Institution Planning.** LH-3; SH-3; II. Examines the philosophy, process, structure, and tools of top management planning in health institutions and considers steps in the planning, design, and construction of health care facilities. Includes exercises in the development of institutional role, programming, and construction.
- HHA 515. Community Health Planning.** LH-3; SH-3; S. Examines health planning on a community basis. Reviews the history and development of

comprehensive health planning, facilities planning, health services, and public health planning. Discusses current trends and future developments in health planning.

- HHA 516. Seminar in Applied Health Planning.** LH-3; SH-3; S. Provides students with opportunities to apply planning methodology, including problem definition, research design, information gathering and evaluation, to actual health issues and problems. Taken concurrently with HHA 515.
- HHA 544. Community Research Seminar I.** LH-3; SH3; II. To provide students an opportunity to apply research methods and analytic skills through their engagement in a significant community study dealing with problems in organizing, financing, and delivering health care. Faculty and student teams participate in the research and analysis of actual problems, the solution of which have the potential for immediate and long-term benefits to local communities.
- HHA 545. Community Research Seminar II.** LH-2; SH-2; PR:544; S. Continuation of HHA 544.
- HHA 547. Organizational Behavior.** LH-3; SH-3; I, II. Analysis of the current state of management study and practice with the objective of achieving a balanced development of both knowledge and skills in solving the human problems of administration in health institutions. The managerial process is critically examined with emphasis on individual behavior and development, inter-group behavior, and behavior in the total organization.
- HHA 550. Medical Terminology.** LH-1; SH-0; I. An introduction to common medical terms, diagnostic tests, therapeutic measures, common diseases, and medical records.
- HHA 552. Applied Quantitative Methods.** LH-3; SH-2; S. Definition of the system; how to analyze it, solve its problems, fit its parts together, and redesign it with emphasis on basic quantitative and qualitative management engineering techniques and on the hospital administrator's role and appreciation for them.
- HHA 556. Seminar in Hospital and Health Care Policy.** LH-2; SH-2; S. An analytical study of the process of creating objectives and policies within the health care institution. Examines the constellation of internal and external forces that influence policy development. Includes exercises in the development of a broad range of administrative and operative policies.
- HHA 558. Hospital Personnel Administration.** LH-3; SH-3; II. Examines the procurement, development, and maintenance of an effective work force. An analysis of staff development; health and safety; wage and salary administration; employee services; and labor relations.
- HHA 562. Health Care and the Political Process.** LH-3; SH-3; I, II. Examines the political process with particular emphasis on the impact of politics on health care. Focuses on current political issues in the health field, examining conflicts and anticipating effects on the health system.
- HHA 564. Current Issues in Hospital and Health Administration.** LH-2; SH-2; S. In-depth individual and group investigation of the major issues and problems faced by hospital and health administrators. Course serves as a synthesis of earlier courses and emphasizes both the conceptualization of problems and consideration of alternative solutions.

- HHA 598. Thesis I.** LH-3; SH-3; II. Independent research study to provide the opportunity for the student to select, organize, and report the results of an investigation in a field of major interest.
- HHA 599. Thesis II.** LH-1; SH-2; PR: 598; S. Continuation of research study begun in HHA 598.
- HHA 602. Advanced Seminar in Health Administration.** SH-3 (Residency); I and II. Review and critical analysis of current literature and integration of findings with all facets of the graduate educational experiences. Independent study directed by graduate faculty and written reports provide basis of seminar discussions and group dynamics.
- HHA 702. Administrative Residency.** SH-6; I and II. Assignment to a hospital or other health care organization under the preceptorship of a qualified health care executive/educator. Clinical experience, approximating nine months, allows the student opportunities to observe and to apply management principles, concepts, practices, and techniques in a controlled operational environment.
- BUS 560. Data Systems.** LH-3; SH-3; I. Designed for management personnel and others interested in a broader concept of integrated data processing. Applications are made to fiscal and patient care information systems.
- BUS 633. Issues in Labor Relations.** LH-3; SH-3; I. Examines the conceptual framework of labor relations including the interconnection between labor-management relations and the socio-political environment.
- BUS 634. Advanced Labor Relations.** LH-3; SH-3; PR: 633; II, S. Examines the negotiation and administration of collective bargaining contracts. Analyzes current and projected patterns of labor-management relations.
- BUS 641. Organization Theory.** LH-3; SH-3; I. Traditional and contemporary theories of organization and organizational behavior applied to a variety of organizations, both public and private; the influence of the organization of human behavior; and the management of change within organizations.
- BUS 643. Administrative Systems.** LH-3; SH-3; S. The systems approach to management utilizing scientific analysis to provide decision making information in complex organizations. Major topics include: history and trends of management systems, systems concepts, problem solving and decision making as related to systems, design of management systems, and the behavior aspects of management systems.
- ECO 601. Contemporary Economic Problems.** LH-3; SH-3; I. An analysis of major economic problems confronting the United States today. Among currently important problems are those relating to economic growth, to unemployment, to inflation, to international relationships, to labor-management relationships, and to the role of the government.
- ECO 606. Urban Economic Problems.** LH-3; SH-3; II. A study of economic activity in the urban environment. Areas of study include blight and unemployment, urban renewal and redevelopment programs.
- BIM 521. Statistical Principles for Health Care.** LH-3; SH-3; I. A basic introduction to the nature, use, and analysis of hospital and health care statistics. The collection, presentation, tabulation, and interpretation of statistical data. The elementary laws of probability. The concept of a sampling distribution, the standard error of the mean and confidence

limits in large and small samples. Elements of quality control, decision theory, and tests of significance.

- BIM 522. Operations Analysis.** LH-3; SH-3; II. Review of the philosophy, concepts, and procedures of operations research and the problems of derivation and implementation of O.R. solutions in health care. Includes forecasting and applications of quality control and decision making to hospitals.
- SOC 545. Medical Sociology.** LH-3; SH-3; II. An introduction and analysis of the social, economic, cultural, and social psychological factors in the distribution, diagnosis, etiology, and treatment of health and illness. The social organization of medical care and the sociology of health professions will also be covered.
- SOC 699E-06. Advanced Principles of Sociology.** LH-3; SH-3; I. An introduction to the basic sociological concepts, theoretical approaches, and empirical investigations useful for the understanding of a variety of human associations. Sociological methods of data collection, analysis, and related issues will also be presented.

Department of Nurse Anesthesia

HISTORY

The Department of Nurse Anesthesia was organized in 1969 as the School for Nurse Anesthetists. As such, it was the first new teaching program to be implemented in the newly organized School of Allied Health Professions of Virginia Commonwealth University.

OBJECTIVES

The overall objective of the Department of Nurse Anesthesia is to prepare registered professional nurses for practice in the specialty art and science of Anesthesiology.

This rather broad objective is accomplished by implementation of the following:

(1) An in depth presentation of the basic sciences associated with anesthesia practice with emphasis on understanding the practical application of concepts.

(2) Focusing attention on the ultimate role of the nurse anesthetist as a member of the health team.

(3) Providing integration of the clinical and didactic teaching programs so that the two are closely correlated throughout the course of study.

(4) Placing emphasis on the great need for educators in the field, and encouraging those whose talents are so oriented to pursue this goal.

(5) Encouraging continued professional education by self-study and discipline recognizing that these are the only keys to total professional maturity.

(6) Providing the student with a challenging and diverse selection

of surgical and resuscitative experiences with opportunity for constant criticism and evaluation.

FUTURE PLANS

The Department of Nurse Anesthesia intends to expand the curriculum in the near future so the bachelor of science degree can be awarded to candidates who successfully complete the prescribed course of required and elective study.

FACILITIES

The department utilizes the facilities of Randolph-Minor Hall for most classroom teaching. Certain courses also require the use of Sanger Hall, and McGuire Hall Annex.

The clinical practicum is performed in MCV West and North Hospitals. Affiliations have been arranged with the Portsmouth Naval and other selected community and area institutions to provide the student an exposure to all types of anesthesia practice.

ACCREDITATION

The nurse anesthesia program is fully approved by the American Association of Nurse Anesthetists which is also the certifying body for graduates of the department.

ADMISSION REQUIREMENTS

To be considered for admission, candidates must be graduates of an approved school of nursing and hold valid licensure to practice in any part of the United States.

The Admissions Committee recognizes its responsibility in accepting students for admission to the department and attempts to select those who have demonstrated superior ability in the past and exhibit promise of continuance of a high level of achievement.

The committee will thus show preference to those students whose nursing school academic averages are at least a B or 3.0 G.P.A. level.

At least one year prior experience in an area where acute nursing care is practiced is required of all associate degree graduates and desirable for all applicants.

State Board of Nursing Examination averages must be at least 450 in each area for all applicants.

A personal interview with selected members of the Admissions Committee is also required.

FACULTY

Medical Advisor: Boyan

Assistant Professors: Kuzava (Chairman); Privitera

Instructors: Dale; Montesanti; Stahurski

CURRICULUM

First Year

	First Sem.		Second Sem.
NUA 311. Chemistry in Anesthesia	3	NUA 312. Chemistry in Anesthesia	3
NUA 313. Physiology	4	NUA 316. Pharmacology of Anesthetic Drugs	3
NUA 315. Pharmacology of Anesthetic Drugs	4	NUA 322. Fundamentals of Anesthesia Practice	4
NUA 321. Fundamentals of Anesthesia Practice	4	NUA 392. Clinical Practicum	2
NUA 303. Physics	2	ANA 302. Principles of Human Anatomy	4
	—		—
	17		16

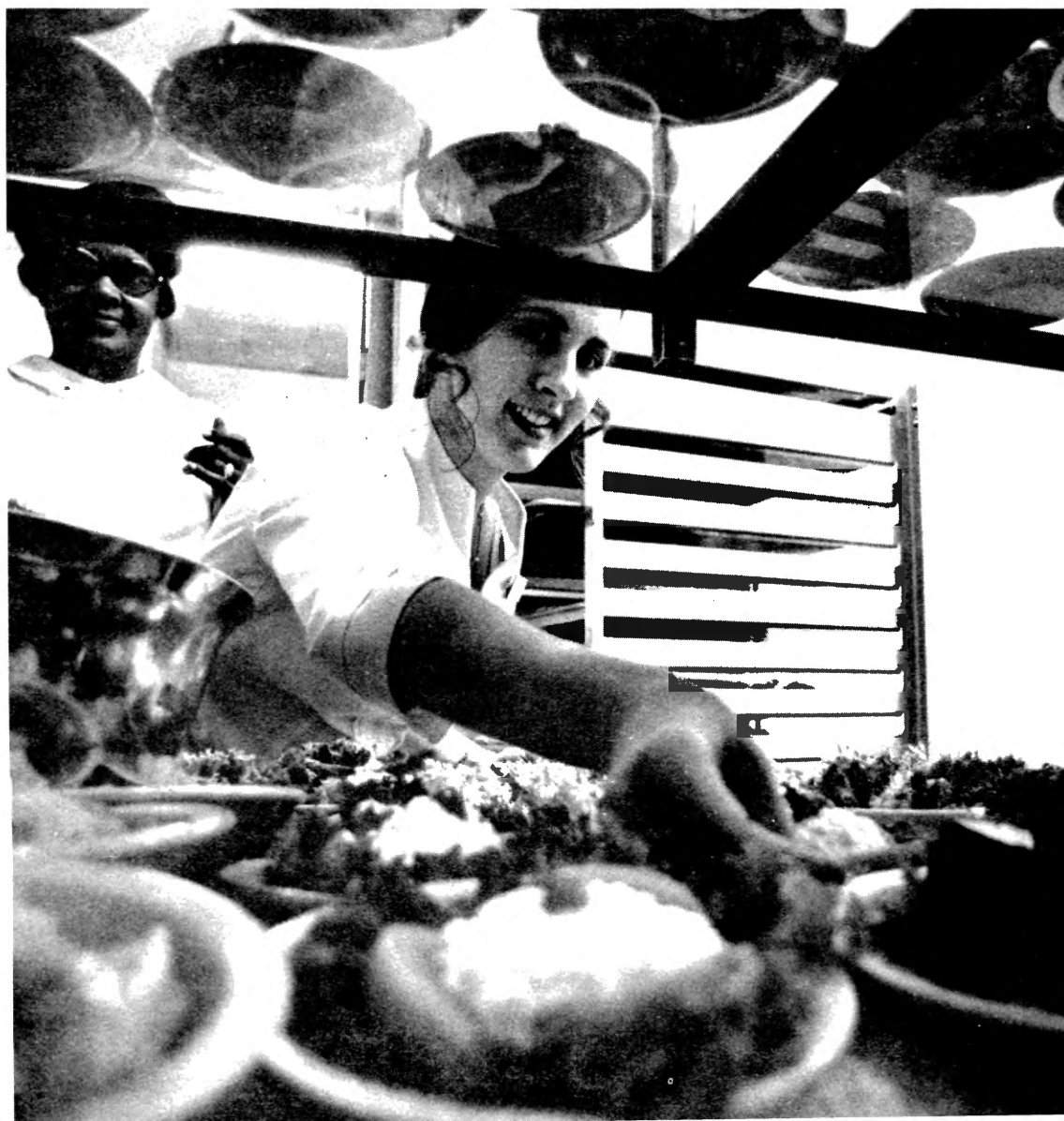
Summer and Second Year

NUA 492. Senior Clinical Practicum	6	NUA 493. Senior Clinical Practicum	6
---	---	---	---

DEPARTMENTAL COURSES OF STUDY

- NUA 311. Chemistry in Anesthesia I.** LH-3; SH-3. I. A review of the principles of inorganic, organic, and biochemistry. The importance of applying basic chemical principles to problems in acid-base, fluid, and electrolyte balance is emphasized, followed by the chemistry of the volatile anesthetic agents.
- NUA 312. Chemistry in Anesthesia II.** LH-3; SH-3; PR:311. II. A study of the chemistry of the non-volatile anesthetic accessory drugs in common use. Examples include, barbiturates, narcotics, tranquilizers, muscle relaxants, and non-barbiturate hypnotics.
- NUA 313. Physiology.** LH-4; SH-4. I. Physiology of the nervous, endocrine, excretory, circulatory, and respiratory systems is presented with emphasis on anesthetic implications. Principles of electrocardiography and EKG interpretation are also taught.
- NUA 315. Pharmacology of Anesthetic Drugs I.** LH-4; SH-4. I. A presentation of the pharmacology of all primary and accessory drugs in anesthesia practice. Drug interaction, uptake, distribution, metabolism, and excretion are discussed. Designed to provide the student with an in-depth understanding of the concepts of pharmacodynamics as they apply to anesthesiology.
- NUA 316. Pharmacology of Anesthetic Drugs II.** LH-3; SH-3. II. A presentation of the pharmacology of all primary and accessory drugs in anesthesia practice. Drug interaction, uptake, distribution, metabolism, and excretion are discussed. Designed to provide the student with an in-depth understanding of the concepts of pharmacodynamics as they apply to anesthesiology. Continuation of NUA 315.
- NUA 321. Fundamentals of Anesthesia Practice I.** LH-3; SH-4; CH-14. I. An in-depth presentation of all commonly used anesthetic techniques and procedures. Instruction in the use of anesthetic, resuscitative, mechanical, and ventilatory equipment is offered with opportunity for supervised clinical practice and observation. This course is designed to prepare the student for clinical practice in the specialty.

- NUA 322. Fundamentals of Anesthesia Practice II.** LH-3; SH-4; CH-16. II. An in-depth presentation of all commonly used anesthetic techniques and procedures. Instruction in the use of anesthetic, resuscitative, mechanical, and ventilatory equipment is offered with opportunity for supervised clinical practice and observation. Designed to prepare the student for clinical practice in the specialty. Continuation of NUA 321.
- NUA 303. Physics.** LH-2; SH-2. I. Presents basic mathematics essential for the study of physics as it relates to anesthesia, including set theory, exponents, radicals, and logarithms. Present basic physics, including laws of gases, vapors, flow, resistance, valve, and tank function.
- NUA 392. Clinical Practicum.** LH-0; SH-2; CH-16. II. Each student will be specifically assigned to certain surgical cases under the supervision of the clinical instructors to gain experience and proficiency in anesthesia practice prior to the clinical education phase.
- ANA 302. Principles of Human Anatomy.** LH-3; SH-4; Lab H-3. II. The structure of the human body is surveyed by organ systems which are studied at several levels of organization. Emphasis is placed on basic concepts and their application to various body components.
- NUA 492-493. Senior Clinical Practicum.** LH-1; SH-12; CH-40; PR:301, 311, 312, 313, 315, 316, 321, 322. S and II. Designed to allow the student to gain proficiency and supervised experience in the administration of anesthesia to all types of patients in varied surgical situations. Minimum surgical case requirements for certification by the American Association of Nurse Anesthetists are met and exceeded in most areas.



BLOOD BANKING, CYTO- TECHNOLOGY, DIETETIC INTERNSHIP

Blood Banking

PROGRAM

The Blood Banking Program consists of 12 months of formal training in advanced blood banking. A two weeks' vacation plus a leave of one week in October, November, or December is allowed.

The MCV Blood Bank provides the blood banking service for the MCV Hospitals. It prepares and provides all of the blood and blood components.

The Blood Bank is accredited by the American Association of Blood Banks and is a member of the Association's Clearing House system. The special studies laboratory handles many problem cases from outside MCV and is one of the reference laboratories of the AABB.

The blood banking students' training consists of practical work in the various departments of the Blood Bank, formal lectures, and semi-monthly seminars, all held at the MCV Campus of VCU.

ENTRANCE REQUIREMENTS

The applicant must have:

1. (a) Certification in medical technology by the Board of Registry of Medical Technologists of ASCP.

OR

(b) A bachelor's degree with a major in one of the biological sciences plus a minimum of one year's experience in a blood bank accredited by the American Association of Blood Banks.

2. A transcript of college credits and medical technology credits.

3. A completed application, including personal recommendations regarding ability, knowledge, and moral character. The transcript of record, application form, and recommendation letters must be submitted before September 30 to the director of the course.

CURRICULUM AND SCHEDULE FOR STUDENTS

1. Classes begin in September of each year.

2. The course runs for 52 weeks.

3. Lectures are given in two semesters.

4. Each student rotates through the various sections of the Blood Bank, keeping a notebook of all bench work done. This is checked monthly by the teaching and technical supervisor of the Blood Bank.

5. The laboratory training of the course consists of performing under supervision the various tests and quality control procedures conducted in the various subsections of the Blood Bank, including the clerical and research areas. In addition, the student spends one week in the serology laboratory.

6. Bimonthly seminars are held to review the current literature by the students in the course, the technical staff, and residents in clinical pathology. At times, the seminar may be an interesting discussion of a recent problem that had occurred in the Blood Bank.

7. The course is accredited by the School of Basic Sciences and Graduate Studies; and after satisfactory completion, the student accumulates eight semester hours in credit towards a graduate degree.

REFERENCE SOURCES

Library facilities are available through the Tompkins-McCaw Library, pathology department library, and in the office of the director of the Blood Bank.

EXPENSES

There is no tuition as this is an inservice training similar to an internship. White uniforms are required. A monthly stipend equivalent to a technologist's salary is sometimes available.

CERTIFICATION

Students receive a certificate of training in blood banking from Virginia Commonwealth University upon satisfactory completion of the course. As the course has been approved by the American Association of Blood Banks and the Board of Registry of Medical Technologists, the graduate is eligible to take the examination for certification in blood banking given by the Board of Registry of Medical Technologists.

FACULTY

Professors: Vennart (Chairman, Division of Clinical Pathology); dos Santos; Fisher; Young

Associate Professors: Hossaini (Director, Blood Bank and Director, Course in Blood Banking); Allison; Dalton; Lim

Assistant Professors: Escobar; Grundbacher

Teaching and Training Supervisor: Jones

Cyto-Technology

PROGRAM

This consists of 12 months of formal training for students to become

certified in cyto-technology by the American Society of Clinical Pathologists. The course is divided into six months of didactic study and six months of practical experience in an accredited laboratory. The student is then eligible to take the examination for certification as a registered cyto-technologist. A training stipend of \$200 per month, tax exempt, is paid from state funds to the trainee during the first six months of didactic training. This stipend is continued for an additional six months if the student elects to remain in the cytology laboratory of MCV/VCU.

CLASSES

Students are accepted in September each year. They attend lectures twice each week for six months. These are didactic presentations about the cells exfoliated from the various tracts and cavities of the human body.

In addition, the training includes supervised experience in the techniques for preparing cellular material for screening and detection of malignant disease, the study of prepared specimens illustrating abnormal cells, and observation of current case material. (This is done principally by regularly scheduled, daily 30- to 60-minute conferences with staff pathologists.)

ENTRANCE REQUIREMENTS

1. Sixty hours of college credits from an accredited college, at least 12 of which must be in biology. Colleges accredited by the national or state accrediting agencies are satisfactory. Candidates with academic degrees are given preference. Residents of Virginia are given preference. Foreign nationals are *not* considered for this program.

2. A qualifying certificate obtained from the Registry of Medical Technologists, 2100 W. Harrison St., Chicago, Illinois 60612.

3. Mental and physical aptitude for technology training.

EXPENSES

There is no tuition fee. Students must purchase their own books, which cost approximately \$35. White uniforms and shoes are recommended, but are not required. Campus housing and meal plans are available at moderate cost.

CERTIFICATION

Students completing the course satisfactorily receive a certificate of training from Virginia Commonwealth University. After six months of practical experience (see above), they are eligible to take the examination given by the American Society of Clinical Pathologists for certification in cyto-technology.

FACULTY

Professors: Frable (Director, Cyto-technology); Kay; Fu

Assistant Professor: Martin

Chief Cyto-Technologist: Perkins

Dietetic Internship

The dietetic internship program was organized in 1929 through the efforts and interest of the dietary staff. The first group of four students completed the six-month program in November 1929. The American Dietetic Association approved the curriculum, and these graduates were eligible for membership in the professional organization.

With growing interest in dietetics, the program grew along with the College. It has continued to be approved by the American Dietetic Association. At present, the internship is an 11-month course. Twelve interns, both men and women, are accepted each year.

Interns receive graduate level training in food service administration, clinical nutrition, clinical research, and community nutrition. Teaching experience is offered as an integral part of all areas of learning, and interns are assigned to the various units in the hospitals on a scheduled rotation. Under the supervision of professional dietitians and food service managers, interns are given individual instruction and support in assignments in all areas. The educational opportunities in a medical center are such that any young person interested in this health profession can choose from a variety of areas in nutrition for future employment.

ALLOWANCE FOR EDUCATIONAL EXPENSES

The cost allowance for maintenance per annum is \$1,200, and the educational stipend per annum is \$900. This is paid in checks of \$175 each month with federal and state taxes deducted. Health care is provided through the student health service.

FEES

A registration fee of \$10 is payable at the time of registration.

HOUSING AND MEALS

Rooms are available in residence halls housing graduate students. Meals may be secured at minimum cost in one of the cafeterias.

WORK AND VACATION

Interns are scheduled for 40-hour weeks (5 eight-hour days). One of these days is a class day with academic activities. One week's vacation and holidays are allowed per year.

CERTIFICATE

Persons satisfactorily completing the course receive a certificate from Virginia Commonwealth University. Graduates are recommended for membership in the American Dietetic Association and upon successful completion of an examination are eligible to become registered members.

ENTRANCE REQUIREMENTS

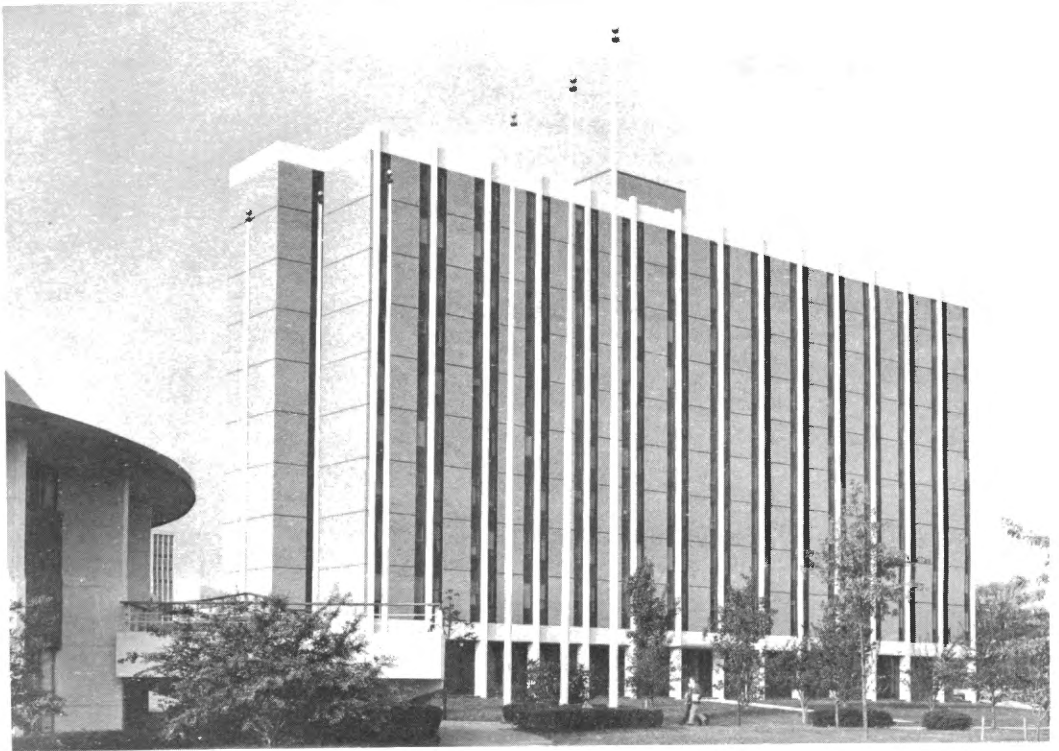
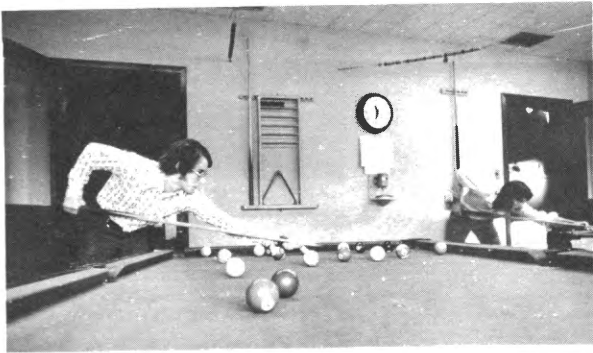
Candidates for admission must have received a bachelor's degree or an advanced degree from an accredited college or university and have taken all courses required by the American Dietetic Association for entrance into a dietetic internship program.

APPLICATION

Application forms are available from most college and university home economics departments or may be ordered directly from the Director of the Dietetic Internship, MCV Campus of Virginia Commonwealth University. These should be completed and given to the applicant's advisor or department head to be sent to: Director of the Dietetic Internship, MCV Hospitals, Virginia Commonwealth University, MCV Station, Box 294, Richmond, Virginia 23298, by March 1. Appointments are made on April 15.

FACULTY

Director: Enzian
Purchasing Dietitian: Allen
Clinical Instructor, Administration: Hill
Senior Research Dietitian: Jennings
Nutritionist, Outpatient Clinics: Behrend
Pediatric Dietitian: Saunders
Head Therapeutic Dietitian: Smith
Research Dietitian: Campbell
Dietitian, Outpatient Clinics: Newton
Administrative Dietitians: James; Long
Therapeutic Dietitians: Cunneen; Rumbley



BOARD, ADMINISTRATION, AND FACULTY

Board of Visitors

Wyndham B. Blanton, Jr., B.A., M.D., M.S.....	Richmond
Rector	
Virginius Dabney, A.B., A.M., D.Litt., LL.D.....	Richmond
Owen Gwathmey, B.A., M.D.....	Aylett
Miss Barbara Keyser, A.B., M.A.....	Greenway
C. Coleman McGehee, B.S.....	Richmond
G. William Norris, B.S.....	Richmond
Richard D. Obenshain, B.A., LL.B.....	Richmond
Secretary	
S. Buford Scott, B.A.....	Richmond
Vice Rector	
James L. Seaborn, Jr., B.S.....	Charlottesville
James E. Sheffield, B.A., LL.B.....	Richmond
Stuart Shumate, B.S.....	Richmond
Mrs. Robert M. Stone, Jr., B.S., M.Ed.....	Roanoke
John H. Temple, B.S.....	Petersburg
William Thornton, D.P.M.....	Richmond
B. Walton Turnbull, B.A.....	Richmond

University Administration

Warren W. Brandt, B.S., Ph.D.....	President
M. Pinson Neal, Jr., A.B., B.S., M.D.	Provost
H. I. Willett, A.B., M.A., LL.D., Litt.D.....	Consultant to the President
Lauren A. Woods, B.A., M.D., Ph.D.....	Vice-President for Health Sciences
John F. Imirie, Jr., B.S., M.S.....	Vice-President for MCV Hospitals
Francis J. Brooke, B.A., M.A., Ph.D.....	Vice-President for Academic Affairs
Arnold P. Fleshood, B.A., M.S., Ed.D...	Assistant Vice-President for Academic Affairs
Raymond T. Holmes, Jr., B.S., M.S., C.P.A.....	Vice-President for Finance
Roger L. Smith, A.B., M.S., Ph.D.....	Vice-President for Planning and Operations
Richard I. Wilson, B.A., M.A., Ed.D.....	Vice-President for Student Affairs

MCV/VCU Academic Deans

Thomas C. Barker, B.S., M.S., Ph.D.....	Dean, School of Allied Health Professions
Daniel T. Watts, B.S., Ph.D....	Dean, School of Basic Sciences and Graduate Studies
John A. DiBiaggio, B.A., D.D.S., M.A.....	Dean, School of Dentistry
Warren H. Pearse, B.S., M.B., M.D.....	Dean, School of Medicine
Doris B. Yingling, R.N., B.S., M.A., Ed.D.....	Dean, School of Nursing
Warren E. Weaver, B.S., Ph.D., F.A.C.A.....	Dean, School of Pharmacy

MCV/VCU Academic Associate and Assistant Deans

Benjamin T. Cullen, Jr., B.S., M.A., Ed.D.....	Assistant Dean, School of Allied Health Professions
Richard P. Elzay, B.S., M.S., D.D.S., M.S.D.....	Assistant Dean, School of Dentistry
Raymond P. White, D.D.S., Ph.D.....	Assistant Dean, School of Dentistry
Miles E. Hench, B.S., M.S., Ph.D.....	Associate Dean, School of Medicine
John R. Jones, B.S., M.D.....	Associate Dean, School of Medicine
W. Kenneth Blaylock, B.S., M.D.....	Assistant Dean, School of Medicine
Fairfield Goodale, Jr., M.D.....	Assistant Dean, School of Medicine
Hunter H. McGuire, Jr., B.A., M.D.....	Assistant Dean, School of Medicine
Edna H. Treasure, R.N., B.S., M.S., Ed.D.....	Associate Dean, School of Nursing
Helen Wiesmann, R.N., B.S., M.S.....	Associate Dean, School of Nursing
John Andracko, B.S., M.S., Ph.D.....	Assistant Dean, School of Pharmacy

University and MCV/VCU Services

Franklin Bacon, B.A., M.A.....	Associate Dean of Student Life, MCV
Harold E. Boling.....	University Registrar
Alice Booth, R.N., B.S.....	Student Health Nurse, MCV
Arlick L. Brockwell, A.B., M.Ed.....	Director, Intramural Sports and Physical Fitness, MCV
Martha B. Conway, LL.B.....	Administrator of Research Grants and Contracts
James L. Dunn, B.S., M.S.....	Assistant Director of Development and Director of Alumni Activities
David N. Edwards, A.B., M.S.I.E.....	Director of Institutional Research
William O. Edwards, B.A., M.A.....	Director of University Relations
Richard E. Grove, B.S., M.A., Ph.D....	Director of the University Computer Center
W. Daniel Heebner, B.S.....	Director of Registrar Services, MCV
Harry R. Hester, B.A.....	Assistant Dean of Student Services and Director of Student Housing, MCV
William R. Kay, B.S., M.D.....	Director of Student Health, MCV
Timothy L. Langston, B.S., M.S., Ed.D.....	Dean of Student Services
A. W. Lazcano, B.S.....	Assistant Director, Financial Aid, MCV
Walter P. Lossing, A.B., M.B.A.....	Comptroller-Treasurer
Alfred T. Matthews, B.A., M.A., Ed.D.....	Dean of Student Life
Gerard B. McCabe, B.A., A.M.L.S.....	Director of University Libraries
Richard A. Miller, B.A., M.S.L.S.....	Director, Tompkins-McCaw Library
Donald C. Moore.....	Director of Auxiliary Enterprises and University Services
H. Stephen Moore, Jr., B.S.....	Director of University Personnel
Ellen D. Pearson, B.S.....	Director, Student Financial Aid
Glenn R. Pratt, A.B., B.S., Th.M., S.T.D....	Director of Religious Activities, MCV
William A. Robertson, Jr., B.S., M.Ed.....	Dean of Admissions, MCV
Melvin C. Shaffer.....	Director, Department of Visual Education
Joann Spittler, A.B., M.C.....	Manager of University Publications
Ralph M. Ware, Jr., B.S.....	Director of Development

Administration, Medical College of Virginia Hospitals

John F. Imirie, Jr., B.S., M.S.H.A.....	Vice President
Emmet K. Reid, B.A.....	Assistant to the Vice President
Rosemary Fritsch, R.N., B.S., M.A.....	Associate Hospital Director and Director of Nursing Service
Dewey M. Lovelace, B.S.....	Associate Hospital Director
Charles J. Sweat, B.A., M.H.A.....	Associate Hospital Director
Robert S. Condry, B.A., M.B.A.....	Assistant Hospital Director
Charles Lonchar, B.S., M.H.A.....	Assistant Hospital Director
Harry H. Munari, B.S.....	Assistant Hospital Director
Frank W. Scott, B.S., M.S.H.A.....	Assistant Hospital Director
William T. Delamar, B.A.....	Director, Hospital Management Services
Arthur J. Jaeger.....	Administrative Assistant, Hospital Fiscal Services

Faculty

Faculty listings include appointments made by the Board of Visitors on October 19, 1972.

- Abbey, Louis M., *Assistant Professor of Oral Pathology*, A.B., 1963, Earlham College; D.M.D., 1967, M.S., 1971, Tufts University.
- Abbott, Jr., Lynn D., *Professor and Chairman of Biochemistry*, B.S., 1936, M.S., 1937, Wayne State University; Ph.D., 1940, University of Michigan.
- Adams, Max D., *Assistant Professor of Pharmacology*, B.S., 1965, West Virginia University; M.S., 1968, Ph.D., 1971, Purdue University.
- Alexander, Jr., Edward Lee, *Associate Clinical Professor of Family Practice*, B.A., 1948, Yale University; M.D., 1952, Johns Hopkins University.
- Allen, Edward P., *Assistant Professor of Periodontics*, D.D.S., 1969, Ph.D., 1972, Baylor University.
- Allerton, William E., *Clinical Professor of Psychiatry*, B.M., 1947, M.D., 1948, Northwestern University.
- Allison, Marvin J., *Professor of Clinical Pathology*, B.A., 1942, College of William and Mary; M.A., 1947, Ph.D., 1960, University of Pennsylvania.
- Alpern, Frederick P., *Clinical Instructor in Pediatrics*, B.S., 1962, Columbia University; M.D., 1966, Medical College of Virginia.
- Anderson, Jr., Harry P., *Lecturer in Legal Medicine*, B.A., 1947, LL.B., 1948, University of Virginia.
- Anderson, Jr., Thomas F., *Assistant Professor of Medical Education*, B.A., 1960, College of William and Mary; M.H.A., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Andrako, John, *Professor of Pharmaceutical Chemistry and Assistant Dean of Pharmacy*, B.S., 1947, M.S., 1949, Rutgers University; Ph.D., 1953, University of North Carolina.
- Andrews, Jack Preston, *Assistant Clinical Professor of Pediatrics*, M.D., 1957, Medical College of Virginia.
- Ansell, Jr., Burness F., *Clinical Instructor in Internal Medicine*, B.S., 1953, Hampden-Sydney College; M.D., 1957, Medical College of Virginia.

- Archer, Jr., John S., *Clinical Instructor in Otolaryngology*, B.A., 1940, University of Virginia; M.D., 1943, Medical College of Virginia.
- Arginteanu, Jules, *Professor of Psychiatry*, B.A., 1956, Antioch; M.A., 1960, Ph.D., 1961, State University of Iowa.
- Armistead, R. Lewis, *Assistant Clinical Professor of Periodontics*, D.D.S., 1966, Medical College of Virginia.
- Armstrong, Richard H., *Assistant Clinical Professor of Psychiatry*, B.S., 1953, Maine Maritime Academy; M.D., 1961, Medical College of Virginia.
- Armstrong, Jr., Robert H., *Clinical Professor of Radiology*, M.D., 1943, M.S., 1953, George Washington University.
- Arnold, Gayle G., *Associate Clinical Professor of Pediatrics*, A.B., 1942, Johns Hopkins University; M.D., 1945, University of Maryland.
- Arthur, Robert Miller, *Assistant Professor of Medicine*, A.B., 1950, University of North Carolina; M.D., 1954, Duke University.
- Ashworth, John S., *Clinical Instructor in Medicine*, B.A., 1954, Princeton University; M.D., 1958, Columbia University.
- Astruc, Juan A., *Associate Professor of Anatomy*, M.D., 1957, Ph.D., 1959, University of Granada, Spain.
- Atiyeh, Wasfi A., *Assistant Clinical Professor of Otolaryngology*, B.A., 1948, M.D., 1952, American University of Beirut.
- Atwill, William H., *Clinical Instructor in Urology*, B.S., 1953, Virginia Military Institute; M.D., 1960, University of Virginia.
- Austin, Leonard A., *Clinical Instructor in Pediatrics*, B.S., 1953, Richmond Professional Institute; M.D., 1959, Medical College of Virginia.
- Bach, Carole A., *Assistant Professor of Medical-Surgical Nursing*, B.S.N., 1966, Indiana University; M.S.N., 1968, Washington University.
- Bacon, Franklin, *Associate Dean of Student Life and Associate Professor of Adult Education*, A.B., 1942, University of Missouri; M.A., 1950, University of Chicago.
- Bailey, Jr., Robert L., *Clinical Associate in Medicine*, B.S., 1933, University of South Carolina; M.D., 1937, University of Virginia.
- Baker, James P., *Associate Professor of Medicine, Cardiopulmonary*, B.S., 1954, Virginia Polytechnic Institute; M.D., 1958, Medical College of Virginia.
- Baker, Robert L., *Clinical Professor of Obstetrics and Gynecology*, B.S., 1945, Louisiana Polytechnic Institute, B.S.M., M.D., 1949, University of Arkansas.
- Bakerman, Seymour, *Professor of Clinical Pathology*, B.A., 1949, New York University; M.S., 1952, Ph.D., 1956, Purdue University; M.D., 1959, Western Reserve University.
- Bampton, Betsy A., *Assistant Professor of Maternal-Child Nursing*, A.A., 1957, Frostburg State College; B.S., 1960, Medical College of Virginia; M.S., 1965, University of Maryland.
- Banks, Jr., William L., *Associate Professor of Biochemistry*, B.S., 1958, Rutgers University; M.S., 1961, Bucknell University; Ph.D., 1963, Rutgers University.
- Bansal, Subhash C., *Instructor in Surgery*, M.S., 1964, Christian Medical College, India.
- Barker, Thomas C., *Professor of Hospital Administration and Dean, School of Allied Health Professions*, B.S., 1954, M.A., 1960, Ph.D., 1963, State University of Iowa.
- Barnes, James M., *Assistant Clinical Professor of Psychiatry*, A.B., 1951, Vanderbilt University; M.D., 1958, Medical College of Virginia.
- Baroody, Jr., Samuel G., *Assistant Clinical Professor of Oral Pathology*, B.S., 1957, The Citadel; D.D.S., 1962, Medical College of Virginia.
- Barr, William H., *Professor and Chairman of Pharmacy*, B.S., 1960, Pharm.D., 1961, Ph.D., 1966, University of California, San Francisco.
- Barrett, Francis E., *Assistant Professor of Medicine*, M.D., 1949, University of Virginia.
- Barringer, Michel L., *Clinical Instructor in Pediatrics*, B.A., 1952, University of North Carolina; M.D., 1962, Bowman Gray Medical School.

- Batchelder, Harold C., *Assistant Professor of Psychiatry (Social Work)*, B.A., 1952, Elon College; M.S.S.W., 1960, Richmond Professional Institute of The College of William and Mary.
- Bates, Jr., Robley D., *Assistant Clinical Professor of Medicine*, B.A., 1930, University of Richmond; M.D., 1934, Medical College of Virginia.
- Bayer, Frederick W., *Instructor in Physical Medicine and Rehabilitation*, M.D., 1950, University of Louisville.
- Baylor, Richard N., *Assistant Clinical Professor of Medicine*, M.D., 1946, Medical College of Virginia.
- Beachley, Michael C., *Assistant Professor of Radiology*, A.B., 1962, B.M.S., 1963, Dartmouth College; M.D., 1965, Harvard University.
- Beall, John D., *Assistant Clinical Professor of Restorative Dentistry*, D.D.S., 1948, Medical College of Virginia.
- Bear, Edward S., *Instructor in Medicine*, B.S., 1958, University of Michigan; M.D., 1962, Temple University.
- Bear, S. Elmer, *Professor and Chairman of Oral Surgery*, D.D.S., 1945, Northwestern University.
- Beazley, III, Wyatt S., *Clinical Instructor in Surgery*, B.A., 1957, University of Virginia; M.D., 1961, Medical College of Virginia.
- Beck, Ralph E., *Assistant Clinical Professor of Pathology*, A.B., 1954, M.D., 1957, University of Illinois.
- Becker, Donald P., *Professor of Surgery, Neurosurgery*, B.A., 1957, Williams College; M.D., 1961, Western Reserve University.
- Becker, Elmore J., *Clinical Instructor in Internal Medicine*, A.B., 1952, Georgetown University, M.D., 1956, University of Virginia.
- Bedinger, Robert W., *Assistant Clinical Professor of Medicine*, M.D., 1948, Medical College of Virginia; B.S., 1968, Virginia Military Institute.
- Bell, Jr., C. Cooper, *Associate Professor of Surgery*, B.S., 1942, Randolph-Macon College; M.D., 1945, Medical College of Virginia.
- Bell, Jr., Dewey H., *Professor and Chairman of Removable Prosthodontics*, B.S., 1948, Wofford College; D.D.S., 1952, Medical College of Virginia.
- Bell, George M., *Assistant Professor of Medicine*, B.A., 1952, Emory and Henry College; M.D., 1961, University of Virginia.
- Bender, Paul A., *Assistant Professor and Acting Chairman, Department of Pedodontics* D.D.S., 1967, Indiana University.
- Bernart, William F., *Assistant Clinical Professor of Medicine*, A.B., 1950, Princeton University; M.D., 1954, Columbia University.
- Berry, Edward R., *Research Associate*, B.S., 1942, University of Virginia.
- Best, Edward E., *Clinical Instructor in Dentistry*, B.A., 1958, Washington and Jefferson College; D.M.D., 1971, University of Pittsburgh.
- Bhatnagar, Ajay S., *Assistant Professor of Obstetrics and Gynecology*, B.A., 1963, M.A., 1967, University of Cambridge, England; Ph.D., 1967, University of Basel, Switzerland.
- Bird, William C., *Assistant Professor of Periodontics*, B.S., 1950, University of Duquesne; D.D.S., 1956, Marquette University; M.S., 1966, Ohio State University.
- Bissell, Stephen L., *Assistant Clinical Professor of Oral Surgery*, B.S., 1958, D.D.S., 1959, Medical College of Virginia.
- Black, Jr., James B., *Assistant Clinical Professor of Medicine and Dermatology*, A.B., 1931, Davidson College; M.D., 1938, University of Virginia.
- Blades, James F., *Assistant Clinical Professor of Surgery*, A.B., 1930, Kentucky Wesleyan College; M.D., 1934, Yale University.
- Blair, Charles J., *Clinical Instructor in Ophthalmology*, B.S., 1958, Randolph-Macon College; M.D., 1962, Medical College of Virginia.
- Blanchard, Richard E., *Assistant Clinical Professor of Periodontics*, D.D.S., 1959, Medical College of Virginia.
- Blanke, Robert V., *Associate Professor of Clinical Pathology*, B.S., 1949, Northwestern University; M.S., 1953, Ph.D., 1958, University of Illinois.

- Blankinship, Rex, *Assistant Clinical Professor of Psychiatry*, B.S., 1925, Beloit University; M.D., 1929, Medical College of Virginia.
- Blanton, Jr., Wyndham B., *Clinical Instructor in Internal Medicine*, B.A., 1943, University of Richmond; M.D., 1950, M.S., 1959, Medical College of Virginia.
- Blaylock, W. Kenneth, *Professor of Dermatology and Chairman, Department of Dermatology*, B.S., 1953, King College; M.D., 1958, Medical College of Virginia.
- Bloodworth, Leon P., *Assistant Professor of Family Practice*, A.D., 1965, M.D., 1969, University of Florida.
- Bloom, Nathan, *Clinical Professor of Medicine*, Ph.G., M.D., 1932, Medical College of Virginia.
- Blount, Jr., Alston W., *Associate Clinical Professor of Medicine*, B.S., 1954, Davidson College; M.D., 1958, University of Pennsylvania.
- Board, John A., *Professor of Obstetrics & Gynecology*, B.S., 1953, Randolph-Macon College; M.D., 1955, Medical College of Virginia.
- Bobbitt, Katherine C., *Associate Professor of Psychiatric Nursing*, B.S., 1956, Medical College of Virginia; M.S., 1965, University of North Carolina.
- Bogdanove, Emanuel M., *Professor of Physiology*, B.S., 1946, City College of New York; M.S., 1950, Ph.D., 1953, State University of Iowa.
- Bond, Guy H., *Assistant Professor of Physiology*, B.S., 1956, M.S., 1961, Ph.D., 1965, Rutgers University.
- Bond, Judith S., *Assistant Professor of Biochemistry*, B.A., 1961, Bennington College; M.S., 1962, Ph.D., 1966, Rutgers University.
- Bones, Joseph T., *Clinical Instructor in Pediatrics*, B.S., 1954, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Bonstelle, Charles T., *Instructor in Radiology*, B.S., 1962, University of Akron; M.D., 1966, Western Reserve University.
- Bookman, Ada M., *Clinical Instructor in Preventive Medicine*, R.N., 1947, Grace Hospital; A.A., 1949, Pfeiffer Junior College; B.S., 1951, George Peabody College; M.P.H., 1957, Johns Hopkins University.
- Booth, Jerry C., *Assistant Clinical Professor of Dermatology*, B.A., 1959, Virginia Military Institute; M.D., 1963, University of Virginia.
- Boots, Marvin R., *Associate Professor of Pharmaceutical Chemistry*, B.S., 1958, St. Louis College of Pharmacy; M.S., 1960, University of Wisconsin; Ph.D., 1963, University of Kansas.
- Borland, David S., *Clinical Professor of Pathology*, M.D., 1951, University of Toronto.
- Borlick, Martha M., *Professor of Community Health Nursing*, B.S.N., 1949, Catholic University of America; M.A., 1954, Columbia University; Ed.D., 1966, University of Maryland.
- Borzelleca, Joseph F., *Professor of Pharmacology*, B.S., 1952, St. Joseph's College; M.S., 1954, Ph.D., 1956, Thomas Jefferson University.
- Bosher, Jr., Lewis H., *Associate Professor of Surgery*, B.S., 1935, University of Virginia; M.D., 1940, Harvard University.
- Bowe, Robert L., *Associate Professor of Pharmacology*, B.S., 1950, M.S., 1957, Boston College; Ph.D., 1960, University of Tennessee.
- Bowen, L. Murray, *Clinical Professor of Psychiatry and Chairman, Division of Family & Social Psychiatry*, B.S., M.D., 1937, University of Tennessee.
- Bowman, Edward R., *Research Associate in Pharmacology*, B.S., 1952, Concord College; M.S., 1953, West Virginia University; Ph.D., 1963, Medical College of Virginia.
- Bowman, Faye J., *Research Associate in Pharmacology*, B.S., 1961, M.A., 1962, Tennessee Polytechnic Institute; Ph.D., 1967, Vanderbilt University.
- Boyan, Charles P., *Professor and Chairman of Anesthesiology*, M.D., 1941, University of Sofia, Bulgaria; D.D.S., 1947, University of Graz, Austria.
- Bradley, S. Gaylen, *Professor and Chairman of Microbiology*, B.A., B.S., 1950, State University Southwest Missouri; M.S., 1952, Ph.D., 1954, Northwestern University.

- Brady, Jr., John W., *Assistant Professor of Dermatology*, B.S., 1961, Marietta College; M.D., 1965, George Washington University.
- Bragassa, Joseph B., *Assistant Clinical Professor of Dentistry*, D.D.S., 1951, Medical College of Virginia.
- Brandt, Richard B., *Assistant Professor of Biochemistry*, B.S., 1952, Queens College, New York; M.A., 1961, Brooklyn College, New York; Ph.D., 1968, New York University.
- Brandt, Warren W., *Professor of Chemistry and President, Virginia Commonwealth University*, B.S., 1944, Michigan State University; Ph.D., 1949, University of Illinois.
- Bredrup, Jr., Ole C., *Assistant Clinical Professor of Radiology*, B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Briere, Russell O., *Associate Clinical Professor of Pathology*, B.S., 1953, University of Massachusetts; M.D., C.M., 1957, McGill University.
- Briggs, F. Norman, *Professor and Chairman of Physiology*, A.B., 1947, M.A., 1948, Ph.D., 1953, University of California.
- Bright, George M., *Associate Professor of Pediatrics and Director of Adolescent Medicine*, B.A., 1957, University of Texas; M.D., 1961, University of Texas.
- Brockwell, Jr., Arlick L., *Assistant Professor of Physical Education*, B.A., 1958, Duke University; M.E., 1964, University of Virginia.
- Brollier, Chestina L., *Assistant Professor of Occupational Therapy*, B.S., 1966, Kansas University; M.S., 1969, Boston University.
- Brooks, Edith B., *Instructor in Nursing*, B.A., 1941, Trinity College; M.A., 1966, University of Richmond.
- Brooks, Jr., George K., *Assistant Clinical Professor of Psychiatry*, A.B., 1939, University of Richmond; M.D., 1942, Medical College of Virginia.
- Brooks, James W., *Professor of Surgery, Cardiac & Thoracic*, B.S., 1943, The Citadel; M.D., 1946, Medical College of Virginia.
- Brown, III, Alexander G., *Clinical Associate in Medicine*, M.D., 1935, University of Virginia.
- Brown, Ardene J., *Assistant Professor of Nursing*, B.S., 1964, Columbia University; M.N., 1968, University of Pittsburgh.
- Brown, Donald S., *Assistant Clinical Professor of Orthodontics*, B.A., 1949, University of Virginia; D.D.S., 1953, Medical College of Virginia; M.S., 1957, University of Michigan.
- Brown, Margaret A., *Instructor in Clinical Pathology*, B.A., 1962, Chatham College; M.D., 1967, State University of New York.
- Bruch, William M., *Assistant Professor of Pediatrics*, B.A., 1942, University of Richmond; M.D., 1945, Medical College of Virginia.
- Brummer, Donald L., *Associate Professor of Medicine*, B.A., 1941, University of Virginia; M.D., 1945, New York University.
- Bryce, Sr., William F., *Associate Clinical Professor of Ophthalmology*, M.D., 1934, Medical College of Virginia.
- Bryson, Evelyn L., *Assistant Professor of Health Sciences*, B.A., 1961, Tusculum College; M.A.L.S., 1962, George Peabody College for Teachers.
- Bryson, Gilbert H., *Assistant Clinical Professor of Surgery*, B.S., 1958, M.D., 1959, Medical College of Virginia.
- Budd, Jr., Samuel W., *Clinical Associate in Medicine*, B.A., 1938, M.D., 1942, Yale University.
- Buis, L. James, *Clinical Associate in Medicine*, A.B., 1933, B.S., 1934, M.D., 1937, University of Nebraska.
- Bullock, John B., *Clinical Associate in Medicine*, B.A., 1946, University of Richmond; M.D., 1948, University of Maryland.
- Bundy, Jr., Walter E., *Clinical Professor of Pediatrics*, A.B., 1943, Emory University; M.D., 1945, Medical College of Virginia.
- Bunting, Richard F., *Assistant Clinical Professor of Ophthalmology*, A.B., 1951, University of North Carolina; M.D., 1961, University of Virginia.

- Burch, III, Charles D., *Assistant Clinical Professor of Pediatrics*, B.S., 1950, Virginia Polytechnic Institute; M.D., 1954, Medical College of Virginia.
- Burke, Jr., George W., *Professor of Restorative Dentistry and Lecturer in Anatomy*, B.S., 1941, University of Virginia; D.D.S., 1944, Medical College of Virginia.
- Burke, Jack D., *Professor of Anatomy*, B.A., 1948, University of Tennessee; M.S., 1949, West Virginia University; Ph.D., 1952, University of Florida.
- Burke, James O., *Associate Clinical Professor of Medicine*, B.S., 1933, Virginia Military Institute; M.D., 1937, Medical College of Virginia.
- Burton, William S., *Assistant Clinical Professor of Medicine*, B.A., 1953, M.D., 1955, Medical College of Virginia.
- Bush, Francis M., *Associate Professor of Anatomy*, B.S., 1955, M.S., 1957, University of Kentucky; Ph.D., 1962, University of Georgia.
- Bussey, Jr., William F., *Assistant Clinical Professor of Endodontics*, D.D.S., 1967, University of Maryland.
- Busza, Alfons, *Associate Professor of Physical Medicine and Rehabilitation*, M.D., 1935, Poznan University, Poland.
- Butcher, Ronald H. G., *Associate Professor of Psychiatry*, M.D., 1951, St. Bartholomews Hospital School of Medicine, London.
- Butterworth, III, John F., *Assistant Clinical Professor of Orthopedic Surgery*, B.S., 1948, University of Richmond; M.D., 1952, Medical College of Virginia.
- Butterworth, Reynoldson D., *Associate Clinical Professor of Orthopedic Surgery*, B.S., 1929, Randolph-Macon College; M.D., 1931, Medical College of Virginia.
- Butterworth, Jr., Thomas-Rives, *Assistant Clinical Professor of Orthopedic Surgery*, B.S., 1954, M.D., 1955, Medical College of Virginia.
- Buxton, Jr., Ernest P., *Assistant Clinical Professor of Medicine*, B.A., 1929, University of Richmond; M.D., 1933, Medical College of Virginia.
- Byrd, Charles W., *Clinical Associate in Surgery*, B.S., 1939, University of Georgia; M.D., 1943, Medical College of Virginia.
- Cable, Jearald, D., *Assistant Professor of Physiology*, B.S.M.E., 1958, Auburn University; M.S.E.E., 1965, M.B.A., 1966, University of California at Los Angeles.
- Cabrera, Juan Jose, *Assistant Clinical Professor of Radiology*, B.S., 1956, Lices Secundario, Dominican Republic; M.D., 1962, University of Madrid at Spain.
- Caldwell, John B., *Clinical Instructor in Ophthalmology*, B.S., 1959, Davidson College; M.D., 1963, Johns Hopkins University.
- Calkins, Ronald F., *Assistant Clinical Professor of Radiology*, B.S., 1952, M.D., 1955, University of Tennessee.
- Campbell, Eleanor D., *Instructor in Biophysics*, B.S., 1959, University of Richmond.
- Campbell, Gary T., *Instructor in Physiology*, B.S., 1964, Washington University; Ph.D., 1972, Northwestern University.
- Campbell, Ruth W., *Assistant Professor of Pediatrics*, B.S., 1953, Mary Washington College; M.D., 1957, Medical College of Virginia.
- Canaan, Earlene W., *Instructor in Psychiatric Nursing*, B.S., 1963, Medical College of Virginia.
- Candler, C. Dale, *Assistant Clinical Professor of Anesthesiology*, B.S., 1962, Mary Washington College; M.D., 1966, Medical College of Virginia.
- Caravati, Jr., Charles M., *Clinical Instructor in Dermatology*, B.A., 1959, M.D., 1963, University of Virginia.
- Carpenter, Earnest B., *Clinical Professor of Orthopedic Surgery*, B.S., 1932, M.S., 1933, Duke University; M.D., 1940, University of Cincinnati.
- Carroll, George J., *Clinical Professor of Pathology*, A.B., 1930, Clark University; M.D., 1944, George Washington University.
- Carter, II, B. Noland, *Assistant Clinical Professor of Surgery*, B.A., 1947, University of Virginia; M.D., 1951, Johns Hopkins University.
- Carter, Jr., Walter H., *Associate Professor of Biometry*, B.S., 1963, University of Richmond; M.S., 1966, Ph.D., 1968, Virginia Polytechnic Institute & State University.

- Cartledge, John P., *Assistant Professor of Removable Prosthodontics*, D.D.S., 1968, New Jersey School of Dentistry.
- Cate, IV, John C., *Clinical Instructor in Clinical Pathology*, B.S., 1964, M.D., 1967, University of Tennessee.
- Catlett, John B., *Clinical Associate in Medicine*, M.D., 1950, University of Virginia.
- Cauble, Clarence F., *Lecturer in Hospital Administration*, R.R.A., 1950, Duke University and American Association of Medical Record Administration.
- Cavedo, F. Allen, *Clinical Instructor in Orthodontics*, B.A., 1948, University of Richmond; D.D.S., 1952, Medical College of Virginia.
- Centor, Arthur, *Assistant Clinical Professor of Psychiatry (Psychology)*, B.S., 1950, M.S., 1951, City College of New York; Ph.D., 1965, New York University.
- Cessna, Larry D., *Instructor in Pharmacy*, B.S., 1965, University of Kansas; M.S., 1967, Philadelphia College of Pharmacy and Science.
- Chakravorty, Ranee C., *Assistant Professor of Surgery*, I.Sc., 1944, M.B.B.S., 1949, Calcutta University.
- Chalkley, Thomas S., *Assistant Clinical Professor of Pediatrics*, B.S., 1935, University of Kentucky; M.D., 1940, University of Louisville.
- Chambers, John W., *Assistant Professor of Pharmacology*, B.S., 1958, Eastern Kentucky College; Ph.D., 1965, Vanderbilt University.
- Chen, Andrew T., *Assistant Professor of Genetics*, B.S., 1961, Chinese University of Hong Kong; M.S., 1963, McGill University; Ph.D., 1969, University of Western Ontario.
- Cheney, H. Gordan, *Assistant Professor and Chairman, Department of General & Preventive Dentistry*, D.D.S., 1955, University of Maryland; A.B., 1965, State University of New York at Buffalo; M.P.H., 1970, University of Michigan.
- Cherry, Kenneth J., *Assistant Clinical Professor of Surgery*, M.D., 1939, Medical College of Virginia.
- Chewning, Jr., Clarence C., *Clinical Associate in Surgery (Proctology)*, B.S., 1931, University of Richmond; M.D., 1934, Medical College of Virginia.
- Childs, James W., *Instructor in Thoracic & Cardiac Surgery*, B.S., 1960, Clemson University; M.D., 1964, Medical College of South Carolina.
- Ching, Florencio Cheng, *Assistant Professor of Ophthalmology and Pediatrics*, M.D., 1965, University of the East Ramon Magsaysay Memorial Medical Center, College of Medicine, Philippines.
- Christian, Charles F., *Associate Clinical Professor of Psychiatry*, B.S., 1950, Virginia State College; M.D., 1962, Medical College of Virginia.
- Christie, Jr., Laurence G., *Clinical Instructor in Surgery*, B.S., 1953, Washington and Lee University; M.D., 1957, Medical College of Virginia.
- Chu, Shur Shiang, *Assistant Professor of Anesthesiology*, M.D., 1960, Kaohsiung Medical College.
- Cimmino, Christian V., *Clinical Professor of Radiology*, A.B., 1937, Harvard University; M.D., 1941, Johns Hopkins University.
- Clabough, Jeanne W., *Assistant Professor of Anatomy*, B.A., 1964, Longwood College; Ph.D., 1968, Medical College of Virginia.
- Claiborne, Jr., Herbert A., *Associate Clinical Professor of Obstetrics and Gynecology*, M.D., 1947, B.A., 1949, University of Virginia.
- Clark, Dorothy M., *Assistant Professor of Nursing*, B.S.N., 1951, M.S.N., 1955, Catholic University of America.
- Clark, Jr., Frederick A., *Associate Clinical Professor of Medicine*, M.D., 1947, Indiana University; M.P.H., 1954, University of North Carolina.
- Clark, Richard F., *Associate Clinical Professor of Pathology*, B.S., 1954, College of William and Mary; M.D., 1958, Medical College of Virginia.
- Clarke, Alexander M., *Associate Professor of Biophysics*, B.S., 1958, Virginia Military Institute; M.S., 1960, Ph.D., 1963, University of Virginia.
- Clarke, William T., *Clinical Instructor in Otolaryngology*, B.S., 1952, Hampden-Sydney College; M.D., 1957, University of Virginia.

- Clary, Beverley B., *Clinical Professor of Orthopedic Surgery*, M.D., 1939, Medical College of Virginia.
- Clayton, Charles C., *Professor of Biochemistry*, B.S., 1942, M.S., 1947, Ph.D., 1949, University of Wisconsin.
- Cleary, Stephen F., *Associate Professor of Biophysics*, B.S., 1958, Ph.D., 1964, New York University; M.S., 1960, University of Rochester.
- Clements, Jr., Ernest L., *Clinical Instructor in Orthodontic Surgery*, B.S., 1953, D.D.S., 1955, Medical College of Virginia.
- Clough, Charles E., *Assistant Clinical Professor of Oral Surgery*, B.S., 1962, University of Richmond; D.D.S., 1966, Medical College of Virginia.
- Coates, Jr., Thomas F., *Clinical Associate in Psychiatry*, B.S., 1936, Hampden-Sydney College; M.D., 1941, Medical College of Virginia.
- Cohen, Charles A., *Assistant Professor of Physical Medicine and Rehabilitation*, B.A., 1947, University of Southern California; M.D., 1954, University of Lausanne.
- Cohen, Irwin K., *Associate Professor of Surgery; Chairman, Division of Plastic Surgery*, B.S., 1959, Columbia University; M.D., 1963, University of North Carolina.
- Cole, Waverly M., *Assistant Clinical Professor of Anesthesiology*, B.S., 1950, College of William and Mary; M.D., 1954, Medical College of Virginia.
- Coleman, Jr., Claude C., *Assistant Clinical Professor of Surgery*, B.S., 1943, University of Virginia; M.D., 1946, Medical College of Virginia.
- Coleman, Custis L., *Associate Clinical Professor of Surgery*, M.D., 1943, Medical College of Virginia; B.A., 1944, University of Virginia.
- Coleman, Philip H., *Professor of Microbiology*, D.V.M., 1956, University of Georgia; M.S., Ph.D., 1959, University of Wisconsin.
- Collins, Jack R., *Assistant Clinical Professor of Anesthesiology*, B.A., 1958, M.D., 1965, University of Missouri.
- Collins, James M., *Assistant Professor of Biochemistry*, B.S., 1962, University of Southern Mississippi; Ph.D., 1968, University of Tennessee.
- Comer, William M., *Clinical Instructor in Orthodontics*, B.S., 1953, D.D.S., 1955, Medical College of Virginia.
- Conklin, Peter M., *Assistant Professor of Physiology*, B.A., 1959, Amherst College; Ph.D., 1968, University of Rochester.
- Conquest, Henry Fairfax, *Assistant Clinical Professor of Surgery*, A.B., 1950, Princeton University; M.D., 1954, University of Virginia.
- Cook, Russell, *Clinical Instructor in Radiology*, A.A., 1968, Fullerton Junior College; B.A., 1971, Pepperdine University.
- Cooke, Charles L., *Assistant Professor of Medicine*, B.S., 1959, Davidson College; M.D., 1963, University of North Carolina.
- Corley, Karl C., *Assistant Professor of Physiology*, B.S., 1958, Trinity College; Ph.D., 1964, University of Rochester.
- Costa, Giovanni, *Professor of Medicine and Director, Clinical Research Center*, B.A., 1947, Liceum Virgilio, Italy; M.D., 1953, University of Genda, Italy; Ph.D., 1959, University of Oklahoma.
- Covington, William D., *Clinical Instructor in Restorative Dentistry*, D.D.S., 1962, Medical College of Virginia.
- Cox, Jr., Joseph C., *Clinical Instructor in Restorative Dentistry*, B.A., 1961, University of Richmond; D.D.S., 1965, Medical College of Virginia.
- Coxe, III, Joseph W., *Associate Clinical Professor of Surgery*, B.A., 1943, Hampden-Sydney College; M.D., 1946, Johns Hopkins University.
- Creech, Henry B., *Clinical Associate in Otolaryngology (Audiology)*, B.S., 1958, East Carolina College; M.A., 1959, Ph.D., 1962, Ohio State University.
- Cribbs, Richard M., *Associate Professor of Genetics*, B.S., 1955, M.S., 1958, Ph.D., 1962, University of Pittsburgh.
- Crockett, Willie D., *Professor of Restorative Dentistry*, B.S., 1943, University of Virginia; D.D.S., 1947, Medical College of Virginia.

- Crummette, Beauty D., *Assistant Professor of Nursing*, B.S., 1958, Medical College of Virginia; M.A., 1962, Columbia University.
- Cullen, Jr., Benjamin T., *Associate Professor of Hospital and Health Administration and Assistant Dean, School of Allied Health Professions*, B.S., 1944, Virginia Polytechnic Institute; M.A., 1950, Ed.D., 1967, University of Virginia.
- Cummins, Milton D., *Assistant Clinical Professor of Podiatry*, B.S., 1935, Rutgers University; D.S.C., 1948, D.P.M., 1969, Ohio College of Podiatric Medicine.
- Cummings, Walter B., *Assistant Professor of Biometry*, B.S., 1962, M.A.M., 1967, Ph.D., 1972, North Carolina State University.
- Cunningham, George J., *Professor of Pathology*, M.R.C.S., L.R.C.P., 1931, M.B.B.S., 1933, M.D., 1937, University of London.
- Currier, George F., *Assistant Professor of Pediatric Dentistry*, D.D.S., 1967, University of Michigan; M.S.D., 1971, University of Washington.
- Curry, William L., *Clinical Associate in Pediatrics*, B.S., 1959, West Virginia University; M.D., 1961, Medical College of Virginia.
- Cutler, S. James, *Professor of Otolaryngology*, B.S., 1941, Temple University; M.S., 1958, College of William and Mary.
- Cuttino, III, Charles L., *Assistant Clinical Professor of Oral Surgery*, D.D.S., 1966, Medical College of Virginia.
- Dabney, III, William T., *Associate Professor of Medicine, Hematology*, M.D., 1954, Medical College of Virginia.
- Dale, Barbara A., *Instructor in Nurse Anesthesia*, R.N., 1952, Medical College of Virginia; C.R.N.A., 1961, DePaul Hospital.
- Dalton, Harry P., *Associate Professor of Clinical Pathology*, A.B., 1952, American International College; M.S., 1956, Ph.D., 1962, University of Massachusetts.
- Dalton, Jr., James B., *Assistant Clinical Professor of Orthopedic Surgery*, M.D., 1948, University of Maryland.
- Darvish, Iradj, *Instructor in Neurology*, M.D., 1964, University of Tehran.
- Dauria, Anne Mary, *Associate Professor of Nursing*, R.N., 1950, Mt. Sinai Hospital; B.S.N., 1959, Western Reserve University; M.S.N., 1963, University of Colorado.
- David, Ronald B., *Associate Professor of Neurology, Pediatrics*, B.S., 1960, Eastern Mennonite College; M.D., 1964, Medical College of Virginia.
- Davis, Jr., Edward G., *Clinical Associate in Pediatrics*, M.D., 1945, Medical College of Virginia.
- Davis, III, S. Edward, *Assistant Professor of Obstetrics & Gynecology*, B.A., 1955, Vanderbilt University; M.D., 1960, Harvard University.
- Davis, Frances S., *Instructor in Child Psychiatry (Psychology)*, B.A., 1964, Mary Baldwin College; M.S., 1966, McGill University.
- Davis, Jr., F. Sterling, *Assistant Clinical Professor of Ophthalmology*, B.A., 1951, University of Richmond; M.D., 1955, University of Virginia.
- Davis, Ronald K., *Assistant Clinical Professor of Surgery*, M.D., 1963, Medical College of Virginia.
- Davis, Jr., Thomas D., *Clinical Instructor in Medicine*, M.D., 1921, Medical College of Virginia.
- Davis, Wirt Lee, *Assistant Clinical Professor of Surgery (Orthopedic)*, B.S., 1940, Furman University; M.D., 1943, Medical College of Virginia.
- Davison, Ann, *Instructor in Maternal-Child Nursing*, B.S.N., 1962, University of North Carolina; M.N.Ed., 1966, University of Pittsburgh.
- Deal, Robert L., *Clinical Instructor in Restorative Dentistry*, B.S., 1959, University of Richmond; D.D.S., 1963, Medical College of Virginia.
- Deep, Anthony A., *Clinical Instructor in Obstetrics and Gynecology*, B.A., 1952, University of Richmond; M.D., 1956, Medical College of Virginia.
- Deep, William D., *Clinical Instructor in Medicine*, B.A., 1955, University of Richmond; M.D., 1959, Medical College of Virginia.
- de la Burde, Brigitte E., *Assistant Professor of Pediatrics*, M.D., 1953, Philipps University, Germany.

- Delamar, William T., *Lecturer in Hospital Administration*, A.B., 1953, University of Pittsburgh.
- DeVries, George H., *Assistant Professor of Biochemistry*, B.S., 1964, Wheaton College; Ph.D., 1969, University of Illinois.
- Dewey, William L., *Associate Professor of Pharmacology*, B.S., 1957, St. Bernardine of Siena College; M.S., 1964, The College of Saint Rose; Ph.D., 1967, University of Connecticut.
- Deyerle, W. Minor, *Associate Clinical Professor of Orthopedic Surgery*, M.D., 1940, University of Virginia.
- DiBiaggio, John A., *Dean, School of Dentistry, Professor of Restorative Dentistry*, A.B., 1954, Eastern Michigan University; D.D.S., 1958, University of Detroit; M.A., 1967, University of Michigan.
- Diegelmann, Robert F., *Assistant Professor of Surgery and Biochemistry*, B.S., 1965, Mount Saint Marys College; Ph.D., 1970, Georgetown University.
- Dingledine, William S., *Clinical Associate in Medicine*, B.A., 1948, M.D., 1951, University of Virginia.
- Dinius, Ann, *Assistant Professor of Dental Hygiene and Director, Division of Dental Hygiene*, B.S., 1959, University of Michigan; M.S., 1965, Columbia University.
- Dodd, Richard W., *Clinical Instructor in Otolaryngology*, B.S., 1951, Roanoke College; M.D., 1955, Medical College of Virginia.
- Dodson, Jr., Austin I., *Associate Clinical Professor of Urology*, B.S., 1943, Hampden-Sydney College; M.D., 1946, Medical College of Virginia.
- dos Santos, Joao Gustavo, *Professor of Clinical Pathology*, M.D., 1948, University of Bahia, Bahia, Brazil.
- Douglas, Hugh B., Jr., *Instructor in Restorative Dentistry*, B.S., D.D.S., 1970, Medical College of Virginia of Virginia Commonwealth University. (On educational leave.)
- Downs, Shirley T., *Assistant Professor of Nursing*, B.S., 1949, Richmond Professional Institute of the College of William and Mary; M.Ed., 1964, College of William and Mary.
- Draper, David A., *Associate Professor of Pediatrics*, M.D.C.M., 1958, Queens University, Ontario.
- Draper, Walter, *Associate Professor and Chairman, Division of Child Psychiatry*, B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Drummond, Jr., Charles S., *Clinical Instructor in Surgery*, B.S., 1958, Davidson College; M.D., 1962, Harvard University.
- Duff, Jr., J. Scott, *Clinical Instructor in Restorative Dentistry*, D.D.S., B.S., 1955, Medical College of Virginia.
- Duma, Richard J., *Associate Professor of Medicine*, B.S., 1955, Virginia Polytechnic Institute; M.D., 1959, University of Virginia.
- Dunn, Leo J., *Professor and Chairman of Obstetrics and Gynecology*, B.A., 1952, Hofstra University; M.D., 1956, Columbia University.
- Dunstan, Thomas S., *Instructor in Surgery, Orthopedic*, B.S., 1946, U.S. Naval Academy; M.D., 1960, National University of Ireland.
- Durrett, Nancy K., *Instructor in Nursing*, B.S., 1958, Medical College of Virginia; M.S., 1972, Virginia Commonwealth University.
- Dwyer, James H., *Clinical Associate in Pediatrics*, B.S., 1951, University of Richmond; M.D., 1954, Medical College of Virginia.
- Eagles, William M., *Assistant Clinical Professor of Neurological Surgery*, A.B., 1940, M.D., 1943, Duke University.
- Eanes, Joan E., *Associate Professor of Community Health Nursing*, B.S., 1949, Medical College of Virginia; M.P.H., 1958, University of Michigan.
- Eanes, Robert Z., *Assistant Professor of Pediatrics and Biochemistry*, B.A., 1955, M.A., 1957, M.D., 1960, University of Texas.
- Eastham, John P., *Clinical Associate in Surgery*, M.D., 1937, Medical College of Virginia.

- Edmonds, Albert M., *Assistant Clinical Professor of Pediatrics*, B.A., 1940, M.D., 1943, Syracuse University.
- Edwards, Carolyn T., *Assistant Professor of Physiology*, B.A., 1939, M.A., 1940, University of Iowa; Ph.D., 1945, University of Rochester.
- Edwards, Garry L., *Instructor in Psychiatry (Child)*, A.B., 1965, M.A., 1967, Marshall University; Ed.D., 1971, University of Virginia.
- Edwards, Leslie E., *Professor of Physiology*, B.S., 1937, M.S., 1939, Washington State University; Ph.D., 1944, University of Rochester.
- Edwards, Wallace S., *Assistant Professor of Restorative Dentistry*, B.A., 1961, University of Richmond; D.D.S., 1965, Medical College of Virginia.
- Egle, Jr., John L., *Assistant Professor of Pharmacology*, B.S., 1961, Shepherd College; M.S., 1963, Ph.D., 1964, West Virginia University.
- Eisenberg, Stuart J., *Associate Professor of Radiology*, B.A., 1937, Union University; M.D., 1941, Columbia University.
- Elliott, Billie W., *Clinical Instructor in Medicine*, B.A., 1949, King College; M.D., 1954, Medical College of Virginia.
- Elmore, Stanley McD., *Associate Professor of Surgery and Chairman, Division of Orthopedic Surgery*, A.B., 1955, M.D., 1958, Vanderbilt University.
- Elzay, Richard P., *Professor and Chairman of Oral Pathology and Assistant Dean for Academic Affairs*, D.D.S., 1960, B.S., M.S.D., 1962, Indiana University.
- Endsley, L. Stephen, *Instructor in Medicine*, A.B., 1963, Colgate University; M.D., 1967, Albany Medical College.
- England, Jr., Marshall C., *Associate Professor and Acting Chairman, Department of Endodontics*, B.S., 1954, Maryville College; D.D.S., 1958, M.S., 1967, Medical College of Virginia.
- Entin, Alan D., *Assistant Professor of Psychiatry, Clinical Psychology*, A.B., 1960, M.A., 1962, Ph.D., 1967, University of Chicago.
- Epstein, Ludwig I., *Associate Professor of Biophysics*, B.S., 1940, M.S., 1941, California Institute of Technology; Ph.D., 1967, Ohio State University.
- Escobar, Mario R., *Associate Professor of Clinical Pathology*, A.B., 1954, University of Louisville; M.S., 1960, Georgetown University; Ph.D., 1963, Indiana University.
- Eshleman, John R., *Associate Professor of Restorative Dentistry*, D.D.S., 1960, Medical College of Virginia.
- Espinell, Carlos H., *Instructor in Medicine*, B.S., 1955, Colegio del SDO, Colombia, S.A.; M.D., 1962, University Caldas, Colombia, S.A.
- Estep, Herschel, *Associate Professor of Medicine*, A.B., 1952, King College; M.D., 1956, Johns Hopkins University.
- Eubank, Charles L., *Assistant Clinical Professor of Denture Prosthodontics*, D.D.S., 1951, Medical College of Virginia.
- Evans, Eleanor F., *Assistant Professor of Pharmacology*, B.S., 1961, M.D., 1965, Medical College of Virginia.
- Evens, Nathan B., *Assistant Clinical Professor of Restorative Dentistry*, D.D.S., 1948, Medical College of Virginia.
- Everhart, Donald L., *Assistant Professor of Microbiology*, B.S., 1954, Grove City College; M.A., 1958, Ph.D., 1961, Boston University.
- Ewart, George E., *Associate Professor of Medicine*, B.S., 1938, Roanoke College; M.D., 1942, Medical College of Virginia.
- Fairly, Jr., John L., *Assistant Professor of Medicine*, B.S., 1947, Davidson College; M.D., 1951, Medical College of Virginia.
- Falls, Jr., William F., *Associate Professor of Medicine*, B.S., 1955, M.D., 1959, University of Maryland.
- Farley, Jr., Emerson D., *Instructor in Medicine*, B.A., 1960, West Virginia University; M.D., 1964, University of Pittsburgh.
- Farrar, John T., *Professor of Medicine and Chairman, Division of Gastroenterology*, A.B., 1942, Princeton University; M.D., 1945, Washington University.

- Faulconer, Robert J., *Clinical Professor of Pathology*, B.S., 1943, College of William and Mary; M.D., 1947, Johns Hopkins University.
- Feazell, Jan H., *Assistant Professor of Health Care Management*, B.S., 1958, East Tennessee State University; M.S., 1966, Medical College of Virginia.
- Fernandez, Frances R., *Associate Professor of Nursing*, B.S., 1951, Medical College of Virginia; M.P.H., 1960, University of North Carolina.
- Ferris, Gilbert N., *Assistant Professor of Psychiatry*, B.A., 1957, University of Pennsylvania; M.D., 1961, Seton Hall University.
- Fidler, Robert Y., *Clinical Associate in Pediatrics*, B.S., 1959, West Virginia University; M.D., 1961, Medical College of Virginia.
- Fields, William R., *Assistant Professor of Radiology*, B.A., 1961, University of Kentucky; M.D., 1966, West Virginia University.
- Filipowicz, Francis J., *Associate Clinical Professor of Oral Pathology*, B.A., 1954, D.D.S., 1958, University of Buffalo; M.S., 1962, Medical College of Virginia.
- Finnegan, Frederick J., *Assistant Professor of Removable Prosthodontics*, D.D.S., 1950, New York University.
- Fisher, D. Gwendoline, *Assistant Clinical Professor of Psychiatry*, M.D., 1952, University of Western Ontario, Canada.
- Fisher, Lyman McA., *Professor of Clinical Pathology*, B.A., 1951, University of Western Ontario; M.A., 1954, Ph.D., 1957, M.D., 1960, University of Saskatchewan, Canada.
- Fisher, Marion W., *Assistant Clinical Professor of Pediatrics*, B.A., 1939, University of North Carolina; M.D., 1950, Medical College of Virginia.
- Fishman, Sherwin R., *Associate Professor of General & Preventive Dentistry*, B.A., 1953, Wayne State University; M.P.H., 1964, D.D.S., 1956, University of Michigan.
- Fiske, Russell H., *Associate Professor of Pharmacy*, B.S., 1939, University of Michigan.
- Fitch, Willard M., *Associate Clinical Professor of Radiology*, M.D., 1945, Medical College of Virginia.
- Fitzhugh, William B., *Assistant Clinical Professor of Restorative Dentistry*, D.D.S., 1950, Medical College of Virginia.
- Flaherty, Michael J., *Assistant Professor of Medicine*, B.S., 1954, Fordham University; M.D., 1962, Seaton Hall College.
- Flesicher, Dina S., *Clinical Instructor in Psychiatry (Psychology)*, B.A., 1942, Ohio State University; M.S., 1962, Richmond Professional Institute.
- Flippen, Llewellyn T., *Assistant Clinical Professor of Restorative Dentistry*, D.D.S., 1958, Medical College of Virginia.
- Flora, Roger E., *Associate Professor of Biometry*, B.A., 1960, University of Virginia; M.S., 1964, Ph.D., 1966, Virginia Polytechnic Institute.
- Flowers, Ann M., *Associate Professor of Otolaryngology*, B.S., 1943, Minnesota State College at Bemidji; M.S., 1949, University of Wisconsin; Ed.D., 1965, University of Virginia.
- Floyd, Harold L., *Associate Professor of Radiology*, M.D., 1960, George Washington University.
- Forbes, Allan L., *Lecturer in Medicine*, B.S., 1949, McGill University; M.D., 1953, M.S., 1964, Medical College of Virginia.
- Fore, Jr., Harry W., *Professor of Restorative Dentistry*, D.D.S., 1952, Medical College of Virginia.
- Ford, George D., *Assistant Professor of Physiology*, B.S., 1961, Ph.D., 1967, West Virginia University; M.S., 1964, University of Iowa.
- Ford, Jeanne M., *Instructor in Medical Technology*, B.S., M.T., 1962, Medical College of Virginia.
- Formica, Joseph V., *Associate Professor of Microbiology*, B.S., 1953, M.S., 1954, Syracuse University; Ph.D., 1967, Georgetown University.
- Forrest, David C., *Clinical Instructor in Obstetrics and Gynecology*, B.S., 1943, Randolph-Macon College; M.D., 1950, Medical College of Virginia.

- Foster, Jr., Merritt W., *Clinical Professor of Psychiatry*, A.B., 1940, College of William and Mary; M.D., 1944, Medical College of Virginia.
- Fowler, Anna M., *Assistant Professor of Psychiatric Nursing*, B.S., 1959, Medical College of Virginia; M.S., 1966, Boston University.
- Frale, Mary A., *Associate Professor of Otolaryngology*, B.A., 1955, Oberlin College; M.D., 1959, Northwestern University.
- Frale, William J., *Professor of Surgical Pathology*, B.S., 1956, M.D., 1959, Northwestern University.
- Francis, Gloria M., *Associate Professor of Nursing*, B.S., 1959, M.S., 1960, Ohio State University; M.A., 1970, Ph.D., 1972, University of Pennsylvania.
- Fratkin, Melvin, *Assistant Professor of Radiology*, B.A., 1960, Duke University; M.D., 1964, Medical College of Virginia.
- Frederick, L. Arnold, *Clinical Instructor in Urology*, B.S., 1956, University of Richmond; M.D., 1959, Medical College of Virginia.
- Frederick, Jr., Philip, *Clinical Instructor in Internal Medicine*, B.S., 1950, University of Richmond; M.D., 1954, Medical College of Virginia.
- French, William C., *Assistant Clinical Professor of Orthodontics*, D.D.S., 1945, Medical College of Virginia; M.S., 1956, University of Michigan.
- Freund, Jack, *Clinical Professor of Medicine and Assistant Professor of Pharmacology*, B.S., 1937, New York University; M.D., 1946, Medical College of Virginia.
- Fried, Larry C., *Assistant Professor of Surgery*, M.D., 1961, New York University; A.B., 1957, Columbia College.
- Friedenberg, Milton D., *Assistant Clinical Professor of Psychiatry*, B.S., 1943, University of Richmond; M.D., 1947, Medical College of Virginia.
- Friedman, Marvin A., *Assistant Professor of Pharmacology*, S.B., 1964, S.M., 1965, Ph.D., 1967, Massachusetts Institute of Technology.
- Fritsch, Rosemary R., *Associate Professor of Nursing and Lecturer in Hospital and Health Administration*, B.S., 1953, Athenaeum of Ohio; M.S., 1967, Columbia University.
- Fu, Yao-Shi, *Assistant Professor of Surgical Pathology*, M.D., 1966, Taipei Medical College, Taiwan, China.
- Funderburk, William H., *Lecturer in Pharmacology*, B.S., 1939, University of Kentucky; M.S., 1950, Ph.D., 1952, University of Illinois.
- Funkhouser, James B., *Associate Clinical Professor of Psychiatry*, B.S., 1935, M.D., 1937, Indiana University.
- Galston, Herbert H., *Assistant Clinical Professor of Radiology*, B.A., 1939, University of Michigan; M.D., 1943, George Washington University.
- Gander, George W., *Associate Professor of Pathology*, B.S., 1953, Montana State College; M.S., 1955, Ph.D., 1959, Cornell University.
- Garrett, Caywood, *Assistant Professor of Library Science*, B.A., 1966, University of Richmond; M.S.L.S., 1968, University of North Carolina.
- Gathright, Jr., Arthur B., *Associate Professor of Medicine*, A.B., 1931, Randolph-Macon College; M.D., 1939, Medical College of Virginia.
- Gayle, Jr., Major D., *Assistant Clinical Professor of Removable Prosthodontics*, B.S., 1942, Randolph-Macon College; D.D.S., 1950, Medical College of Virginia.
- Gayle, III, R. Finley, *Assistant Clinical Professor of Psychiatry*, M.D., 1951, Medical College of Virginia.
- Gayle, Sigsby W., *Clinical Instructor in Medicine*, B.S., 1961, University of Richmond; M.D., 1965, Medical College of Virginia.
- Gazala, Joseph R., *Assistant Clinical Professor of Ophthalmology*, M.D., 1947, Royal College of Medicine, Bagdad, Iraq.
- Gear, Jr., Arthur S., *Assistant Professor of Medicine*, B.S., 1955, Hampden-Sydney College; M.D., 1959, Medical College of Virginia.
- Geeraets, Ragnit, *Assistant Professor of Ophthalmology; Instructor in Anatomy*, M.S., 1968, Ph.D., 1972, Virginia Commonwealth University.

- Geeraets, Walter J., *Professor of Ophthalmology; Associate Professor of Biophysics*, M.S., 1943, Institute of Engineering, M. Gladbach, M.D., 1952, Rheinische Friedrich-Wilhelms University, Bonn.
- Gerhold, Carl H., *Instructor in Radiologic Technology and Chairman, Program of Radiologic Technology*, Certificate of Graduation, U.S. Naval Hospital, Long Beach, California, RT (ARRT), 1964.
- Gerstzen, Enrique, *Associate Professor of Pathology*, M.D., 1958, University of Buenos Aires.
- Ghahremani, Gary G., *Associate Professor of Radiology*, M.D., 1965, Albest-Ludwig University, West Germany.
- Gianoulis, James T., *Clinical Associate in Surgery*, M.D., 1941, Medical College of Virginia.
- Gill, John A., *Assistant Clinical Professor of Otolaryngology*, B.A., 1943, University of Virginia; M.D., 1946, Medical College of Virginia.
- Gilliam, Robert E., *Clinical Instructor in Restorative Dentistry*, B.S., 1962, University of Richmond; D.D.S., 1966, Medical College of Virginia.
- Gills, Julian C., *Clinical Instructor in Orthodontics*, B.S., 1964, Hampden-Sydney College; D.D.S., 1968, Medical College of Virginia.
- Glenn, James H., *Associate Professor of Radiology*, A.B., 1953, Duke University; M.D., 1957, George Washington University.
- Goldman, Stanley A., *Clinical Instructor in Medicine*, B.A., 1957, M.D., 1961, University of Rochester.
- Gomez, Humberto, *Associate Professor of Psychiatry*, B.S., 1947, Liceo Antioqueno; M.D., 1954, University of A. Medellin; M.S., 1959, Tulane University of Louisiana.
- Goodale, Fairfield, *Professor and Chairman of Pathology; Assistant Dean of Curriculum*, M.D., 1950, Western Reserve University.
- Goodman, Harold, *Associate Professor of Radiology*, M.D., 1944, Medical College of Virginia.
- Goodwin, Ambler R., *Assistant Clinical Professor of Pathology*, B.S., 1954, University of Richmond; M.D., 1958, Medical College of Virginia.
- Graham, Dana K., *Instructor in Occupational Therapy*, B.S., 1968, University of Wisconsin.
- Graham, Jr., Samuel A., *Lecturer in Preventive Medicine*, B.S., 1943, University of South Carolina; M.D., 1947, Medical College of South Carolina; M.P.H., 1954, University of North Carolina.
- Green, Lloyd A., *Assistant Professor of Orthodontics*, B.A., 1961, University of Virginia; D.D.S., 1965, Medical College of Virginia.
- Green, Richard K., *Assistant Clinical Professor of Oral Surgery*, B.S., 1953, Roanoke College; D.D.S., 1960, Medical College of Virginia.
- Greenberg, David J., *Associate Clinical Professor of Medicine*, B.S., 1945, University of Richmond; M.D., 1947, Medical College of Virginia.
- Greenberger, Robert Allen, *Assistant Clinical Professor of Anesthesiology*, B.A., 1963, Rutgers University; M.D., 1967, Columbia University.
- Gregory, Daniel Hayes, *Assistant Professor of Medicine*, A.B., 1953, Hamilton College; M.D., 1957, University of Virginia.
- Griffin, Harvey L., *Assistant Clinical Professor of Pathology*, A.B., 1952, University of North Carolina; M.D., 1956, Duke University.
- Griffin, Jr., John L., *Assistant Professor of Psychiatry (Child)*, B.S., 1962, University of Southern Mississippi; Ph.D., 1970, University of Alabama.
- Griffiths, Sarah A., *Instructor in Medical-Surgical Nursing*, B.S., 1963, Medical College of Virginia.
- Grigsby, William R., *Assistant Professor of Restorative Dentistry*, B.A., 1956, Dartmouth College, D.D.S., 1960, University of Missouri at Kansas City; Ph.D., 1970, Virginia Commonwealth University.
- Gross, Dellvina M., *Assistant Professor of Occupational Therapy*, B.A., 1958, College of St. Catherine; M.A., 1962, Western Michigan University.

- Grubb, Jr., Walter L., *Associate Professor of Radiology*, B.S., 1957, Hampden-Sydney College; M.D., 1961, Medical College of Virginia.
- Grundbacher, Frederick J., *Associate Professor of Genetics*, Ph.D., 1960, University of California.
- Guerin, Philip J., *Visiting Lecturer in Psychiatry*, B.S., 1959, Fairfield University; M.D., 1963, Georgetown University.
- Guerry, III, DuPont, *Professor of Ophthalmology*, B.S., 1934, Furman University; M.D., 1938, University of Virginia; D.Med.Sc., 1944, Columbia University.
- Guthrie, Susan B., *Instructor in Dental Hygiene*, B.S.D.H., 1969, West Virginia University.
- Guyer, Jr., Kenneth E., *Assistant Professor of Biochemistry*, B.A., 1955, University of Texas; M.S., 1960, Ph.D., 1962, Ohio State University.
- Gwaltney, Betty H., *Associate Professor of Nursing and Director, Continuing Education*, B.S., 1939, College of William and Mary; B.S.N., 1944, University of Virginia; M.A., 1949, New York University.
- Gwathmey, Owen, *Assistant Clinical Professor of Surgery*, B.A., 1942, University of Richmond; M.D., 1945, Medical College of Virginia.
- Haar, Jack L., *Assistant Professor of Anatomy*, B.S., 1964, Capital University; M.S., 1966, University of Arizona; Ph.D., 1970, Ohio State University.
- Haber, Oscar P., *Assistant Clinical Professor of Endodontics*, B.A., 1943, D.D.S., 1947, University of Buffalo.
- Hackler, Robert H., *Assistant Professor of Urology*, B.A., 1956, M.D., 1960, University of North Carolina.
- Haden, Halcott T., *Associate Professor of Radiology*, B.S., 1946, University of South Carolina; M.D., 1950, Vanderbilt University.
- Hadfield, M. Gary, *Associate Professor of Pathology, Neuropathology*, B.A., 1960, Brigham Young University; M.D., 1964, University of Utah.
- Hager, Jr., Harry G., *Assistant Clinical Professor of Radiology*, B.S., 1958, M.D., 1960, Medical College of Virginia.
- Haines, Duane E., *Assistant Professor of Anatomy*, B.A., 1965, Greenville College; M.S., 1967, Ph.D., 1969, Michigan State University.
- Hakala, Edwin W., *Clinical Instructor in Orthopedic Surgery*, B.S., 1935, M.D., 1937, University of Minnesota.
- Halloran, L. Gregg, *Instructor in Surgery*, B.S., 1960, Washington and Lee University; M.D., 1964, Medical College of Virginia.
- Ham, Jr., William T., *Professor and Chairman of Biophysics*, B.S., 1931, M.S., 1933, Ph.D., 1935, University of Virginia.
- Hamer, Jr., Frederick C., *Assistant Clinical Professor of Orthodontics*, B.A., 1951, University of Virginia; D.D.S., 1957, Medical College of Virginia.
- Hampton, Carol L., *Assistant Professor Audiovisual Education*, B.A., 1965, University of Arkansas; M.M.S., 1969, Tulane University.
- Harbison, John W., *Associate Professor of Neurology; Assistant Professor of Ophthalmology*, B.A., 1959, M.D., 1962, University of Iowa.
- Hard, Jr., Richard C., *Assistant Professor of Pathology*, B.S., 1954, Northwestern University; M.D., 1958, St. Louis University.
- Hardie, Edith L., *Assistant Professor of Physiology*, B.S., 1954, Georgetown University; Ph.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Harlow, Edward S., *Research Associate in Pharmacology*, B.S., 1930, University of Richmond.
- Harper, Wilson G., *Assistant Professor of Restorative Dentistry and Director of TEAM Programs*, B.S., 1961, Marshall University; D.D.S., 1965, West Virginia University.
- Harrelson, Austin B., *Assistant Clinical Professor of Neurology*, B.S., 1957, Hampden-Sydney College; M.D., 1962, Medical College of Virginia.
- Harris, Jr., Andrew E., *Associate Clinical Professor of Family Practice*, B.S., 1947, Hampden-Sydney College; M.D., 1951, Medical College of Virginia.

- Harris, Jr., Campbell, *Associate Clinical Professor of Anesthesiology*, M.D., 1949, University of Virginia.
- Harris, James S., *Associate Clinical Professor of Family Practice*, B.A., 1953, Hampden-Sydney College; M.D., 1960, University of Virginia.
- Harris, L. Martin, *Associate Professor of Psychiatry*, B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia; M.Ed., 1968, University of Illinois.
- Harris, Louis S., *Professor and Chairman of Pharmacology*, B.A., 1954, M.A., 1956, Ph.D., 1958, Harvard University.
- Harris, Thomas M., *Associate Professor of Anatomy*, B.A., 1949, Emory University; Ph.D., 1962, University of North Carolina.
- Harris, Jr., William O., *Assistant Clinical Professor of Neurology*, A.B., 1955, Virginia Military Institute; M.D., 1959, Medical College of Virginia.
- Harrison, Jacquelin M., *Associate Clinical Professor of Surgery*, B.A., 1934, M.D., 1946, University of Virginia.
- Harrison, Willard L., *Associate Professor of Pharmacy, Director, Pharmacy Services*, B.S., 1959, University of Michigan; M.S., 1966, University of Florida.
- Hart, Herbert C., *Assistant Professor of Psychiatry*, B.A., 1954, M.A., 1956, Ph.D., 1959, University of Florida.
- Harton, Jr., William R., *Lecturer in Preventive Medicine*, B.S., 1941, M.S., 1957, University of Richmond.
- Harvey, Margaret V., *Instructor in Occupational Therapy*, B.S., 1962, Virginia Commonwealth University.
- Harvie, Lucy M., *Instructor in Chemistry*, B.S., 1946, University of Richmond.
- Hassan, Zubair U., *Instructor in Medicine*, M.B., B.S., 1960, King Edward Medical College, Lahore, Pakistan.
- Hatcher, Brenda A., *Clinical Instructor in Physical Therapy*, B.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Hauser, Walter Arthur, *Assistant Professor of Psychiatry*, M.D., 1941, University of Graf, Austria.
- Hayden, G. Douglas, *Clinical Professor of Otolaryngology*, M.D., 1945, Medical College of Virginia.
- Haynes, Jr., Boyd W., *Professor of Surgery, Chairman, Division of Trauma*, M.D., 1941, University of Louisville.
- Haynes, Richard B., *Clinical Instructor in Psychiatry*, B.A., 1967, M.A., 1969, College of William and Mary.
- Hays, Freeman C., *Lecturer in Preventive Medicine*, B.S., 1941, University of Mississippi; M.D., 1945, George Washington University; M.P.H., 1962, Johns Hopkins University.
- Heartwell, Jr., Charles M., *Professor of Oral Surgery*, D.D.S., 1932, Medical College of Virginia.
- Hecht, Alan, *Clinical Associate in Medicine*, B.A., 1949, Sarah Lawrence College; M.D., 1953, Washington University.
- Hecht, Amy B., *Associate Professor of Community Health Nursing*, B.A., 1952, Swarthmore College, B.S., 1955, University of Buffalo; M.S., 1967, State University of New York at Buffalo.
- Heffelfinger, M. Joan, *Assistant Professor of Surgical Pathology*, B.A., 1959, M.D., 1967, University of Iowa.
- Heltzel, Jr., Robert E., *Assistant Clinical Professor of Pediatric Dentistry*, D.D.S., 1967, Medical College of Virginia.
- Hench, Miles E., *Professor of Clinical Pathology and Microbiology, Associate Dean, School of Medicine*, B.S., 1941, Lawrence University; M.S., 1949, Ph.D., 1952, University of Michigan.
- Henry, Russell C., *Lecturer in Legal Medicine*, B.S., 1934, M.D., 1940, University of Oklahoma.
- Herring, Jr., Alvah L., *Clinical Associate in Surgery*, B.S., 1938, M.D., 1941, University of Virginia.

- Hess, Michael L., *Assistant Professor of Physiology*, B.S., 1964, St. Francis College; M.D., 1968, University of Pittsburgh.
- Hester, Harry R., *Assistant Professor of Adult Education*, B.A., 1951, Emory & Henry College.
- Heyner, Gregory J., *Clinical Instructor in Ophthalmology*, M.D., 1963, M.S., 1969, University of Michigan.
- Higgins, Edwin S., *Professor of Biochemistry*, B.A., 1952, Alfred University, Ph.D., 1956, State University of New York at Syracuse.
- Higgins, Michael R., *Assistant Professor of Medicine, Renal*, B.S., 1961, M.B.Ch.B., 1964, University of Edinburgh; M.R.C.P., 1967, Royal College of Physicians of Edinburgh.
- Higgins, Jr., William H., *Assistant Clinical Professor of Medicine*, B.S., 1937, Davidson College; M.D., 1942, Johns Hopkins University.
- Hightower, James A., *Assistant Professor of Anatomy*, B.A., 1965, Oberlin College; M.Sc., 1967, Ph.D., 1970, Ohio State University.
- Hill, J. Edward, *Associate Clinical Professor of Surgery*, B.S., 1944, Virginia Polytechnic Institute; M.D., 1947, Medical College of Virginia.
- Hill, Marian Lindgren, *Instructor in Medical Technology*, B.S., 1967, Ohio University; M.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Hill, William R., *Associate Clinical Professor of Surgery*, B.S., 1930, Davidson College; M.D., 1934, M.S., 1938, University of Virginia.
- Hilliard, Norman L., *Assistant Professor of Pharmacy*, B.S., 1953, Medical College of Virginia; M.Ed., 1970, Virginia Commonwealth University.
- Hirsch, Jerry I., *Assistant Professor of Pharmacy and Radiology*, B.Sc., 1967, Brooklyn College of Pharmacy; M.Sc., 1969, Pharm.D., 1970, Philadelphia College of Pharmacy and Science.
- Hirt, Susanne B., *Professor and Chairman, Department of Physical Therapy*, B.S., 1948, University of Wisconsin; M.Ed., 1956, University of Virginia.
- Hodges, Harry, *Assistant Clinical Professor of Endodontics*, D.D.S., 1959, Medical College of Virginia.
- Hoff, Ebbe C., *Professor of Psychiatry and of Physiology*, B.S., 1928, University of Washington; B.A., 1930, Ph.D., 1932, M.A., 1936, B.M., B.Ch., 1941, M.D., 1953, University of Oxford, England.
- Hoffman, Martin A., *Clinical Professor of Pediatrics*, B.S., 1941, Pennsylvania State University; M.S., 1947, North Carolina State University; M.D., 1951, University of Rochester.
- Hoffman, Robert A., *Assistant Clinical Professor of Pediatrics*, B.S., 1941, University of Virginia; M.D., 1943, Medical College of Virginia.
- Hoge, Randolph H., *Professor of Obstetrics and Gynecology*, B.S., 1924, University of Virginia; M.D., 1928, Harvard University.
- Hoke, Jr., Harry F., *Assistant Clinical Professor of Pathology*, B.A., 1954, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Holland, Henry D., *Instructor in Psychiatry*, B.A., 1962, Washington and Lee University; M.D., 1966, Medical College of Virginia.
- Holland, William E., *Assistant Professor of Medicine*, B.A., 1958, Virginia Military Institute; M.D., 1962, Medical College of Virginia.
- Hood, Thomas R., *Assistant Professor of Medicine*, B.S., 1942, M.D., 1945, Duke University.
- Hooshmand, Hooshang, *Associate Professor of Neurology*, B.A., 1953, M.D., 1959, University of Tehran.
- Hoover, Jr., M. Josiah, *Clinical Professor of Orthopedic Surgery*, A.B., 1931, University of Richmond; Th.M., Southern Baptist Seminary; M.D., 1940, Medical College of Virginia.
- Hopp, David I., *Assistant Professor of Health Sciences Resource Management*, B.A., 1958, M.A., 1960, Ph.D., 1964, University of California, Los Angeles.

- Hord, Pauline H., *Associate Professor of Community Health Nursing*, B.S.N.Ed., 1952, University of Pittsburgh; M.P.H., 1963, University of Minnesota.
- Horwitz, Sidney H., *Assistant Clinical Professor of Pediatric Dentistry*, B.S., 1960, University of Richmond; D.D.S., 1964, Medical College of Virginia.
- Hossaini, Ali A., *Associate Professor of Pathology and Director, Blood Bank*, B.S., 1953, American University of Beirut; M.S., 1956, Texas Christian University; Ph.D., 1960, Ohio State University.
- Howell, Hugh R., *Assistant Clinical Professor of Neurology*, B.S., 1953, Roanoke College; M.D., 1957, University of Virginia.
- Howell, John R., *Associate Professor of Biometry*, B.S., 1952, M.S., 1958, University of Florida.
- Howell, Talmadge R., *Associate Clinical Professor of Radiology*, B.S., 1954, Wake Forest College; M.D., 1958, Duke University.
- Howells, Robert, *Associate Professor of Radiology*, B.Sc., 1962, University of Wales.
- Howerton, James R., *Clinical Instructor in Psychiatry*, M.D., 1955, University of Tennessee.
- Howren, Jr., Harry Hubert, *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1952, Medical College of Virginia.
- Hranowsky, Nicholas, *Clinical Instructor in Anesthesiology*, B.S., 1942, Dnepropetrovsk Medical Institute; M.D., 1954, Maximillian Ludwig University.
- Hsu, Hsiu-Sheng, *Associate Professor of Microbiology*, B.Sc., 1955, McGill University; M.S., 1956, Ph.D., 1959, University of Pennsylvania.
- Huband, Jr., Albert L., *Clinical Instructor in Restorative Dentistry*, B.S., 1951, University of Richmond; D.D.S., 1956, Medical College of Virginia.
- Hubbard, Jr., Maury A., *Assistant Clinical Professor of Restorative Dentistry*, B.S., 1958, Hampden Sydney College; D.D.S., 1962, Medical College of Virginia.
- Hudgens, Robert O., *Assistant Professor of Pediatrics*, B.A., 1949, Emory University; M.D., 1953, Medical College of Virginia.
- Hudgins, Patricia M., *Associate Professor of Pharmacology*, B.S., 1959, M.S., 1960, Ph.D., 1966, West Virginia University.
- Hudleson, Irene M., *Associate Professor of Nursing*, B.S., 1954, University of Oregon; M.S., 1958, Western Reserve University; R.N., 1946, Johns Hopkins University.
- Hudson, Thomas R., *Assistant Professor of Restorative Dentistry*, B.S., 1962, University of Virginia; D.D.S., 1966, Medical College of Virginia.
- Huf, Ernst G., *Professor of Physiology*, Ph.D., 1931, M.D., 1937, University of Frankfurt.
- Hulbert, Mary S., *Assistant Professor of Psychiatry*, B.A., 1942, Wooster College; M.A., 1944, Chicago Theological Seminary.
- Hulcher, Julius C., *Assistant Clinical Professor of Otolaryngology*, B.S., 1937, Virginia Polytechnic Institute; M.D., 1941, Medical College of Virginia.
- Hume, David M., *Professor and Chairman of Surgery*, B.S., 1940, Harvard University; M.D., 1943, University of Chicago.
- Hunt, Ann H., *Instructor in Psychiatry*, B.A., 1966, Wake Forest University; M.S.W., 1968, Virginia Commonwealth University.
- Hunt, R. Brooks, *Assistant Clinical Professor of Otolaryngology*, A.B., 1941, B.S., 1942, West Virginia University; M.D., 1944, Washington University.
- Hunter, William Earl, *Assistant Clinical Professor of Removable Prosthodontics*, D.D.S., 1961, University of Pittsburgh.
- Hurt, W. Glenn, *Assistant Professor of Obstetrics and Gynecology*, B.S., 1960, Hampden-Sydney College; M.D., 1964, Medical College of Virginia.
- Hutcheson, Jr., J. Morrison, *Clinical Associate in Medicine*, B.A., 1943, Washington and Lee University, M.D., 1950, University of Virginia.
- Hutton, Charles F., *Professor of Radiology*, M.R.S.C., L.R.C.P., 1944, D.M.R.D., 1951, Leeds General Infirmary, London.
- Hyde, Robert T., *Clinical Instructor in Psychiatry*, A.B., 1937, Syracuse University; M.D., 1941, Johns Hopkins University.

- Hyer, Leon A., *Clinical Instructor in Psychiatry (Psychology)*, M.S., 1970, Ph.D., 1970, Lehigh University.
- Hylemon, Philip B., *Instructor in Microbiology*, B.S., 1967, Atlantic Christian College; Ph.D., 1972, Virginia Polytechnic Institute and State University.
- Imirie, Jr., John F., *Vice-President for MCV Hospitals, Professor of Hospital and Health Administration*, B.S., 1953, University of Richmond; M.S.H.A., 1955, Columbia University.
- Irby, E. Claiborne, *Clinical Associate in Medicine*, A.B., 1949, University of North Carolina; M.D., 1953, Medical College of Virginia.
- Irby, W. Robert, *Professor of Medicine*, A.B., 1943, Hampden-Sydney College; M.D., 1948, Medical College of Virginia.
- Izard, Jessie V., *Associate Professor and Chairman, Department of Medical Technology*, B.S., 1942, Mississippi State College for Women; M.T., 1952, Charity Hospital; B.B., 1954, Southern Baptist Hospital; M.Ed., 1972, Virginia Commonwealth University.
- Jackson, Caroline G., *Instructor in Anatomy*, B.S., 1946, University of Richmond.
- Jackson, Hunter S., *Assistant Clinical Professor of Surgery*, B.S., 1939, University of Richmond; M.D., 1942, Medical College of Virginia; M.S., 1948, University of Minnesota.
- James, III, G. Watson, *Professor of Medicine and Chairman, Division of Hematology*, A.B., 1936, Washington and Lee University; M.D., 1943, Medical College of Virginia.
- James, Charles M., *Clinical Instructor in Orthopedic Surgery*, B.S., 1959, Davidson College; M.D., 1963, Duke University.
- Jamison, James C., *Clinical Instructor in Pediatrics*; B.S., 1962, Davidson College; M.D., 1966, McGill University.
- Jennings, Sandra S., *Instructor in Biochemistry*, B.S., 1954, M.S., 1959, Virginia Polytechnic Institute.
- Jenkins, Jerry Lewis, *Clinical Instructor in Restorative Dentistry*, B.A., 1964, University of Richmond; D.D.S., 1968, Medical College of Virginia.
- Jessee, Robert W., *Professor of Preventive Medicine*, M.D., 1946, University of Tennessee; M.P.H., 1952, Johns Hopkins University.
- John, David T., *Assistant Professor of Microbiology*, A.B., 1963, Asbury College; M.S.P.H., 1966, Ph.D., 1970, University of North Carolina.
- Johns, Thomas N., *Associate Clinical Professor of Surgery*, A.B., 1943, Hampden-Sydney College; M.D., 1946, Johns Hopkins University.
- Johns, William A., *Associate Clinical Professor of Surgery*, A.B., 1930, M.D., 1934, University of Virginia.
- Johnson, George W., *Clinical Instructor in Surgery*, B.S., 1959, M.D., 1960, Medical College of Virginia.
- Johnson, James H., *Assistant Professor of Anatomy*, B.A., 1966, University of Northern Iowa; Ph.D., 1970, University of California at Los Angeles.
- Johnston, Jr., Charles L., *Professor of Clinical Pathology*, A.B., 1947, M.S., 1949, University of North Carolina; M.D., 1953, University of Pennsylvania.
- Johnston, William B., *Clinical Associate in Pediatrics*, B.A., 1949, Emory University in Atlanta; M.D., 1954, Medical College of Georgia.
- Johnstone, William T., *Clinical Instructor in Orthopedic Surgery*, B.S., 1958, M.D., 1962, University of Maryland.
- Jollie, William P., *Professor and Chairman, Department of Anatomy*, B.A., 1950, M.S., 1952, Lehigh University; Ph.D., 1959, Harvard University.
- Jones, Carlton L., *Associate Professor of Physical Therapy*, B.S., 1936, Virginia State College; M.A., 1951, New York University.
- Jones, Clarence R., *Assistant Professor of Restorative Dentistry*, B.S., 1950, Virginia Polytechnic Institute; D.D.S., 1957, Medical College of Virginia.
- Jones, George R., *Associate Clinical Professor of Obstetrics and Gynecology*, B.S., 1934, M.S., 1936, Ph.D., 1938, University of Florida; M.D., 1946, Medical College of Virginia.

- Jones, Jeannette A., *Instructor in Community Health Nursing*, B.S.N., 1965, East Carolina University; M.S., 1970, University of Maryland.
- Jones, John P., *Clinical Instructor in Pediatrics*, M.D., 1937, Medical College of Virginia.
- Jones, John R., *Professor of Anesthesiology and Associate Dean*, B.S., 1946, M.D., 1951, University of Michigan.
- Jones, Louise, L., *Associate Professor of Anatomy*.
- Jones, Muriel, *Assistant Professor of Microbiology*, B.S., 1932, University of Richmond; M.S., 1950, Medical College of Virginia.
- Jones, Jr., William R., *Clinical Associate in Urology*, B.S., 1937, Hampden-Sydney College; M.D., 1941, Medical College of Virginia.
- Jordan, Robert L., *Assistant Professor of Anatomy*, B.S., 1965, Florida Southern College; Ph.D., 1969, University of Cincinnati.
- Jordan, Thomas D., *Associate Professor of Legal Medicine and Associate Professor of Hospital and Health Administration*, B.A., 1949, University of Richmond; LL.B., 1952, Smithdeal-Massey College.
- Jordan, Jr., William P., *Assistant Professor of Dermatology*, B.S., 1960, Belmont Abbey College; M.D., 1964, Bowman Gray School of Medicine.
- Jordan, William R., *Clinical Professor of Medicine*, B.S., 1922, Virginia Polytechnic Institute; M.D., 1928, University of Virginia.
- Joshi, Vijay V., *Assistant Professor of Pathology*, M.B.B.S., 1959, University of Poona, India; M.D., 1962, University of Bombay, India; Ph.D., 1970, University of Western Ontario.
- Joy, Jr., Edwin D., *Assistant Professor of Oral Surgery*, B.A., 1954, Yale University; D.D.S., 1958, University of Pennsylvania.
- Kaplan, Alan M., *Assistant Professor of Surgery*, B.S., 1963, Tufts University; Ph.D., 1969, Purdue University.
- Kasey, Mary E., *Assistant Professor of Medical Technology*, B.S., 1951, Madison College; M.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Kay, Saul, *Professor and Chairman, Division of Surgical Pathology*, B.A., 1936, New York University; M.D., 1939, New York Medical College.
- Kay, William R., *Associate Professor of Medicine, Director, Student Health Service*, B.S., 1940, Hampden-Sydney College; M.D., 1943, Medical College of Virginia.
- Kayatta, Jerome C., *Clinical Instructor of Pedodontics*, D.D.S., 1972, State University of New York at Buffalo.
- Keefe, William E., *Assistant Professor of Biophysics*, B.S., 1959, M.S., 1964, Virginia Polytechnic Institute; Ph.D., 1967, Medical College of Virginia.
- Kell, Jr., Joseph F., *Assistant Clinical Professor of Neurological Surgery*, B.A., 1940, University of Kansas; M.D., 1943, Yale University.
- Keller, Marjorie J., *Associate Professor of Community Health Nursing*, B.S., N., 1951, University of Connecticut; M.S., 1963, Boston University.
- Kelly, III, John J., *Professor of Medicine*, M.D., 1948, Medical College of Virginia.
- Kelly, Jr., Leonard W., *Clinical Instructor in Dermatology*, B.S., 1962, M.D., 1966, University of Virginia.
- Kemp, Susan R., *Assistant Professor of Psychiatry (Education)*, B.A., 1953, University of Michigan; M.Ed., 1967, University of Virginia.
- Kemp, V. Eric, *Associate Professor of Medicine*, B.S., 1948, University of Richmond; M.D., 1953, Medical College of Virginia.
- Kendig, Jr., Edwin L., *Professor of Pediatrics*, B.A., 1932, B.S., 1933, Hampden-Sydney College; M.D., 1936, University of Virginia.
- Kendrick, John F., *Assistant Clinical Professor of Neurological Surgery*, A.B., 1943, University of North Carolina; M.D., 1946, Washington University.
- Kennedy, James E., *Associate Professor and Chairman, Department of Periodontics*, B.S., 1958, Union College; D.D.S., 1962, University of Pennsylvania; M.S., 1969, University of Rochester.

- Kent, Richard I., *Associate Clinical Professor of Anesthesiology*, B.S., 1954, M.D., 1958, University of Cincinnati.
- Kern, Marguerite A., *Clinical Instructor in Pediatrics*, M.D., 1962, Medical College of Virginia.
- Kerneklarian, Samuel, *Assistant Professor of Radiology*, B.A., 1962, University of Virginia; M.D., 1966, Medical College of Virginia.
- Key, Wendell, W., *Clinical Instructor in Medicine*, B.S., 1960, University of Richmond; M.D., 1964, Medical College of Virginia.
- Kibbe, Milton H., *Associate Clinical Professor of Psychiatry*, B.S., 1934, University of Massachusetts; M.D., 1938, Tufts University.
- Kilpatrick, Jr., S. James, *Professor and Chairman, Department of Biometry*, B.Sc., 1954, M.Sc., 1957, Ph.D., 1960, Queen's University of Belfast.
- King, Audrey C., *Clinical Instructor in Pediatrics*, A.B., 1947, Barnard College; M.D., 1951, State University of New York.
- King, Donald P., *Assistant Clinical Professor of Radiology*, B.A., 1943, Indiana University; M.D., 1946, George Washington University.
- King, E. Richard, *Professor and Chairman, Division of Radiation Therapy and Oncology*, B.A., 1939, M.D., 1941, Ohio State University.
- King, Nancy B., *Assistant Clinical Professor of Pediatrics*, B.S., 1939, M.D., 1945, Medical College of Virginia; M.S., 1949, University of Minnesota.
- King, Jr., Robert G., *Associate Professor of Ophthalmology*, B.A., 1958, Virginia Military Institute; M.D., 1962, University of Virginia.
- King, Roger E., *Assistant Professor of Surgery*, A.B., 1961, M.D., 1964, West Virginia University.
- Kirchmier, II, Raymond S., *Clinical Instructor in Pediatrics*, B.S., 1959, Virginia Polytechnic Institute; M.D., 1963, Medical College of Virginia.
- Kirkland, Richard H., *Professor of Medicine*, M.D., 1948, Medical College of Virginia.
- Kissinger, Jeanette B., *Assistant Professor of Medical-Surgical Nursing*, B.S., 1953, The College of St. Catherine; M.Ed., 1955, University of Minnesota.
- Klein, Arthur, *Clinical Professor of Medicine*, A.B., 1936, Amherst College; M.D., 1940, Johns Hopkins University.
- Kline, Edward S., *Associate Professor of Biochemistry*, B.A., 1948, University of Pennsylvania; M.S., 1955, Ph.D., 1961, George Washington University.
- Klioze, Oscar, *Lecturer in Pharmacy*, B.S., 1940, George Washington University; B.S., 1944, Virginia Polytechnic Institute; Ph.D., 1949, University of Maryland.
- Knighton, Holmes T., *Professor of Dentistry and Microbiology*, D.D.S., 1926, Tulane University.
- Kolstad, Robert A., *Assistant Professor of Microbiology*, B.S., 1960, M.S., 1962, Ph.D., 1965, University of Minnesota.
- Kontos Hermes A., *Professor of Medicine*, M.D., 1958, University of Athens; Ph.D., 1967, Medical College of Virginia.
- Kooiman, Cornelius A., *Associate Professor and Chairman, Department of Occupational Therapy*; B.S., 1952, University of Minnesota; M.A., 1953, University of Southern California.
- Koomos, Jr., George L., *Assistant Clinical Professor of Anesthesiology*, M.D., 1964, University of Mississippi.
- Koontz, Jr., Warren W., *Professor and Chairman, Division of Urology*, B.A., 1953, Virginia Military Institute; M.D., 1957, University of Virginia.
- Kosbab, F. Paul, *Professor of Psychiatry*, M.D., 1944, Friedrich-Wilhelms University, Berlin.
- Kramer, William M., *Assistant Clinical Professor of Pathology*, A.B., 1950, Princeton University; M.D., 1954, Harvard University.
- Kriegman, George, *Clinical Professor of Psychiatry*, B.A., 1939, M.S., 1942, M.D., 1943, University of Illinois.
- Kriegman, Lois S., *Clinical Research Associate in Psychiatry*, B.A., 1940, University of Illinois; M.A., 1941, State University of Iowa.

- Kuftinec, Mladen M., *Associate Professor of Orthodontics*, D. M. Stom., 1965, University of Sarajevo, Yugoslavia; Sc.D., 1971, Massachusetts Institute of Technology; D.M.D., 1972, Harvard University.
- Kuperminc, Denise S., *Clinical Instructor in Pediatrics*, M.D., University of Buenos Aires.
- Kuperminc, Mario, *Assistant Professor of Medicine*, M.D., 1959, University of Buenos Aires.
- Kuzava, Bernard A., *Assistant Professor and Chairman, Department of Nurse Anesthesia*; R.N., 1960, New York University; C.R.N.A., 1962, Montgomery Hospital.
- Lacey, Linda A., *Instructor in Nursing*, B.S.N., 1962, University of Virginia; M.S., 1970, Virginia Commonwealth University.
- Lachin, III, John M., *Assistant Professor of Biometry*, B.S., 1965, Tulane University; Sc.D., University of Pittsburgh.
- LaFratta, Carl W., *Associate Professor of Medicine and Rehabilitation*, M.D., 1931, Medical College of Virginia.
- Lamb, Robert L., *Assistant Professor of Physical Therapy*, B.S., 1962, Slippery Rock State College; M.S., 1968, Boston University.
- Lance, James R., *Assistant Clinical Professor of Endodontics*; D.D.S., 1968, Ohio State University.
- Langdale, Emory L., *Assistant Professor of Physical Medicine and Rehabilitation*, B.S., 1949, College of Charleston; M.D., 1953, Medical College of South Carolina.
- LaPrade, Edmund M., *Assistant Clinical Professor of Otolaryngology*, M.D., 1935, Medical College of Virginia.
- Large, Nelson D., *Associate Clinical Professor of Oral Pathology*, A.B., 1942, University of North Carolina; D.D.S., 1946, Medical College of Virginia.
- Larson, Paul S., *Professor of Pharmacology*, A.B., 1930, Ph.D., 1934, University of California.
- Laupus, William E., *Professor and Chairman, Department of Pediatrics*, B.S., 1943, M.D., 1945, Yale University.
- Laurence, Richard J., *Assistant Professor of Physiology*, B.S., 1955 Fenn College; Ph.D. 1963, Indiana University.
- Lawrence, Jr., Walter, *Professor of Surgery and Chairman, Division of Surgical Oncology*, Ph.B., 1944, S.B., 1945, M.D., 1948, University of Chicago.
- Leavell, Hugh R., *Lecturer in Preventive Medicine*, B.S., 1925, University of Virginia; M.D., 1926, Harvard University; Dr.P.H., 1940, Yale University.
- Lee, Herbert C., *Professor of Surgery*, A.B., 1932, M.D., 1935, University of Wisconsin.
- Lee, Hyung Mo, *Professor of Surgery*, B.S., 1945, Keijo Imperial University, Korea; M.D., 1949, Seoul National University, Korea.
- Lee, Richard M., *Clinical Instructor in Pediatrics*, B.S., 1951, M.D., 1955, Medical College of Virginia.
- LeHew, Richard A., *Clinical Instructor in Orthodontics*, B.S., 1959, Hampden-Sydney College; D.D.S., 1963, Medical College of Virginia.
- Leichnetz, George R., *Assistant Professor of Anatomy*, B.S., 1964 Wheaton College; M.S., 1966, Ph.D., 1970, Ohio State University.
- Lenhardt, Martin L., *Assistant Professor of Otolaryngology*, B.S., 1966, M.A., 1968, Seton Hall University; Ph.D., 1970, Florida State University.
- Levasseur, Joseph E., *Research Associate in Medicine*, B.S., 1959, Georgetown University; M.S., 1967, Medical College of Virginia.
- Leverty, II, Alexander P., *Clinical Associate in Pediatrics*, B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Levin, Jeffrey, *Assistant Clinical Professor of Oral Pathology*, B.A., 1964, Emory University; D.D.S., 1968, Medical College of Virginia.
- Levinson, Stuart A., *Instructor in Surgery*, B.S., 1961, George Washington University; M.D., 1965, Jefferson Medical College.
- Levy, Theodore, *Clinical Associate in Podiatry*, D.S.C., 1948, Chicago College of Chiropody.

- Levy, Walter H., *Assistant Clinical Professor of Anesthesiology*, B.S., 1925, New York University; M.D., 1929, University of Maryland.
- Liberti, Joseph P., *Associate Professor of Biochemistry*, B.S., 1959, Fairleigh Dickinson University; M.S., 1962, Ph.D., 1964, Loyola University.
- Lim, Franklin, *Associate Professor of Clinical Pathology*, B.S., 1951, B.A., 1952, Silliman University; M.S., 1958, Ph.D., 1960, Purdue University.
- Lindemann, Lillian C., *Associate Clinical Professor of Pediatrics and Assistant Clinical Professor of Psychiatry*, B.A., Sarah Lawrence College; M.D., 1949, Columbia College.
- Line, Jan M., *Clinical Instructor in Dental Hygiene*, B.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Lippincott, Stuart W., *Professor of Radiology and Chairman, Division of Radiobiology*, A.B., 1929, Clark University; M.D.C.M., 1935, McGill University.
- Lippmann, Irwin, *Assistant Professor of Pharmacy*, B.S., 1952, M.S., 1956, Rutgers University; Ph.D., 1959, University of Michigan.
- Litchfield, David L., *Assistant Clinical Professor of Radiology*, B.S., 1954, Hampden-Sydney College; M.D., 1958, Medical College of Virginia.
- Longan, Jr., R. Coleman, *Associate Clinical Professor of Psychiatry*, B.A., 1935, University of Richmond; M.D., 1939, Medical College of Virginia.
- Lower, Richard R., *Professor of Surgery and Chairman, Division of Thoracic and Cardiac Surgery*, A.B., 1951, Amherst College; M.D., 1955, Cornell University.
- Lowenthal, Werner, *Professor of Pharmacy*, B.S., 1953, Albany College of Pharmacy; M.S., 1955, Ph.D., 1958, University of Michigan.
- Lubin, Bernard A., *Clinical Instructor in Orthopedic Surgery*, B.A., 1956, Yale University; M.D., 1960, New York University.
- Lum, Natalie I., *Clinical Instructor in Pediatrics*, B.A., 1944, University of Richmond; M.D., 1948, Medical College of Virginia.
- Lund, Paul L., *Assistant Professor of Removable Prosthodontics*, B.Sc., 1963, University of Puget Sound; D.D.S., 1967, McGill University.
- Lundeen, William B., *Associate Clinical Professor of Radiology*, B.S., 1954, M.D., 1955, Medical College of Virginia.
- Lurie, Harry I., *Professor of Academic Pathology*, B.S., 1932, M.B., Ch.B., 1936, University of the Witwatersrand; M.R.C.Path., 1969, Royal College of Pathologists.
- Lynch, John P., *Assistant Clinical Professor of Medicine*, A.B., 1930, Washington and Lee University; M.D., 1935, Medical College of Virginia.
- Lynch, Robert L., *Assistant Professor of Clinical Pathology*, B.S., 1947, West Virginia Wesleyan College; M.S., 1960, Medical College of Virginia.
- Mackintosh, Robert A., *Associate Clinical Professor of Family Practice*, B.A.O., 1950, B.Ch., 1951, M.B., 1954, Queens University, Belfast, Ireland.
- MacMillan, David W., *Clinical Instructor in Ophthalmology*, B.A., 1959, College of Wooster; M.D., 1963, University of Virginia.
- MacMillan, James M., *Assistant Clinical Professor of Medicine*, A.B., 1933, College of Wooster; M.D., 1937, Western Reserve University.
- MacStravic, Robin E., *Assistant Professor of Hospital and Health Administration*, B.A., 1963, Harvard University; M.A.P.A., 1970, University of Minnesota.
- MacQueen, Susan J., *Assistant Professor of Physical Therapy*, A.A., 1958, Green Mountain College; B.S., 1960, Columbia University; M.S., 1968, Boston University.
- Madge, Gordon E., *Associate Professor of Pathology*, M.D., 1953, University of Maryland.
- Makarowsky, Eugene E., *Clinical Associate in Psychiatry*, M.D., 1941, First Moscow Medical Institute.
- Makhlouf, Gabriel, *Associate Professor of Medicine*, M.D., 1953, Liverpool University; M.R.C.P., 1962, Royal College of Physicians; Ph.D., 1965, University of Edinburgh.
- Malbon, Bennett A., *Assistant Clinical Professor of Oral Surgery*, B.S., 1954, Randolph-Macon College; D.D.S., 1958, Medical College of Virginia.

- Mamunes, Peter, *Associate Professor of Pediatrics*, A.B., 1957, Cornell University; M.D., 1961, New Jersey College of Medicine.
- Mancini, Joan M., *Instructor in Nursing*, B.S., 1950, Medical College of Virginia.
- Manley, Gary L., *Instructor in Pharmacy*, Pharm.D., 1970, University of California.
- Manson, R. Campbell, *Clinical Professor of Dermatology*, B.S., 1930, Randolph-Macon College; M.D., 1934, Medical College of Virginia.
- Mantel, Lois Z., *Clinical Instructor in Nursing*, B.A., 1966, Rutgers University; M.A., 1969, New York University.
- Mardon, David N., *Assistant Professor of Microbiology*, A.B., 1962, Ph.D., 1967, Syracuse University.
- Markham, J., David, *Clinical Associate in Medicine*, B.A., 1937, Columbia College; M.D., 1941, Medical College of Virginia.
- Markowitz, Martin, *Associate Clinical Professor of Surgery*, B.A., 1941, University of Richmond; M.D., 1944, Medical College of Virginia.
- Martin, Jr., Berkeley H., *Assistant Clinical Professor of Ophthalmology*, B.S., 1937, University of Richmond; M.D., 1942, Medical College of Virginia.
- Martin, Carolyn, *Assistant Professor of Pathology and Instructor in Ophthalmology*, B.S., 1946, Richmond Professional Institute; M.D., 1960, Medical College of Virginia.
- Martin, Donald L., *Instructor in Obstetrics and Gynecology*, M.D., 1962, Medical College of Virginia.
- Martin, III, James H., *Instructor in Physiology*, B.A., 1965, University of Virginia; M.S., 1967, University of Richmond; Ph.D., 1970, University of Tennessee.
- Martin, Jr., William W., *Assistant Clinical Professor of Medicine*, S.B., 1950, M.D., 1954, Johns Hopkins University.
- Martinez, A. J., *Associate Professor of Neuropathology*, B.S., 1950, Institute of Secondary Education of Canaguey, Cuba; M.D., 1959, University of Havana, Cuba.
- Mason, Elizabeth J., *Associate Professor of Medical-Surgical Nursing*, B.S.N., 1959, University of Pittsburgh; M.S.N., 1962, Wayne State University; Ph.D., 1972, University of Wisconsin.
- Mason, Jack L., *Assistant Clinical Professor of Medical Education*, B.S., 1960, Mansfield State College; M.Ed., 1961, Pennsylvania State University; Ph.D., 1969, Syracuse University.
- Masri, Asad M., *Clinical Instructor in Psychiatry*, B.S., 1957, University of Cincinnati; M.D., 1962, University of Virginia.
- Massey, Charles W., *Associate Clinical Professor of Radiology*, B.S., 1943, College of William and Mary; M.D., 1946, Medical College of Virginia.
- Massie, Francis S., *Associate Professor of Pediatrics*, B.A., 1957, M.D., 1960, Duke University.
- Master, Sherman, *Clinical Instructor in Psychiatry*, A.B., 1957, University of Virginia; M.D., 1961, Medical College of Virginia.
- Mathews, Emmet C., *Assistant Clinical Professor of Medicine*, B.A., 1930, University of Richmond; M.D., 1934, Medical College of Virginia.
- Mathis, James L., *Professor and Chairman of Psychiatry*, M.D., 1949, St. Louis University.
- Mauck, Jr., H. P., *Professor of Pediatrics and Associate Professor of Medicine*, B.A., 1948, M.D., 1952, University of Virginia.
- Mauck, William R., *Clinical Instructor in Orthopedic Surgery*, B.A., 1952, Washington and Lee University; M.D., 1956, Medical College of Virginia.
- Mauney, Jr., Jacob L., *Instructor in Patient Counseling*, B.A., 1960, Roanoke College; M.Div., 1964, Lutheran Theological Southern Seminary.
- Maupin, Elizabeth M., *Assistant Professor of Nursing*, B.A., 1927, University of Wisconsin; M.Ed., 1966, University of Virginia.
- Maurer, Harold M., *Associate Professor of Pediatrics*, A.B., 1957, New York University; M.D., 1961, State University of New York, Downstate Medical Center.

- May, Jr., Virgil R., *Clinical Associate in Orthopedic Surgery*, B.S., 1940, Hampden-Sydney College; M.D., 1943, Medical College of Virginia.
- Mayer, David J., *Assistant Professor of Physiology*, B.A., 1966, Hunter College; Ph.D., 1971, University of California, Los Angeles.
- Mayer, Walter, *Assistant Clinical Professor of Ophthalmology*, M.D., 1949, University Zaragoza, Spain.
- Maynard, Jr., John Gary, *Assistant Clinical Professor of Periodontics*, B.A., 1958, Davidson College; D.D.S., 1962, Medical College of Virginia.
- Mayo, Fitzhugh, *Professor of Medicine and Chairman, Division of Family Practice*, B.S., 1947, Virginia Polytechnic Institute; M.D., 1955, Medical College of Virginia.
- McCue, Carolyn M., *Professor of Pediatrics*, A.B., 1937, Leland Stanford Junior University; M.D., 1941, Medical College of Virginia.
- McCue, Jr., Howard M., *Associate Clinical Professor of Medicine*, B.S., 1937, University of Virginia; M.D., 1941, Medical College of Virginia.
- McDermott, Jr., Howard M., *Associate Clinical Professor of Anesthesiology*, B.S., M.S., M.D., Tufts University.
- McDonald, Marianne E., *Assistant Professor of Physical Therapy*, B.S., 1954, University of North Carolina; B.S., 1958, Medical College of Virginia.
- McDonough, William Wallace, *Assistant Clinical Professor of Psychiatry*, B.A., 1948, University of Virginia; M.D., 1958, Medical College of Virginia.
- McDowell, Charles L., *Assistant Clinical Professor of Orthopedic Surgery*, B.S., 1955, Wake Forest College; M.D., 1959, Jefferson Medical College.
- McEntee, Robert B., *Clinical Associate in Medicine*, M.D., 1953, Bowman Gray Medical School.
- McGehee, Jr., Read F., *Associate Professor of Clinical Pathology and Medicine*, B.S., 1957, Davidson College; M.D., 1961, Medical College of Virginia.
- McGrann, Naomi H., *Clinical Instructor in Dental Hygiene*, R.D.H., 1949, University of Ohio.
- McGuire, Jr., Hunter H., *Associate Professor of Surgery and Assistant Dean for Student Affairs*, B.A., 1951, University of Virginia; M.D., 1955, Medical College of Virginia.
- McIver, James E., *Professor and Chairman of Orthodontics*, D.D.S., 1945, Georgetown University; M.S., 1956, State University of Iowa.
- McKenney, James M., *Instructor in Pharmacy*, B.S., 1965, Hampden-Sydney College; B.S.Pharm., 1968, Medical College of Virginia; Pharm.D., 1972, Wayne State University.
- McKennis, Jr., Herbert, *Professor of Pharmacology*, S.B., 1938, Harvard University; Ph.D., 1945, Cornell University.
- McKeown, Charles E., *Clinical Associate in Medicine*, B.A., 1938, M.D., 1941, University of Wisconsin.
- McLees, Charles T., *Assistant Clinical Professor of Pathology*, B.S., 1959, Greensboro College; M.D., 1965, University of North Carolina.
- McMullan, Francis H., *Associate Clinical Professor of Dermatology*, M.D., 1951, Medical College of Virginia.
- McNeer, Keith Wilson, *Assistant Clinical Professor of Ophthalmology*, B.S., 1955, Randolph-Macon College; M.D., 1959, Medical College of Virginia.
- McNeer, Paul R., *Clinical Instructor in Ophthalmology*, B.S., 1956, Randolph-Macon College; M.D., 1962, Medical College of Virginia.
- McWilliams, Nancy B., *Assistant Professor of Pediatrics*, B.A., 1948, Manhattanville College; M.D., 1966, Woman's Medical College of Pennsylvania.
- Menz, William R., *Instructor in Pharmacy*, B.S., 1968, Albany College of Pharmacy; D.Pharm., 1972, Duquesne University.
- Meetz, Gerald D., *Assistant Professor of Anatomy*, A.B., 1959, North Central College; M.S., 1967, Ph.D., 1969, University of Illinois.
- Meiller, Joan M., *Clinical Associate Professor of Psychiatry, Child Psychiatry*, A.B., 1948, Mount Holyoke College; M.D., 1952, New York State University.

- Mellette, Susan J., *Associate Professor of Medicine, Oncology*, A.B., 1942, Meredith College; M.D., 1947, University of Cincinnati.
- Meridy, Howard William, *Assistant Clinical Professor of Anesthesiology*, B.A., 1962, M.D., 1966, University of Vermont.
- Merker, Frank F., *Associate Professor of Psychiatry*, B.A., 1931, Johns Hopkins University; M.D., 1943, Medical College of Virginia.
- Meydrech, Edward F., *Assistant Professor of Biometry*, B.S., 1965, M.S., 1967, University of Florida; Ph.D., 1972, University of North Carolina.
- Michaux, Richard A., *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1937, Medical College of Virginia.
- Middleton, Paul, *Assistant Clinical Professor of Otolaryngology*, B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Miller, David H., *Lecturer in Medical Technology*, B.S., 1935, University of Richmond; M.S., 1941, Virginia Polytechnic Institute.
- Miller, Jr., David W., *Assistant Clinical Professor of Endodontics*, D.D.M., 1966, University of Pittsburgh; B.S., 1966, Grove City College.
- Miller, George H., *Assistant Professor of Pharmaceutical Chemistry*, B.S., 1960, M.S., 1962, Philadelphia College of Pharmacy and Science; Ph.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Minnerath, Janet L., *Assistant Professor of Library Science*, B.A., 1959, M.L.S., 1963, University of California at Los Angeles.
- Minor, Philip L., *Clinical Instructor in Obstetrics and Gynecology*, M.D., 1947, Medical College of Virginia.
- Minton, Paul D., *Dean, School of Arts and Sciences, Professor of Biometry*, B.S., 1941, M.S., 1948, Southern Methodist University; Ph.D., 1957, North Carolina State University.
- Mitchell, Jr., George S., *Associate Clinical Professor of Family Practice*; A.B., 1950, Duke University; M.D., 1954, Medical College of Virginia.
- Mitchell, Jr., Robert E., *Clinical Associate in Medicine*, A.B., 1940, Hampden-Sydney College; M.D., 1950, University of Virginia.
- Modjeski, Philip J., *Professor of Restorative Dentistry*, B.S., 1939, D.D.S., 1941, University of Illinois.
- Moncure, Charles W., *Assistant Professor of Academic Pathology*, B.A., 1956, University of Virginia; M.D., 1963, Medical College of Virginia.
- Montague, J. Warren, *Assistant Clinical Professor of Otolaryngology*, M.D., 1947, Medical College of Virginia.
- Montesanti, Adrienne, *Instructor in Nurse Anesthesia*, R.N., 1964, Sacred Heart Junior College; C.R.N.A., 1968, Medical College of Virginia.
- Montour, James L., *Associate Professor of Radiology*, B.S., 1961, Ph.D., 1966, University of Michigan.
- Moon, Peter C., *Assistant Professor of Restorative Dentistry*, B.S., 1964, University of Toledo; M.S., 1967, Ph.D., 1971, University of Virginia.
- Moore, Betty J., *Associate Professor of Nutrition*, B.S., 1946, University of North Carolina; M.S., 1961, Virginia Polytechnic Institute.
- Moore, Edward W., *Professor of Medicine*, B.A., 1952, M.D., 1955, Vanderbilt University.
- Moore, II, Frederic P., *Assistant Clinical Professor of Pediatrics*, B.A., 1939, Princeton University; M.D., 1943, Columbia University.
- Moore, Robert P., *Assistant Professor of Medicine*, M.D., 1946, Medical College of Virginia.
- Moore, William T., *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1938, University of Virginia.
- Morahan, Page S., *Assistant Professor of Microbiology, and of Medical Oncology*, B.A., 1961, Agnes Scott College; M.A., 1964, Hunter College; Ph.D., 1969, Marquette University.

- Moran, Ruth V., *Associate Professor of Nursing and Chairman, Department of Medical-Surgical Nursing*, B.S.N., 1956, University of Bridgeport; M.S., 1962, University of Colorado; Ed.M., Columbia University.
- Morey, Dennis A., *Assistant Clinical Professor of Medicine*, M.D., 1950, University of Ontario.
- Morgan, Joseph H., *Assistant Clinical Professor of Restorative Dentistry*, D.D.S., 1961, Medical College of Virginia.
- Morgan, III, Walter E., *Assistant Clinical Professor of Ophthalmology*, B.A., 1957, Wesleyan University; M.D., 1961, Columbia University.
- Morley, John W., *Assistant Professor of Medicine*, M.D., 1951, Edinburgh University, Scotland.
- Morofka, Viola J., *Assistant Professor of Maternal-Child Nursing*, B.S.N., 1958, M.S., 1960, Ohio State University; Ph.D., 1972, Case-Western Reserve University.
- Morris, Judith L., *Assistant Professor of Nursing*, B.S., 1965, University of Virginia; M.A., 1967, University of Iowa.
- Mullaney, John, *Associate Professor of Psychiatry*, B.A., 1952, M.D., 1956, Columbia University.
- Mullinax, P. F., *Associate Professor of Medicine*, B.A., 1951, Duke University; M.D., 1955, Medical College of Virginia.
- Mullins, Herman L., *Assistant Professor of Hospital and Health Administration*, B.G.E., 1960, University of Nebraska; M.H.A., 1965, Medical College of Virginia.
- Munjas, Barbara A., *Associate Professor of Psychiatric Nursing*, B.S., 1959, M.S., 1962, Ohio State University; M.A., 1970, Ph.D., 1972, University of Pennsylvania.
- Munson, Albert E., *Assistant Professor of Medicine, Oncology*, B.S., 1961, M.S., 1968, State University of New York at Buffalo; Ph.D., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Munton, Mary T., *Assistant Professor of Nursing*, R.N., 1953, Bishop de Goesbriand School of Nursing; B.S., 1968, Russell Sage College; M.S., 1972, Boston University.
- Murack, Carolyn M., *Clinical Instructor in Psychiatry (Social Work)*, B.A., 1965, Regis College; M.S.W., 1967, University of Pennsylvania.
- Muren, O., *Associate Professor of Medicine*, M.D., 1945, Medical School of Istanbul, Turkey.
- Murray, Philip F., *Lecturer in Dermatology*, B.A., 1944, M.D., 1946, University of Virginia.
- Murrell, Jr., Thomas W., *Clinical Professor of Dermatology*, M.D., 1940, University of Virginia.
- Myers, Charles E., *Instructor in Pharmacy*, B.S., 1967, M.S., 1969, University of North Carolina.
- Nachman, Herman M., *Assistant Clinical Professor of Surgery and Lecturer in Legal Medicine*, B.S., 1942, M.D., 1945, Medical College of Virginia.
- Nakoneczna, Irene, *Assistant Professor of Pathology*, M.D., 1949, Albert-Ludwigs University, Germany.
- Nance, Margie J., *Instructor in Psychiatry (Social Work)—Child Psychiatry*, A.B., 1966, Susquehanna University; M.S.W., 1968, Florida State University.
- Natvig, Ralph A., *Associate Clinical Professor of Surgery*, B.S., 1945, Rogalond Gymnasium, Byrne, Norway; M.D., 1951, University of Bergen, Norway.
- Neal, Jr., M. Pinson, *Professor of Radiology, Assistant Vice-President of Health Sciences*, A.B., 1949, B.S., 1951, University of Missouri; M.D., 1953, University of Tennessee.
- Nelson, Kinloch, *Dean Emeritus, School of Medicine, Professor of Medicine, and Associate Chief of Staff for Education, McGuire Veterans Administration Hospital*, B.A., 1923, M.D., 1927, University of Virginia.
- Nemenyi, Peter, *Lecturer in Biometry*, M.A., 1952, Ph.D., 1963, Princeton University.

- Nemuth, Harold I., *Associate Clinical Professor of Preventive Medicine*, B.A., 1934, Columbia University; M.D., 1939, Medical College of Virginia.
- Neuroth, Milton L., *Professor of Pharmacy*, B.S., 1935, M.S., 1940, Ph.D., 1946, Purdue University.
- Newman, Eugene M., *Clinical Instructor in Medicine*, B.S., 1956, University of Richmond; M.D., 1960, Medical College of Virginia.
- Newsome, Heber H., *Assistant Professor of Surgery*, B.S., 1958, Wake Forest College; M.S., 1962, M.D., 1962, Tulane University.
- Nooney, Jr., Thomas W., *Associate Professor of Ophthalmology and Assistant Professor of Radiology*, B.A., 1942, Trinity College; B.S., 1948, O.D., 1949, Los Angeles College of Ophthalmology; M.S., 1961, University of Rochester; Ph.D., 1970, Virginia Commonwealth University.
- Norvell, III, John E., *Associate Professor of Anatomy*, B.S., 1953, Morris Harvey College, M.S., 1956, West Virginia University, Ph.D., 1966, Ohio State University.
- Norville, Jerry L., *Assistant Professor of Hospital and Health Administration and Director, Continuing Education*, B.A., 1961, University of Maryland; M.S., 1967, University of Colorado; M.B.A., 1972, Midwestern University.
- Nottingham, Jr., Maurice, *Clinical Instructor in Medicine*, B.S., 1956, Hampden-Sydney; M.D., 1960, Medical College of Virginia.
- Novak, John G., *Associate Clinical Professor of Psychiatry*, B.S., 1935, M.D., 1937, University of Pittsburgh.
- Nunez, Santiago, *Clinical Instructor in Psychiatry*, B.A., B.S., 1948, Instituto of La Vibora, Havana; M.D., 1956, University of Havana.
- Oates, III, James F., *Assistant Clinical Professor of Surgery*, A.B., 1951, Princeton University; M.D., 1955, Cornell University.
- Odom, Donna C., *Instructor in Medical Technology*, B.S., 1958, Madison College; M.T. (ASCP), 1959, Medical College of Virginia.
- O'Donohue, Jr., Walter J., *Assistant Professor of Medicine*, B.S., 1957, Virginia Polytechnic Institute; M.D., 1961, Medical College of Virginia.
- Odor, Dorothy L., *Associate Professor of Anatomy*, B.A., 1945, The American University; M.S., 1948, Ph.D., 1950, The University of Rochester.
- Oldsen, Evelyn R., *Assistant Professor of Dental Hygiene*, B.A., 1958, M.S., 1969, University of Iowa.
- O'Neal, Charles H., *Associate Professor of Biophysics*, B.S., 1957, Georgia Institute of Technology; Ph.D., 1963, Emory University.
- Oppenheimer, William M., *Clinical Instructor in Obstetrics and Gynecology*, B.S., 1953, Hampden-Sydney College; M.D., 1957, University of Virginia.
- Ormes, Jr., Walter M., *Associate Professor of Periodontics*, B.S., 1939, D.D.S., 1947, Medical College of Virginia.
- Ortiz, Jr., Eduardo, *Clinical Instructor in General and Preventive Dentistry*, B.S., 1943, Mount St. Mary's College; D.D.S., 1951, University of Maryland.
- Overton, Thomas P., *Assistant Clinical Professor of Pediatrics*, B.S., 1948, Hampden-Sydney College; M.D., 1952, Medical College of Virginia.
- Owen, Jr., Duncan S., *Associate Professor of Medicine*, B.S., 1957, M.D., 1960, University of North Carolina.
- Owen, Jr., Fletcher B., *Lecturer in Pharmacology*, B.S., 1951, University of Richmond; Ph.D., 1956, M.D., 1959, Medical College of Virginia.
- Owens, Jr., Maurice E., *Associate Clinical Professor of Medicine*, B.S., 1935, University of Richmond; M.D., 1939, Medical College of Virginia.
- Owers, Noel O., *Associate Professor of Anatomy*, B.S., 1948, Ph.D., 1956, University of Nagpur.
- Ownby, Ralph, *Professor of Pediatrics*, B.S., 1946, Texas Christian University, M.D., 1949, University of Oklahoma.
- Paarfus, Barbara L., *Clinical Instructor in Psychiatry (Psychology)*, A.B., 1957, Gettysburg College; M.A., 1959, Temple University.

- Paarfus, Edward C., *Assistant Professor of Psychiatry*, B.A., 1949, University of Richmond; M.D., 1955, Medical College of Virginia.
- Packer, Bernard D., *Clinical Instructor in Orthopedic Surgery*, B.S., M.D., 1936, Marquette University.
- Page, Jr., Sidney G., *Assistant Clinical Professor of Medicine*, M.D., 1938, Medical College of Virginia.
- Pakurar, Alice S., *Assistant Professor of Anatomy*, B.S., 1963, Ohio University; M.S., 1965, Ph.D., 1968, University of Michigan.
- Paletti, Mary V., *Assistant Professor of Maternal-Child Nursing*, B.S.N., 1966, College of Mount St. Joseph; M.S., 1969, Catholic University of America.
- Palmore, Douglas G., *Assistant Professor of Medical Education*, B.A., 1957, University of Richmond; M.Ed., 1965, College of William and Mary.
- Pancoast, James W., *Assistant Clinical Professor of Surgery*, B.S., 1959, M.D., 1960, Medical College of Virginia.
- Papadopoulos, Nicholas M., *Visiting Professor of Neurology*, M.S., 1953, Ph.D., 1956, George Washington University.
- Parham, Clara Chandler, *Instructor in Psychiatry (Social Work)*, B.S., 1961, Mary Washington College; M.S., Richmond Professional Institute, 1966.
- Pariser, Harry, *Lecturer in Dermatology*, B.A., 1931, M.D., 1935, D.Sc., 1940, University of Pennsylvania.
- Park, III, Herbert W., *Clinical Professor of Physical Medicine and Rehabilitation*, B.S., 1944, University of North Carolina; M.D., 1945, Duke University.
- Parker, Clifton L., *Instructor in Medicine*, B.S., 1962, University of Richmond; M.D., 1965, Medical College of Virginia.
- Parker, James C., *Instructor in Microbiology*, B.A., 1965, Shorter College; Ph.D., 1971, Virginia Polytechnic Institute and State University.
- Parker, Joseph C., *Associate Clinical Professor of Obstetrics and Gynecology*, M.D., 1940, Medical College of Virginia.
- Pastore, Peter N., *Professor and Chairman of Otolaryngology, Audiology, Speech Pathology*, A.B., 1930, University of Richmond; M.D., 1934, Medical College of Virginia; M.S., 1940, University of Minnesota.
- Patterson, John L., *Research Professor of Medicine*, A.B., 1935, Princeton University; M.D., 1939, Medical College of Virginia; M.S., 1943, University of Virginia.
- Payton, Otto D., *Associate Professor of Physical Therapy*, B.S., 1956, University of Kansas; M.S., 1964, Indiana University; Ph.D., 1971, University of Maryland.
- Pearce, Leroy S., *Associate Clinical Professor of Pathology*, B.A., 1934, M.S., 1934, University of Mississippi; M.D., 1938, Vanderbilt University.
- Pears, Michael A., *Associate Professor of Medicine*, M.B.B.S., 1951, M.D., 1952, St. Mary's Hospital Medical School.
- Pearse, Warren H., *Dean, Professor of Obstetrics-Gynecology, School of Medicine*, B.S., 1948, Michigan State University; M.B., 1950, M.D., 1951, Northwestern University.
- Pearson, Glen O., *Assistant Clinical Professor of Removable Prosthodontics*, B.S., 1938, D.D.S., 1938, Northwestern University.
- Peeples, Jr., Edward H., *Assistant Professor of Preventive Medicine*, B.S., 1957, Medical College of Virginia; M.A., 1963, University of Pennsylvania; Ph.D., 1972, University of Kentucky.
- Pecora, David V., *Associate Professor of Surgery*, A.B., 1937, Columbia College, M.D., 1941, Yale University.
- Pellegrini, Joan M., *Instructor in Dental Hygiene*, A.A., 1968, B.S., 1970, Fairleigh Dickinson University; M.S., 1972, Columbia University.
- Pembleton, Williams E., *Professor of Anesthesiology*, B.A., 1929, M.A., 1934, University of Wisconsin; M.D., 1937, University of Pennsylvania.
- Peple, Jr., Lowndes, *Clinical Associate in Surgery*, M.D., 1941, Medical College of Virginia.
- Pepper, Mary V., *Clinical Instructor in Physical Therapy*, B.S., 1967, University of Maryland.

- Pepple, Allen, *Clinical Professor of Dermatology*, M.D., 1933, Washington University.
- Perez, Eugene R., *Assistant Professor of Medical Education*, A.B., 1931, University of California; M.D., C.M., 1936, McGill University.
- Perkins, Edward W., *Clinical Professor of Ophthalmology*, A.B., 1929, Randolph-Macon College; M.D., 1933, Medical College of Virginia.
- Perkinson, Jr., W. Baxter, *Cinical Instructor in Restorative Dentistry*, D.D.S., 1970, Medical College of Virginia of Virginia Commonwealth University.
- Perlin, Martin S., *Assistant Professor of Hospital and Health Administration*, B.S., 1962, Emory University; M.B.A., 1966, D.B.A., 1971, The George Washington University.
- Peskin, David A., *Assistant Clinical Professor of Periodontics*, D.M.D., 1967, University of Pittsburgh.
- Peters, Faye L., *Instructor in Nursing*, B.S., 1952, Medical College of Virginia.
- Peters, Philip B., *Assistant Clinical Professor of Oral Surgery*, B.A., 1950, College of William and Mary; D.D.S., 1953, Medical College of Virginia.
- Petres, Robert E., *Assistant Professor of Obstetrics and Gynecology*, B.S., 1961, M.D., 1965, West Virginia University.
- Phibbs, Jr., Paul V., *Assistant Professor of Microbiology*, B.A., 1964, Bridgewater College; M.S., 1966, Ph.D., 1969, University of Georgia.
- Pierce, James C., *Professor of Surgery and Microbiology*, B.A., 1951, Carleton College; M.D., 1955, Harvard University; M.S., 1963, Ph.D., 1966, University of Minnesota.
- Pilcher, Jr., Robert M., *Clinical Instructor in Orthopedic Surgery*, B.S., 1956, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Pinkerton, Jr., Herman H., *Assistant Clinical Professor of Pediatrics*, B.S., 1947, Tennessee Polytechnic Institute; M.D., 1951, Johns Hopkins University.
- Pinto, Carlos, *Assistant Clinical Professor of Pathology*, B.S., 1946, Colegio Ypiranga, Brazil; M.D., 1954, Faculdade Eluminense de Medicine, Rio de Janeiro.
- Pizer, Marvin E., *Visiting Associate Professor of Physiology*, D.D.S., 1949, Medical College of Virginia; M.S., 1952, University of Pittsburgh.
- Plumstead, Jr., Arthur J., *Instructor in Physical Therapy, Director of Physical Therapy*, B.S., 1965, M.S., 1971, New York University.
- Poland, James L., *Assistant Professor of Physiology*, B.S., 1962, Waynesburg College; M.S., 1964, Ph.D., 1967, West Virginia University.
- Pole, Frank N., *Assistant Clinical Professor of Urology*, M.D., 1963, Medical College of Virginia.
- Pollack, David, *Clinical Associate in Medicine*, A.B., 1931, Cornell University; M.D., 1935, Medical College of Virginia.
- Pollock, Jr., Charles A., *Clinical Instructor in Medicine*, B.A., 1962, Pennsylvania State University; M.D., 1960, University of Virginia.
- Porter, Elizabeth E., *Instructor in Ophthalmology*, D.B.O., 1954, Oxford Eye Hospital, England.
- Porter, Reno R., *Professor of Medicine, Cardiovascular*, A.B., 1931, Washington and Lee University; M.D., 1935, Medical College of Virginia.
- Poteat, William L., *Assistant Professor of Anatomy*, B.S., 1966, Wake Forest University; Ph.D., 1971, Bowman Gray Medical School.
- Poulos, Nicholas G., *Clinical Instructor in Surgery*, B.A., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Powers, Douglas F., *Clinical Professor of Psychiatry*, B.S., 1943, Tennessee Technological University; M.D., 1947, Baylor University; M.S., 1949, University of Virginia.
- Pratt, Glenn R., *Associate Professor of Ethics, Director of Religious Activities*, A.B., 1946, Union College; M.Div., 1949, Th.M., 1950, Princeton Theological Seminary; S.T.D., 1958, Temple University.
- Prentice, Katherine A., *Instructor in Medical Technology*, B.S., 1963, M.T. (ASCP), 1963, Medical College of Virginia.

- Prest, Jr., Alan P. L., *Professor and Chairman, Program of Patient Counseling*, B.S., 1951, Lehigh University; M.Div., 1954, Episcopal Theological School.
- Pribisco, Thomas A., *Instructor in Dentistry in Dental Team Program*, B.S., 1968, University of Florida; D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Price, Donald D., *Assistant Professor of Physiology*, B.A., 1965, Ph.D., 1969, University of California.
- Price, Madison R., *Assistant Clinical Professor of Pediatric Dentistry*, B.A., 1955, University of Richmond; D.D.S., 1959, Medical College of Virginia.
- Price, Steven, *Associate Professor of Physiology*, A.B., 1958, Adelphi College; M.A., 1960, Ph.D., 1961, Princeton University.
- Pritchard, George E., *Clinical Instructor in Medicine*, B.S., 1956, University of Richmond; M.D., 1960, Medical College of Virginia.
- Privitera, Paul A., *Assistant Professor of Nurse Anesthesia*, R.N., 1955, Craig Colony State School; C.R.N.A., 1966, Wilford Hall USAF Hospital.
- Proctor, Jack D., *Assistant Professor of Clinical Pharmacology*, B.S., 1952, M.D., 1962, Medical College of Virginia.
- Proffitt, James W., *Clinical Instructor in Radiology*, B.S., 1952, Hampden-Sydney College; M.D., 1956, Medical College of Virginia.
- Propert, David B., *Associate Professor of Medicine*, B.S., 1954, University of Richmond; M.D., 1958, Jefferson Medical College.
- Prybil, Lawrence D., *Associate Professor and Chairman, Department of Hospital and Health Administration*, B.A., 1962, M.A., 1964, Ph.D., 1970, University of Iowa.
- Punch, James D., *Assistant Professor of Microbiology*, B.S., 1959, North Carolina State University; M.S., 1963, Ph.D., 1966, University of Minnesota.
- Quinnell, Robert Kay, *Associate Clinical Professor of Family Practice*, B.S., 1944, University of North Carolina; M.D., 1946, Cornell University; M.P.H., 1955, Harvard University.
- Quisenberry, Patrick T., *Assistant Clinical Professor of Oral Pathology*, D.D.S., 1961, Medical College of Virginia.
- Radcliffe, Edward H., *Assistant Clinical Professor of Endodontics*, B.S., 1950, University of Richmond; D.D.S., 1958, Medical College of Virginia.
- Rafii, Amir, *Professor of Anesthesiology*, M.D., 1953, University of Tehran, Iran.
- Rafii, Anita B., *Assistant Professor of Anesthesiology*, B.S., 1962, Arlington State College; M.D., 1965, University of Texas.
- Rahal, Frederick, *Clinical Instructor in Pediatrics, Lecturer in Pharmacy*, B.S., 1953, M.D., 1959, Medical College of Virginia.
- Ramos, Nancy B., *Clinical Instructor in Nursing*, B.S., 1967, Medical College of Virginia; M.S., 1970, University of Maryland.
- Randall, Jr., Russell E., *Professor of Medicine and Chairman, Division of Renal Disease*, A.B., 1949, Princeton University; M.D., 1953, Columbia University.
- Rankin, Hugh R., *Assistant Clinical Professor of Removable Prosthodontics*, D.D.S., 1955, Ohio State University.
- Ranney, Richard R., *Associate Professor of Periodontics*, D.D.S., 1963, University of Iowa; M.S., 1969, University of Rochester.
- Ranniger, Klaus, *Professor, Chairman, Department of Radiology, and Medical Advisor, Program of Radiologic Technology*, M.D., 1952, University of Kiel, Germany.
- Raper, A. Jarrell, *Associate Professor of Medicine*, M.D., 1959, Medical College of Virginia.
- Rawls, John A., *Clinical Associate in Surgery*, B.S., 1955, Hampden-Sydney College; M.D., 1960, Medical College of Virginia.
- Ray, Edward S., *Professor of Medicine and Chairman, Division of Pulmonary Medicine*, B.A., 1932, Randolph-Macon College; M.D., 1936, University of Virginia.
- Reams, Jr., Willie M., *Assistant Clinical Research Professor of Dermatology*, B.S., 1951, University of Richmond; Ph.D., 1956, Johns Hopkins University.

- Redmond, Audrey F., *Assistant Research Professor of Biochemistry*, B.A., 1959, Wellesley College; Ph.D., 1968, Duke University.
- Redmond, William C., *Assistant Professor of Anatomy*, B.A., 1959, Central Methodist College; M.S., 1962, University of Illinois; Ph.D., 1967, Duke University.
- Reed, Wellford C., *Assistant Clinical Professor of Medicine*, B.S., 1931, Hampden-Sydney College; M.D., 1935, Medical College of Virginia.
- Regan, William W., *Clinical Associate in Medicine*, M.D., 1947, Washington University.
- Regelson, William, *Professor and Chairman of Medical Oncology*, A.B., 1948, University of North Carolina; M.D., 1952, New York State University College of Medicine, Downstate.
- Regen, Margot A., *Instructor in Maternal-Child Nursing*, B.S.N., 1959, Duke University.
- Reid, Emmet K., *Lecturer in Hospital and Health Administration*, B.A., 1939, University of Richmond.
- Reid, Norma S., *Instructor in Psychiatry (Social Work)*, B.A., 1961, M.S., 1964, University of North Carolina.
- Reid, William F., *Assistant Clinical Professor of Surgery*, B.S., 1946, Virginia Union University; M.D., 1948, Howard University.
- Relyea, Richard L., *Assistant Clinical Professor of Ophthalmology*, B.S., 1956, M.D., 1957, Medical College of Virginia.
- Rennie, Laurie E., *Clinical Professor of Neurology*, B.S., 1950, Virginia Polytechnic Institute; M.D., 1954, Medical College of Virginia.
- Repass, James C., *Assistant Clinical Professor of Psychiatry*, B.A., 1955, Washington and Lee University; M.D., 1961, Medical College of Virginia.
- Resnick, Robert J., *Assistant Professor of Psychiatry*, B.A., 1962, Syracuse University; M.A., 1963, Temple University; Ph.D., 1968, University of Tennessee.
- Revere, Jr., James H., *Assistant Professor of Removable Prosthodontics and Director of Student Affairs*, B.A., 1961, University of Richmond; D.D.S., 1965, Medical College of Virginia.
- Reynolds, John M., *Professor of Restorative Dentistry*, B.S., 1945, Emory and Henry College; D.D.S., 1951, Medical College of Virginia.
- Rice, John D., *Clinical Instructor in Restorative Dentistry*, B.A., 1958, Virginia Military Institute; D.D.S., 1962, Medical College of Virginia.
- Richard, Alfred J., *Associate Professor of Pharmaceutical Chemistry*, B.S., 1953, M.A., 1955, Lowell Textile Institute; Ph.D., 1958, Clark University.
- Richardson, Jr., Claude D., *Associate Clinical Professor of Oral Pathology*, D.D.S., 1950, Medical College of Virginia.
- Richardson, David W., *Professor of Medicine and Chairman, Division of Cardiovascular Disease*, B.S., 1947, Davidson College; M.D., 1951, Harvard University.
- Richardson, Frank R., *Clinical Instructor in Restorative Dentistry*, D.D.S., 1960, Medical College of Virginia.
- Richardson, Vashti J., *Assistant Professor of Community Health Nursing*, B.S.N.E., 1957, Medical College of Virginia; M.P.H., 1969, University of North Carolina.
- Richter, Paul, *Assistant Professor of Oncology*, M.D., 1960, University of Buenos Aires.
- Riddick, Jr., Joseph H., *Associate Professor of Pathology*, M.D., 1962, Duke University.
- Ridgeway, Ellis B., *Assistant Professor of Physiology*, B.S., 1963, Massachusetts Institute of Technology; Ph.D., 1969, University of Oregon.
- Riley, Charles R., *Clinical Associate in Surgery*, B.S., 1939, University of Notre Dame; M.D., 1943, Medical College of Virginia.
- Ritzman, Rosemary L., *Assistant Professor of Medical-Surgical Nursing*, B.S.N., 1958, University of North Carolina; M.S.N., 1964, Duke University.
- Rivadeneria, Colon, *Clinical Instructor in Pediatrics*, M.D., 1960, Central University at Quito, Ecuador.

- Rizza, Joseph M., *Clinical Instructor in Pathology*, A.B., 1958, University of Connecticut; M.D., 1965, University of Wuerzburg, Germany.
- Roberts, Bobbie L., *Assistant Clinical Professor of Radiology*, M.D., 1962, George Washington University.
- Roberts, Phyllis S., *Associate Professor of Medical Oncology*, Ph.D., 1946, Columbia University.
- Robertson, Louise W., *Assistant Professor of Pediatrics*, B.S., 1956, Mary Washington; M.D., 1960, Medical College of Virginia.
- Robertson, Jr., William A., *Assistant Professor of Adult Education*, B.S., 1953, Randolph-Macon College; M.Ed., 1971, Virginia Commonwealth University.
- Robins, Spotswood, *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1936, Medical College of Virginia.
- Robinson, Fred D., *Instructor in Cardiovascular Medicine*, B.S., 1954, Hampden-Sydney College; M.D., 1958, University of Virginia.
- Rogers, Charles C., *Associate Professor of Radiology*, B.A., 1956, Maryville College; M.D., 1960, University of Arkansas.
- Rogers, Kenneth S., *Associate Professor of Biochemistry*, B.S.A., 1957, M.S., 1959, Ph.D., 1962, Purdue University.
- Rogers, Lewis T., *Assistant Clinical Professor of Restorative Dentistry*, B.S., 1947, Davidson College; D.D.S., 1951, Medical College of Virginia.
- Romaine, IV, Charles N., *Associate Clinical Professor of Ophthalmology*, A.B., 1936, Randolph-Macon College; M.D., 1938, University of Virginia.
- Romeo, Sharon Ann, *Clinical Instructor in Occupational Therapy*, B.S., 1967, State University of New York at Buffalo.
- Romeo, Thomas D., *Assistant Professor of Occupational Therapy*, B.S., 1965, Southern Connecticut State College; M.Ed., 1969, Northeastern University.
- Rooke, M. Leigh, *Professor of Hospital and Health Administration*, A.B., 1940, M.A., 1949, University of Richmond; Ed.D., 1957, Columbia University.
- Rose, Jr., Leslie W., *Clinical Associate in Medicine*, B.S., 1940, B.S., 1941, University of North Carolina; M.D., 1943, Washington University.
- Rosecrans, John A., *Associate Professor of Pharmacology*, B.S., 1957, St. John's University; M.S., 1960, Ph.D., 1963, University of Rhode Island.
- Rosenblum, William I., *Professor and Chairman of Neuropathology*, B.A., 1957, Swarthmore College; M.D., 1961, New York University.
- Ross, Jr., James W., *A. D. Williams Distinguished Visiting Scholar, Gastrointestinal Medicine*, B.A., 1951, University of California, Berkeley; Ph.D., 1957, University of Wisconsin.
- Roth, Franz-Joseph, *Instructor in Radiology*, M.D., 1966, University of Heidelberg.
- Rothberg, Simon, *Research Professor of Dermatology*, B.S., 1948, Columbia University; M.S., 1956, Ph.D., 1956, Georgetown University.
- Rowland, Jr., Harry S., *Clinical Instructor in Urology*, B.A., 1947, Wesleyan University; M.D., 1951, University of Maryland.
- Roye, Wyatt E., *Assistant Clinical Professor of Medicine*, M.D., 1931, Medical College of Virginia.
- Royster, Henry P., *Associate Clinical Professor of Surgery*, M.D., 1948, Medical College of Virginia.
- Royster, Jr., Randolph L., *Assistant Professor of Radiology*, B.S., 1962, Hampden-Sydney College; M.D., 1966, University of Virginia.
- Rucker, Edwin M., *Assistant Clinical Professor of Obstetrics and Gynecology*, B.A., 1927, Randolph-Macon College; M.D., 1934, Duke University.
- Ruffin, Raymond S., *Instructor in Biophysics*.
- Rusher, William D., *Assistant Clinical Professor of Ophthalmology*, B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Russell, Jack B., *Lecturer in Legal Medicine*, B.S., 1947, Randolph-Macon College; J.D., 1949, Washington and Lee University.
- Russi, Simon, *Clinical Professor of Pathology and Clinical Pathology*, M.D., 1935, Universita Degli Studi, Modena, Italy.

- Russotto, Samuel B., *Assistant Professor of Oral Pathology and Coordinator of Patient Care*, B.A., 1953, American International College; D.D.S., 1958, Georgetown University School of Dentistry.
- Salter, Fred J., *Assistant Professor of Pharmacy*, B.S., 1966, Philadelphia College of Pharmacy and Science; Pharm.D., 1967, University of Michigan.
- Sanders, Earl C., *Assistant Clinical Professor of Endodontics*, D.D.S., 1964, Medical College of Virginia.
- Sanders, Frances A., *Instructor in Psychiatry (Psychology)*, B.A., 1964, Mary Baldwin College; M.S., 1966, McGill University.
- Sarhaddi, Shahseddin, *Assistant Clinical Professor of Neurology*, M.D., 1964, University of Tehran.
- Saroff, Stephen A., *Instructor in Removable Prosthodontics*, B.S., 1967, University of Wisconsin; D.D.S., 1971, Medical College of Virginia of Virginia Commonwealth University.
- Satterwhite, Patricia S., *Supervisor in Physical Therapy*, B.S., 1965, Medical College of Virginia.
- Satterwhite, Suzanne S., *Clinical Instructor in Physical Therapy*, B.S., 1965, Medical College of Virginia.
- Saunders, John R., *Clinical Associate in Psychiatry*, M.D., 1926, Emory University.
- Savage, Bernard M., *Assistant Clinical Professor of Radiology*, B.S., 1947, University of Richmond; M.D., 1951, Medical College of Virginia.
- Saxton, Dorothy P., *Assistant Professor of Occupational Therapy*, O.T., 1952, University of Wisconsin; Ph.B., 1960, Northwestern University, Chicago; M.A., 1963, Western Michigan University.
- Schatzki, Peter F., *Associate Professor of Pathology*, A.B., 1948, Harvard University; M.D., 1952, Tufts University; Ph.D., 1968, University of Texas.
- Schelin, Eric C., *Professor of Obstetrics and Gynecology*, A.B., 1931, University of Iowa; M.D., 1935, Marquette University.
- Schroepfer, Mary C., *Assistant Professor of Occupational Therapy*, B.S., 1956, M.A., 1967, University of Minnesota.
- Schulman, Abbott J., *Assistant Professor of Clinical Psychology*, A.B., 1958, Duke University, M.A., 1960, East Carolina College; Ph.D., 1965, Florida State University.
- Schumann, Morton D., *Associate Professor of Psychiatry*, A.B., 1947, M.S.W., 1951, West Virginia University.
- Schmidt, Kurt T., *Associate Clinical Professor of Psychiatry*, M.D., 1946, University of Munich.
- Scoggins, Robert B., *Associate Clinical Professor of Dermatology*, B.A., 1953, M.D., 1958, Emory University.
- Scott, Frank, *Lecturer in Hospital and Health Administration*, B.S., 1941, Morehead College; M.S., 1950, Columbia University.
- Scott, Robert B., *Associate Professor of Hematology*, B.S., 1954, University of Richmond; M.D., 1958, Medical College of Virginia.
- Seibel, Hugo R., *Associate Professor of Anatomy*, B.S., 1960, Brooklyn College; Ph.D., 1967, University of Rochester.
- Selph, Jr., James A., *Clinical Instructor in Urology*, B.S., 1953, M.D., 1957, Medical College of Virginia.
- Sevier, Caroline A., *Instructor in Physical Therapy*, B.S., 1957, University of North Carolina; M.A., 1969, Sam Houston State University.
- Seymour, Sandra F., *Instructor in Medical-Surgical Nursing*, B.S.N., 1965, University of Virginia; M.N., 1969, University of Florida.
- Shadomy, H. Jean, *Associate Professor, Microbiology*, B.A., 1956, M.A., 1958, Ph.D., 1963, University of California, Los Angeles.
- Shadomy, Smith, *Associate Professor of Medicine*, B.A., 1955, Ph.D., 1963, University of California, Los Angeles.
- Shaffer, Melvin C., *Associate Professor of Biomedical Communications*.

- Shanfield, Isidore, *Instructor in Surgery*, B.S., 1960, M.D.C.M., 1964, Ph.D., 1969, McGill University.
- Shanholtz, Mack I., *Lecturer in Preventive Medicine*, B.S., 1930, M.D., 1934, University of Virginia; M.P.H., 1938, Johns Hopkins University.
- Sharpe, Alton R., *Professor and Chairman of Nuclear Medicine, Associate Professor of Endocrinology*, B.S., 1949, University of Richmond; M.D., 1954, Medical College of Virginia.
- Shelton, Keith R., *Assistant Professor of Biochemistry*, B.A., 1963, University of Michigan; Ph.D., 1968, University of Illinois.
- Shepard, Felix E., *Assistant Professor of Restorative Dentistry*, B.S., 1955, University of Richmond; D.D.S., 1957, Medical College of Virginia.
- Sheppard, L. Benjamin, *Associate Clinical Professor of Ophthalmology*, M.D., 1930, University of Virginia.
- Shiel, Fergus O., *Associate Professor of Academic Pathology*, M.B., B.Ch., 1949, B.S., 1951, National University, Ireland; M.R.C.Path., 1963, London.
- Shield, James A., *Associate Clinical Professor of Psychiatry*, A.B., 1960, Princeton University; M.D., 1964, University of Virginia.
- Shield, Jr., James A., *Clinical Instructor in Psychiatry*, B.A., 1960, Princeton University; M.D., 1964, University of Virginia.
- Shocket, Ronald D., *Assistant Clinical Professor of Pediatric Dentistry*, B.A., 1954, University of Virginia; D.D.S., 1958, Medical College of Virginia.
- Silberman, Henry K., *Professor of Psychiatry*, M.D., 1950, New York University.
- Silverman, Gilbert, *Assistant Clinical Professor of Psychiatry*, B.A., 1955, New York University, M.D., 1960, University of Bern, Switzerland.
- Simmons, Charles N., *Instructor in Radiology*, B.S., 1951, University of South Carolina; M.D., 1955, Medical College of South Carolina.
- Singdahlsen, Donald A., *Assistant Clinical Professor of Periodontics*, D.M.D., 1960, Tufts University; M.S.D., 1967, Baylor University.
- Singer, Robert P., *Assistant Clinical Professor of Neurological Surgery*, B.A., 1950, M.D., 1954 Cornell University.
- Smilek, Stephen W., *Assistant Clinical Professor of Oral Surgery*, A.B., 1952, Lehigh University; D.D.S., 1959, University of Pittsburgh.
- Smith, Alfred L., *Clinical Associate in Medicine*, B.A., 1934, M.D., 1936, University of Virginia.
- Smith, Charles E., *Assistant Professor of Psychiatry*, B.A., 1955, Duke University; M.D., 1963, Medical College of Virginia.
- Smith, Douglas C., *Clinical Instructor in Radiology*, B.A., 1962, Pacific Union College; M.D., 1966, Loma Linda University.
- Smith, Jr., Gladstone E., *Assistant Clinical Professor of Pathology*, B.S., 1952, Hampden Sydney College; M.D., 1958, Medical College of Virginia.
- Smith, Harold L., *Assistant Professor of Pharmacy*, B.S., 1956, Ph.D., 1962, Medical College of Virginia.
- Smith, J. Doyle, *Professor and Chairman of Chemistry and Pharmaceutical Chemistry*, B.S., 1942, M.S., 1944, Ph.D., 1946, University of Virginia.
- Smith, James H., *Clinical Instructor in Restorative Dentistry*, B.S., 1956, Hampden-Sydney College; D.D.S., 1960, Medical College of Virginia.
- Smith, Juanita R. L., *Associate Professor of Maternal-Child Nursing*, B.S., 1947, Columbia University; M.Ed., 1957, Mills College.
- Smith, Leroy, *Clinical Professor of Surgery*, M.D., 1936, Medical College of Virginia.
- Smith, M. J. Vernon, *Associate Professor of Urology*, B.A., 1955, M.B., 1957, M.A., 1960, Cambridge University, England; Ph.D., 1965, Columbia University.
- Smith, Mary E., *Instructor in Psychiatry*, A.B., 1965, College of William and Mary; M.S.W., 1969, Tulane University.
- Smith, Mason, *Associate Clinical Professor of Ophthalmology*, B.S., 1936, M.D., 1940, University of Virginia.
- Smith, Maynard P., *Clinical Professor of Otolaryngology*, B.S., 1934, Randolph-Macon College; M.D., 1938, University of Virginia.

- Smith, Ray H., *Clinical Instructor in Medicine*, B.S., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Smith, Virginia W., *Assistant Professor of Community Health Nursing*, B.S., 1961, George Peabody College; M.P.H., 1966, Johns Hopkins University.
- Snell, Henry M., *Assistant Clinical Professor of Pathology*, B.S., 1958, M.D., 1959, Medical College of Virginia.
- Solaro, John, *Instructor in Physiology*, B.S., 1965, University of Cincinnati; Ph.D., 1971, University of Pittsburgh.
- Solomon, Stuart, *Clinical Instructor of Pediatrics*, B.S., 1953, Massachusetts Institute of Technology; M.S., 1959, Carnegie Institute of Technology; M.D., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Sormus, Helju, *Assistant Clinical Professor of Psychiatry*, M.D., 1950, University of Hamburg, Germany.
- Southworth, Lawrence E., *Assistant Clinical Professor of Radiology*, B.A., 1959, University of Richmond; M.D., 1963, Medical College of Virginia.
- Spath, James A., Jr., *Assistant Professor of Physiology*, B.A., 1961, M.S., 1962, Rutgers University; Ph.D., 1966, University of Ohio. (On educational leave.)
- Speckhart, Vincent, *Assistant Clinical Professor of Medicine*, B.S., 1952, Seton Hall University; M.S., 1955, University of Maryland; M.D., 1958, New York Medical College.
- Spencer, Frederick J., *Professor of Medicine and Chairman, Department of Preventive Medicine*, M.B., B.S., 1945, University of Durham; M.P.H., 1958, Harvard University.
- Spencer, Henry S., *Clinical Instructor in Radiology*, B.S., 1947, Lincoln Memorial University; M.D., 1953, Medical College of Virginia.
- Spencer, William P., *Associate Professor of Pediatrics*, B.A., 1942, M.D., 1944, University of Virginia.
- Spillers, Thomas E., *Assistant Clinical Professor of Denture Prosthodontics*, B.A., 1964, University of Virginia; D.D.S., 1968, Medical College of Virginia.
- Sporn, Irvin N., *Clinical Instructor in Medicine*, B.A., 1954, University of Virginia; M.D., 1957, Medical College of Virginia.
- Sprouse, Jr., Charles T., *Research Associate in Pharmacology*, B.S., 1964, Virginia Military Institute; Ph.D., 1969, University of Florida.
- Stacy, William K., *Assistant Professor in Medicine*, B.S., 1957, Presbyterian College; M.D., 1961, Medical College of South Carolina.
- Stahurski, Bernard, *Instructor in Nurse Anesthesia*, R.N., 1968, Robert Packer Hospital; C.R.N.A., 1970, St. Francis Hospital.
- Steiner, Leroy, *Clinical Instructor in Restorative Dentistry*, B.S., 1943, University of Rhode Island; D.M.D., 1951, Tufts University.
- Steinke, William E., *Instructor in Medicine*, B.A., 1956, Rutgers University; M.D., 1960, Northwestern University.
- Stephan, Joanne K., *Assistant Professor of Medical Technology*, B.S., 1951, St. Mary of the Woods College; M.T. (ASCP), 1952, Norton Memorial Infirmary; M.S., 1965, University of Louisville; Sc.D., 1971, Johns Hopkins University.
- Stepka, William, *Professor of Pharmacognosy*, B.A., 1946, University of Rochester; Ph.D., 1951, University of California, Berkeley.
- Stevens, John E., *Associate Clinical Professor of Medicine*, B.A., 1937, University of Richmond; M.D., 1941, Medical College of Virginia; M.S., 1949, University of Minnesota.
- Stewart, Lauraine S., *Assistant Professor of Pediatrics*, B.A., 1954, Clark University; M.S., 1957, University of Kentucky; M.D., 1962, University of Illinois.
- Stewart, Ann H., *Associate Clinical Professor of Psychiatry*, A.B., 1924, Vassar College; M.D., 1928, Columbia University; M.P.H., 1935, Harvard University.
- Stickley, Elmer E., *Professor of Radiation Physics*, B.S., 1937, Carnegie Institute of Technology; M.S., 1940, Ph.D., 1942, University of Pittsburgh.
- Still, William J., *Professor of Academic Pathology*, M.B., Ch.B., 1951, M.D., 1960, University of Aberdeen.

- Stone, Richard O., *Assistant Professor of Removable Prosthodontics*, D.M.D., 1969, University of Kentucky.
- Strash, Alfred M., *Assistant Professor of Radiology*, B.A., 1963, University of Buffalo; M.S., 1966, Ph.D., 1969, Clarkson College.
- Stratford, Thomas P., *Assistant Clinical Professor of Ophthalmology*, A.B., 1948, University of North Carolina; M.D., 1953, Medical College of Virginia; M.S., 1957, University of Michigan.
- Strickler, Edmund, *Assistant Professor of Restorative Dentistry*, B.A., 1962, Virginia Military Institute; D.D.S., 1966, Medical College of Virginia.
- Strother, Arnold F., *Assistant Professor of Psychiatry*, A.B., 1955, B.S., 1956, West Virginia University; M.D., 1958, Medical College of Virginia.
- Stuart, Jr., William T., *Clinical Instructor in Urology*, B.S., 1950, Randolph-Macon College; M.D., 1954, Medical College of Virginia.
- Stubbins, James F., *Associate Professor of Pharmaceutical Chemistry*, B.S., 1953, University of Nevada; M.S., 1958, Purdue University; Ph.D., 1965, University of Minnesota.
- Suter, Cary G., *Professor and Chairman of Neurology*, A.B., 1943, B.S., 1943, Hampden-Sydney College; M.D., 1947, University of Virginia.
- Sutphin, Adney K., *Associate Clinical Professor of Medicine*, B.S., 1946, Concord College; M.D., 1941, Medical College of Virginia.
- Svoboda, Joseph, *Clinical Instructor in Ophthalmology*, B.S., 1960, Montana State College; M.D., 1963, George Washington University.
- Sweat, Charles J., *Lecturer in Hospital and Health Administration*, B.A., 1957, Emory University; M.H.A., 1963, Medical College of Virginia.
- Sweeney, William T., *Assistant Professor of Oral Pathology*, B.A., 1965, University of Virginia; D.D.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Swell, Leon, *Research Professor of Biochemistry and Gastroenterology*, B.S., 1948, City College of New York, M.S., 1949, Ph.D., 1952, George Washington University.
- Swensen, Nellie S., *Assistant Professor of Nursing*, B.S., 1965, Medical College of Georgia; M.S., 1969, University of Pennsylvania.
- Switz, Donald M., *Assistant Professor of Medicine*, B.A., 1958, Carleton College; M.D., 1962, University of Chicago.
- Syrop, Harold M., *Professor of Oral Pathology*, D.D.S., 1941, McGill University.
- Szumski, Alfred J., *Associate Professor of Physiology*, B.S., 1951, Richmond Professional Institute of the College of William and Mary; M.S., 1956, Ph.D., 1964, Medical College of Virginia.
- Tabor, William R., *Clinical Associate in Medicine*, A.B., 1948, University of Richmond; M.D., 1952, Medical College of Virginia.
- Talley, III, Daniel D., *Associate Clinical Professor of Radiology*, M.D., 1944, University of Virginia.
- Talman, E. Armistead, *Clinical Associate in Surgery*, B.A., 1954, M.D., 1958, University of Virginia.
- Tang, Terry, *Post-Doctoral Fellow of Microbiology*, Ph.D., 1970, Illinois Institute of Technology.
- Tankersley, Jr., Robert W., *Visiting Associate Professor of Microbiology*, B.A., 1952, M.A., 1954, Ph.D., 1956, Stanford University.
- Taylor, John R., *Assistant Professor of Neurology*, B.S., 1952, Wake Forest College; M.D., 1956, Bowman Gray School of Medicine.
- Terrell, Robert V., *Associate Clinical Professor of Surgery*, M.D., 1934, Medical College of Virginia; B.S., 1934, College of William and Mary.
- Tew, John, *Assistant Professor of Microbiology*, B.S., 1966, M.S., 1967, Ph.D., 1970, Brigham Young University.
- Terz, Jose J., *Associate Professor of Surgical Oncology*, B.A., 1946, Sarmiento College; M.D., 1952, University of Buenos Aires, Argentina.

- Tesh, Esther M., *Instructor in Maternal-Child Nursing*, B.S.N., 1962, University of North Carolina; M.N., 1971, University of Pittsburgh.
- Texter, Jr., John H., *Assistant Professor of Urology*, A.B., 1958, M.D., 1962, Johns Hopkins University.
- Theogarai, Sam D., *Assistant Professor of Plastic and Reconstructive Surgery*, M.B.B.S., 1958, M.S., 1962, Medical College of South India.
- Thomas, Francis T., *Assistant Professor of Surgery*, B.S., 1960, M.D., 1964, University of Minnesota.
- Thomas, III, Fred B., *Clinical Instructor in General and Preventive Dentistry*, B.S., 1961, University of Richmond; D.D.S., 1967, Medical College of Virginia.
- Thomas, J. Warrick, *Assistant Clinical Professor of Medicine*, B.S., 1930, M.D., 1934, University of Georgia.
- Thompson, Jr., Albert S., *Clinical Associate in Pediatrics*, B.S., 1954, M.D., 1960, Medical College of Virginia.
- Thompson, Jane L., *Instructor in Library Science*, B.A., 1962, Centenary College of Louisiana; M.S., 1964, Louisiana State University.
- Thompson, Shirley J., *Associate Professor of Community Health Nursing*, B.S., 1960, Medical College of Virginia; M.S., 1965, Ph.D., 1972, University of North Carolina.
- Thompson, Jr., W. Tالياferro, *Professor of Medicine and Chairman, Department of Medicine*, A.B., 1934, Davidson College; M.D., 1938, Medical College of Virginia.
- Thornhill, Harold V., *Lecturer in Legal Medicine*, A.B., 1942, Lynchburg College; LL.B., 1948, University of Virginia.
- Thornhill, William R., *Associate Clinical Professor of Radiology*, B.A., B.S., 1953, Hampden-Sydney College; M.D., 1957, Medical College of Virginia.
- Thornton, John L., *Clinical Professor of Pathology*, M.D., 1949, Medical College of Virginia.
- Thorpe, June B., *Assistant Instructor in Radiation Sciences*, Certificate in Radiologic Technology, 1961, Norfolk General Hospital, RT (ARRT) 1961.
- Tingelstad, Jon B., *Associate Professor of Pediatrics*, B.A., 1957, B.S., 1958, University of North Dakota; M.D., 1960, Harvard University.
- Tingley, Virginia T., *Assistant Clinical Professor of Psychiatry (Psychology)*, B.S., 1939, M.S., 1940, Pennsylvania State College.
- Toker, Eugene, *Associate Professor of Psychiatry*, D.P.M., 1962, University of Witwatersrand.
- Tomsich, Rosa B., *Assistant Professor of Psychiatry*, M.D., 1962, University of Buenos Aires.
- Toone, Jr., Elam C., *Professor of Medicine and Chairman, Division of Connective Tissue Disease*, B.A., 1929, Hampden-Sydney College; M.D., 1934, Medical College of Virginia.
- Townsend, J. I., *Associate Professor of Human Genetics*, B.S., 1941, University of South Carolina; Ph.D., 1952, Columbia University.
- Tran, De Dinh, *Associate Professor of Obstetrics and Gynecology*, M.D., 1947, Paris University.
- Treasure, Edna H., *Professor of Nursing, Associate Dean of Graduate Programs in Nursing*, B.S.N.Ed., 1943, M.S.N.Ed., 1944, Catholic University of America; Ed.D., 1955, University of Maryland.
- Trice, E. Randolph, *Associate Clinical Professor of Dermatology*, B.S., 1943, Hampden-Sydney College; M.D., 1947, Medical College of Virginia.
- Troland, Charles E., *Clinical Professor of Neurological Surgery*, B.S., 1932, Hampden-Sydney College; M.D., 1936, Johns Hopkins University.
- Tucker, Henry St. George, *Professor of Medicine and Chairman, Division of Endocrinology and Metabolism*, B.A., 1933, M.D., 1937, University of Virginia.
- Tucker, Weir M., *Clinical Professor of Neurology*, M.D., 1942, University of Virginia.
- Tucker, William T., *Clinical Instructor in Medicine*, M.D., 1951, University of Virginia.

- Tung, Millie Y., *Instructor in Renal Medicine*, A.B., 1963, Immaculata College; M.D., 1967, Medical College of Pennsylvania.
- Turnage, June H., *Instructor in Nursing*, B.S., 1959, Medical College of Virginia; M.S., 1971, Virginia Commonwealth University.
- Tyler, Gilman R., *Assistant Clinical Professor of Medicine*, M.D., 1938, Medical College of Virginia.
- Ulmer, Jack L., *Professor of Neurological Surgery*, B.A., 1933, Mississippi College; M.D., 1937, Vanderbilt University.
- Upton, Richard T., *Clinical Instructor in Obstetrics and Gynecology*, B.A., 1951, University of Minnesota; M.D., 1955, Bowman Gray School of Medicine.
- Utz, John P., *Professor of Medicine and Chairman, Division of Immunology and Infectious Diseases*, B.S., 1943, M.D., 1946, Northwestern University; M.S., 1949, Georgetown University.
- van't Riet, Bartholomeus, *Associate Professor of Pharmaceutical Chemistry*, B.S., 1950, Vrije University, Amsterdam, Netherlands; Ph.D., 1957, University of Minnesota.
- Varoscak, John R., *Assistant Clinical Professor of Periodontics*, B.S., 1965, D.D.S., 1969, Fairleigh Dickinson University.
- Vaughan, David D., *Assistant Clinical Professor of Medicine*, M.D., 1946, Harvard University.
- Vaughan, Edwin D., *Assistant Clinical Professor of Otolaryngology*, A.B., 1929, Randolph-Macon College; M.D., 1933, Medical College of Virginia.
- Velo, Anthony G., *Clinical Instructor in Neurological Surgery*, M.D., 1949, Central University, Madrid.
- Vennart, George P., *Professor and Chairman of Clinical Pathology*, A.B., 1948, Wesleyan University; M.D., 1953, University of Rochester.
- Vines, Frederick S., *Associate Professor of Radiology and Assistant Professor of Neurology*, B.S., 1957, Bethany College; M.D., 1961, University of Virginia.
- Vinik, Melvin, *Associate Clinical Professor of Radiology*, M.D., 1960, University of Chicago.
- Vipperman, Judy F., *Instructor in Nursing*, B.S.N., 1970, University of North Carolina.
- Vitols, Mintauts M., *Assistant Clinical Professor of Psychiatry*, M.D., 1947, University of Hamburg; M.D., 1956, University of North Carolina.
- Vitsky, Meyer, *Associate Clinical Professor of Obstetrics and Gynecology*, A.B., 1926, University of Richmond; M.D., 1930, Medical College of Virginia.
- Vlahcevic, Z. R., *Associate Professor of Medicine, Gastroenterology*, M.D., 1956, Medical School of the University, Yugoslavia.
- Waddell, Marion C., *Assistant Clinical Professor of Ophthalmology*, B.S., 1954, M.D., 1955, Medical College of Virginia.
- Walker, Barry Q., *Associate Clinical Professor of Radiology*, A.B., 1950, Middlebury College; M.S., 1952, University of Arkansas; M.D., 1956, Western Reserve University.
- Wallace, Margaret J., *Associate Professor of Nursing*, B.S., 1955, A.M., 1958, Ed.D., 1964, Duke University.
- Waller, Marion V., *Associate Professor of Medicine*, B.A., 1940, Hunter College; M.S., 1953, Ph.D., 1959, Medical College of Virginia.
- Walton, Philip W., *Associate Professor of Radiology and Chairman, Division of Radiation Physics*, B.A., 1962, Ph.D., 1967, University of Dublin.
- Wampler, Galen L., *Assistant Professor of Medicine*, B.A., 1955, Bridgewater College; M.D., 1959, Medical College of Virginia.
- Ware, III, H. Hudnall, *Clinical Instructor in Obstetrics and Gynecology*, B.A., 1954, M.D., 1958, University of Virginia.
- Ware, James L., *Assistant Clinical Professor of Surgery (Plastic and Reconstructive)*, B.A., 1955, University of Virginia; M.D., 1959, Medical College of Virginia.
- Ware, Ralph M., *Instructor in Pharmacy*, B.S., 1942, Medical College of Virginia.

- Warner, John F., *Instructor in Medicine*, A.B., 1957, M.D., 1962, University of North Carolina.
- Wasserman, Albert J., *Professor of Medicine, Chairman, Division of Clinical Pharmacology, and Assistant Professor of Clinical Pharmacology*, B.A., 1947, University of Virginia; M.D., 1951, Medical College of Virginia.
- Watkins, Franklin P., *Clinical Instructor in Orthopedic Surgery*, B.A., 1949, M.D., 1953, Emory University.
- Watkins, Libbie D., *Instructor in Pharmacy*, B.S., 1946, Medical College of Virginia.
- Watlington, Charles O., *Associate Professor of Medicine*, B.S., 1954, Virginia Polytechnic Institute; M.D., 1958, Ph.D., 1968, Medical College of Virginia.
- Watson, Nicholas H., *Clinical Instructor in Endodontics*, B.S., 1966, Purdue University; D.D.S., 1968, Indiana University.
- Watts, Daniel T., *Dean, School of Graduate Studies, Professor of Pharmacology*, B.S., 1937, Elon College; Ph.D., 1942, Duke University.
- Watts, T. Duval, *Assistant Clinical Professor of Surgery*, M.D., 1935, Medical College of Virginia.
- Weaver, Warren E., *Dean, School of Pharmacy, Professor of Pharmacy*, B.S., 1942, Ph.D., 1947, University of Maryland.
- Webb, Jr., Leslie S., *Assistant Clinical Professor of Oral Pathology*, B.S., 1964, University of Richmond; D.D.S., 1968, Medical College of Virginia.
- Webb, William H., *Clinical Instructor in Restorative Dentistry*, B.S., 1960, University of Florida; D.D.S., 1963, Medical College of Virginia.
- Weinstein, Julian, *Assistant Clinical Professor of Pediatrics*, M.D., 1951, Medical College of Virginia.
- Weisiger, III, Benjamin B., *Assistant Clinical Professor of Medicine*, B.A., 1944, M.D., 1947, University of Virginia.
- Wells, James M., *Clinical Instructor of Pediatrics*, A.B., 1964, University of North Carolina; M.D., 1969, Medical College of Virginia.
- Welshimer, Herbert J., *Professor of Microbiology*, B.S., 1943, Ph.D., 1947, Ohio State University.
- Wessells, Virginia G., *Assistant Professor of Nursing*, B.S.N., 1955, Medical College of Virginia; M.S.N., 1965, Duke University.
- Weymouth, Richard J., *Professor of Anatomy and Lecturer in Medicine*, B.S., 1950, University of Maine; M.S., 1955, Ph.D., 1955, University of Michigan; M.D., 1963, Marquette University.
- Whisenhunt, Nellie F., *Associate Professor of Community Health Nursing*, B.A., 1943, University of Texas; M.S. 1951, Catholic University.
- White, Clifford E., *Assistant Professor of Pharmacy*, B.S., 1956, Medical College of Virginia; LL.B., 1962, University of Richmond.
- White, David A., *Assistant Clinical Professor of Oral Pathology*, B.S., 1958, D.D.S., 1962, Medical College of Virginia.
- White, Raymond P., *Assistant Dean of Administrative Affairs, Professor of Oral Surgery*, D.D.S., 1962, Ph.D., 1967, Medical College of Virginia.
- White, Stuart B., *Associate Clinical Professor of Family Practice*, B.S., 1952, Hampden-Sydney College; M.D., 1957, Medical College of Virginia.
- Wickham, James R., *Clinical Instructor in Medicine*, B.A., 1954, B.S., 1956, West Virginia University; M.D., 1960, Medical College of Virginia.
- Wiebusch, F. B., *Professor of Periodontics and Director of Continuing Education*, B.B.A., 1943, D.D.S., 1947, University of Texas.
- Wiecking, David E., *Professor and Chairman of Legal Medicine, Chairman, Division of Forensic Pathology*, A.B., 1954, Princeton University; M.D., 1960, Johns Hopkins University; LL.B., 1969, University of Virginia.
- Wiesinger, Herbert, *Clinical Professor of Ophthalmology*, M.D., 1950, University of Vienna.
- Wiesmann, Helen W., *Associate Dean, Undergraduate Program, Professor of Nursing*, B.S., 1949, University of Michigan; M.S., 1956, Richmond Professional Institute.

- Wiley, Jr., E. James, *Clinical Instructor in Pediatrics*, B.A., 1952, Virginia Military Institute; M.D., 1956, Medical College of Virginia.
- Wiley, Patricia L., *Professor and Chairman Psychiatric Nursing*, B.S., 1959, Johns Hopkins University; M.S., 1961, University of Maryland; D.N.Sc., 1969, Boston University.
- Wilkerson, Vivian M., *Clinical Associate in Pediatrics*, B.S., 1946, Mary Washington College; M.D., 1958, Medical College of Virginia.
- Williams, Armistead M., *Assistant Clinical Professor of Surgery*, B.A., 1948, M.D., 1952, University of Virginia.
- Williams, Brenda K., *Instructor in Psychiatry (Social Work)*, B.S., 1965, East Tennessee State University; M.S.W., 1967, Florida State University.
- Williams, Jr., Carrington, *Associate Clinical Professor of Surgery*, B.A., 1938, University of Virginia; M.D., 1942, Harvard University.
- Williams, George H., *Professor of Otolaryngology*, B.S., 1952, M.D., 1956, Tulane University.
- Williams, Grace R., *Clinical Instructor in Psychiatry*, A.B., 1951, Knoxville College; M.S.W., 1955, University of Tennessee.
- Williams, Lawrence A., *Assistant Professor of Radiology*, A.B., 1956, B.S., 1957, West Virginia University; M.D., 1959, Medical College of Virginia.
- Williams, Louis H., *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1951, Duke University.
- Williams, Ray C., *Assistant Professor of Biophysics*.
- Williams, Richard K., *Associate Clinical Professor of Ophthalmology*, B.S., 1943, University of Richmond; M.D., 1946, Medical College of Virginia.
- Williams, Jr., Robert E., *Assistant Clinical Professor of Endodontics*, D.M.D., 1960, University of Oregon.
- Williams, Robert K., *Associate Clinical Professor of Psychiatry*, M.D., 1948, Medical College of Virginia.
- Williams, Robert Owen, *Assistant Clinical Professor of Medicine*, M.D., 1954, Medical College of Virginia.
- Williams, Jr., W. Loren, *Professor and Director for Educational Planning and Development*, B.S., 1950, M.A., 1951, University of South Carolina; Ph.D., 1955, University of Tennessee.
- Williams, William C., *Clinical Instructor in Orthodontics*, B.S., 1956, D.D.S., 1957, Medical College of Virginia.
- Wilson, Jimmy A., *Assistant Professor of Surgery, Neurosurgery*, B.S., 1961, Delta State College; M.S., 1965, Ph.D., 1968, Mississippi State University.
- Wilson, John D., *Assistant Professor of Radiology*, B.A., 1960, Carleton College; M.S., 1963, Ph.D., 1966, University of Illinois.
- Wilson, Richard D., *Assistant Clinical Professor of Periodontics*, D.D.S., 1958, Temple University.
- Windridge, Graham C., *Assistant Professor of Pharmaceutical Chemistry*, Pharm.D., 1965, Ph.D., 1969, University of California.
- Wingfield, William L., *Clinical Associate in Medicine*, M.D., 1937, Medical College of Virginia.
- Wingo, Charles F., *Associate Professor of Medicine*, M.D., 1945, Medical College of Virginia.
- Winkler, Charles P., *Clinical Instructor in Radiology*, B.S., 1953, West Virginia University; M.D., 1955, Medical College of Virginia.
- Winn, Washington C., *Clinical Professor of Obstetrics and Gynecology*, M.D., 1935, Medical College of Virginia.
- Winters, III, Adam D., *Assistant Professor of Pharmacology*, B.S., 1962, Lamar State College of Technology; M.S., 1964, Ph.D., 1967, Tulane University.
- Wirth, Carl G., *Assistant Professor of Restorative Dentistry*, D.D.S., 1962, McGill University.
- Wise, William S., *Instructor in Physiology*, B.A., 1968, Cornell University; M.D., 1972, University of Pittsburgh.

- Witorsch, Raphael J., *Assistant Professor of Physiology*, A.B., 1963, New York University; M.S., 1965, Ph.D., 1968, Yale University.
- Wittmann, Joseph K., *Assistant Professor of General and Preventive Dentistry*, B.S., 1964, State University of New York; M.A., 1967, Ph.D., 1972, Ohio State University.
- Wolf, James S., *Associate Professor of Surgery and Chairman, Division of Surgery at McGuire Veterans Administration Hospital*, A.B., 1957, Grinnell College; B.S., 1959, M.D., 1961, University of Illinois.
- Wolfe, Eleanor V., *Associate Professor of Occupational Therapy*, B.S., 1945, University of North Carolina; M.A., 1951, Texas Woman's University.
- Wood, John H., *Professor of Pharmacy*, B.Sc., 1946, M.Sc., 1947, University of Manitoba; Ph.D., 1950, Ohio State University.
- Wood, Maurice, *Associate Professor of Family Practice*, M.B., B.S., 1945, Durham University; M.R.C.G.P., 1966, Royal College of General Practitioners.
- Wood, Robert L., *Clinical Instructor in Preventive Medicine*, B.A., 1949, Pacific Union College; M.A., 1950, Andrews University; M.S.P.H., 1956, University of North Carolina; M.D., 1965, National University of Mexico.
- Woodruff, Charles R., *Assistant Professor of Patient Counseling*, B.A., 1960, University of Alabama; B.D., 1963, Th.D., 1966, Southern Baptist Theological Seminary.
- Woods, Lauren A., *Vice-President for Health Sciences, Professor of Pharmacology*, B.S., 1939, Dakota Wesleyan University; Ph.D., 1943, Iowa State University; M.D., 1949, University of Michigan.
- Woods, Robert C., *Assistant Clinical Professor of Removable Prosthodontics*, B.S., 1949, Marshall University; D.D.S., 1957, Medical College of Virginia.
- Woodward, Jr., Edward, *Clinical Instructor in Medicine*, A.B., 1944, Harvard University; M.D., 1951, Medical College of Virginia; M.S., 1957, University of Minnesota.
- Wooton, Percy, *Clinical Instructor in Medicine*, B.S., 1953, Lynchburg College; M.D., 1957, Medical College of Virginia.
- Wouters, Marianne L., *Assistant Professor of Psychiatry (Child)*, M.D., 1949, Medical School of Vienna.
- Wright, R. Lewis, *Assistant Clinical Professor of Neurosurgery*, B.A., 1951, University of Richmond; M.D., 1955, Medical College of Virginia.
- Wright, Jr., Thomas, *Clinical Instructor in Restorative Dentistry*, B.S., 1962, Johnson C. Smith University; D.D.S., 1969, Medical College of Virginia of Virginia Commonwealth University.
- Wyatt, Davis B., *Assistant Clinical Professor of Ophthalmology*, A.B., 1951, Washington and Lee University; M.D., 1955, Medical College of Virginia.
- Wynne, Marigail, *Clinical Instructor in Medicine*, A.B., 1964, University of Rochester; M.D., 1968, Duke University.
- Yaghmai, Issa, *Instructor in Radiology*, M.D., 1959, University of Tehran.
- Yancey, Henry A., *Clinical Instructor in Orthopedic Surgery*, B.S., 1953, M.D., 1957, Duke University.
- Yingling, Doris B., *Dean, School of Nursing, Professor of Nursing*, B.S., 1944, University of Oregon; M.A., 1951, Ed.D., 1956, University of Maryland.
- Yoe, B. Klara, *Assistant Professor of Medicine*, M.D., 1944, Steven Tisza University, Debrecen, Hungary.
- Young, Harold F., *Associate Professor of Surgery, Neurosurgery*, B.A., 1959, M.D., 1963, Ohio State University.
- Young, Nelson F., *Professor of Clinical Pathology*, B.S., 1935, University of Washington; Ph.D., 1945, New York University.
- Young, Reuben B., *Professor of Pediatrics*, B.S., 1950, College of William and Mary; M.D., 1957, Medical College of Virginia.
- Younger, Janet B., *Instructor in Maternal-Child Nursing*, B.S., 1967, Medical College of Virginia; M.Ed., 1970, University of Virginia; M.S., 1972, Virginia Commonwealth University.

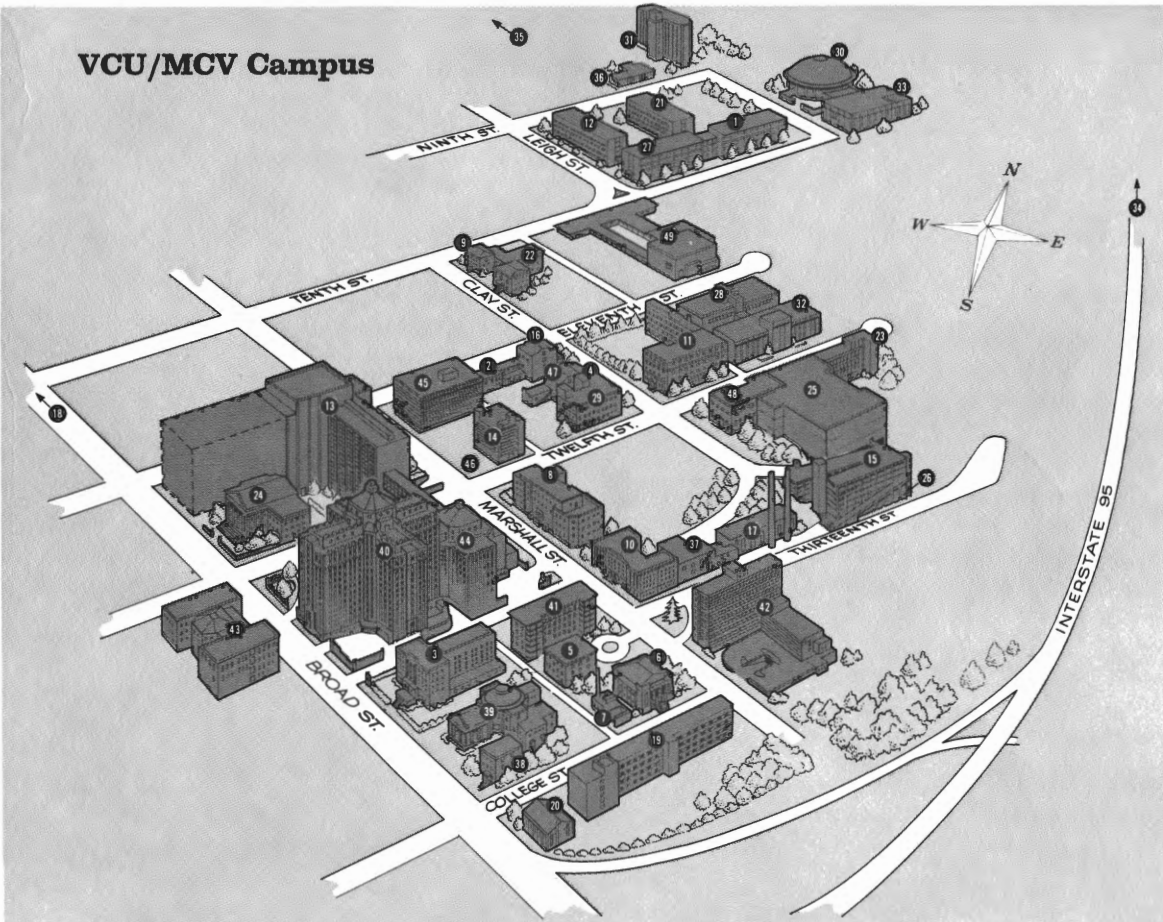
- Youngkin, Ellis Q., *Instructor in Nursing*, B.S.N., 1961, Duke University; M.S., 1965, University of Maryland.
- Zacharias, Lawrence C., *Clinical Instructor in Medicine*, B.A., 1952, University of Richmond; M.D., 1956, Medical College of Virginia.
- Zachman, Robert A., *Clinical Instructor in Restorative Dentistry*, D.D.S., 1972, Medical College of Virginia of Virginia Commonwealth University.
- Zalis, Orestes S., *Associate Professor of Psychiatry*, M.D., 1958, University of Paris.
- Zfass, Alvin M., *Associate Professor of Medicine, Gastroenterology*, B.A., 1953, University of Virginia; M.D., 1957, Medical College of Virginia.
- Ziegler, Randolph S., *Assistant Professor of Periodontics*, D.M.D., 1967, University of Pennsylvania; M.S., 1972, Case Western Reserve University.
- Zimberg, Yale H., *Clinical Professor of Surgery*, B.A., 1947, University of Virginia; M.D., 1956, Medical College of Virginia.

EMERITI

- Ambrose, Anthony M., *Professor of Pharmacology*, B.S., 1924, Philadelphia College of Pharmacy and Science; M.S., 1927, Ph.D., 1929, Fordham University.
- Barnes, Webster P., *Assistant Clinical Professor of Surgery*, M.D., 1926, Medical College of Virginia.
- Camp, Paul D., *Associate Clinical Professor of Medicine*, B.S., Virginia Military Institute; M.D., 1928, University of Virginia.
- Caravati, Charles M., *Professor of Medicine*, M.D., 1922, Medical College of Virginia.
- Cardwell, Jr., Charles P., *Professor of Hospital and Health Administration*, F.A.C.H.A.
- Chapman, Douglas G., *Assistant Clinical Professor of Medicine*, M.D., 1925, Medical College of Virginia.
- Chevalier, Paul L., *Professor of Clinical Dentistry*, D.D.S., 1952, Medical College of Virginia.
- Davis, T. Dewey, *Clinical Professor of Medicine*, M.D., 1921, Medical College of Virginia.
- Dawson, A. Ray, *Professor and Chairman, Department of Physical Medicine and Rehabilitation*, M.D., 1929, Medical College of Virginia.
- Drewry, Jr., Patrick H., *Professor of Psychiatry*, M.D., 1932, Johns Hopkins University.
- Fischer, Ernst, *Professor of Physiology*, M.D., 1923, University of Frankfurt.
- Forbes, John C., *Professor of Biochemistry*, Ph.D., 1925, McGill University.
- Fowlkes, Richard W., *Clinical Professor of Dermatology*, M.D., 1932, Medical College of Virginia.
- Graham, A. Stephens, *Associate Clinical Professor of Surgery*, M.D., 1925, University of Minnesota; M.S., 1932, Fellow Mayo Foundation for Medical Education and Research.
- Haynes, W. Tyler, *Clinical Professor of Orthodontics*, B.S., 1922, University of Virginia; D.D.S., 1926, Medical College of Virginia.
- Hughes, Roscoe D., *Professor of Biology and Genetics*, B.S., 1927, U.S. Naval Academy; M.A., 1936, Ph.D., 1938, Columbia University.
- Ingersoll, Everett H., *Professor of Anatomy*, B.S., 1925, M.S., 1926, Kansas State College; Ph.D., 1932, St. Louis University.
- Johns, Frank S., *Professor of Clinical Surgery*, M.D., 1913, Medical College of Virginia.
- Lyons, Harry, *Dean, School of Dentistry*, D.D.S., 1923, Medical College of Virginia.
- McCluer, Margaret, *Directing Librarian*.
- Neale, Claude L., *Professor of Psychiatry*, M.D., 1928, Medical College of Virginia.
- Nelson, Kinloch, *Dean, School of Medicine*, B.A., 1923, M.D., 1927, University of Virginia.

- Reid, J. Douglas, *Professor of Microbiology*, Ph.B., 1928, Brown University; Sc.D., 1931, Johns Hopkins University.
- Riese, Walther J., *Associate Professor of Psychiatry*, M.D., 1914, Konigsberg, Germany.
- Sanger, William T., *Chancellor*, B.A., 1909, Bridgewater College; M.A., 1910, Indiana University; Ph.D., 1915, Clark University.
- Shamburger, Lacy L., *Assistant Clinical Professor of Obstetrics and Gynecology*, M.D., 1932, Medical College of Virginia.
- Shanklin, William M., *Professor of Anatomy*, B.S., 1921, Blue Ridge College; Ph.D., 1929, Yale University.
- Simpson, Richard L., *Professor of Crown and Bridge Prosthodontics*, D.D.S., 1935, Medical College of Virginia.
- Stone, James B., *Clinical Associate Professor of Pediatrics*, M.D., 1919, University of Virginia.
- Thomas, Herman P., *Professor of Economics*, B.A., 1917, Richmond College; M.A., 1925, Ph.D., 1931, University of Virginia.
- Thomason, Rudolph C., *Associate Professor of Clinical Ophthalmology*, M.D., 1929, Medical College of Virginia.
- Tucker, James T., *Clinical Professor of Orthopedic Surgery*, M.D., 1926, Medical College of Virginia.
- Wallerstein, Emmanuel U., *Clinical Professor of Otolaryngology*, M.D., 1919, Johns Hopkins University.
- Ware, Jr., H. Hudnall, *Professor of Obstetrics and Gynecology*, M.D., 1924, Medical College of Virginia.
- Warthen, Harry J., *Associate Clinical Professor of Surgery*, M.D., 1925, University of Virginia.

VCU/MCV Campus



INDEX VCU/MCV CAMPUS

- 1 Bear Hall
- 2 Bowe House
- 3 Nursing Education Building
- 4 Child Development Clinic
- 5 Dooley Building
- 6 Egyptian Building
- 7 Gaillard Laboratory (Old Morgue)
- 8 Hunton Hall
- 9 Leigh House (Physical Plant Offices)
- 10 Mac Farland Hall
- 11 McGuire Hall
- 12 McRae Hall
- 13 Sanger Hall
- 14 Richmond Eye Hospital
- 15 Parking Deck
- 16 Personnel Employment Office
- 17 Central Heat & Power Plant
- 18 Purchasing — 2024 West Broad Street
- 19 Randolph-Minor Hall
- 20 Randolph-Minor Annex
- 21 Rudd Hall
- 22 Radiobiology (Sheltering Arms)
- 23 Strauss Research Laboratory
- 24 College Social Center
- 25 Tompkins-McCaw Library
- 26 Toxicology Laboratory & Rodent House
- 27 Warner Hall
- 28 Wood Memorial Building
- 29 Hearing and Eye Center
- 30 J. L. Larrick Student Center
- 31 Cabaniss Hall Dormitory
- 32 Lyons Building
- 33 Gymnasium
- 34 Animal Farm & Caretaker's Residence
- 35 Physical Plant Shops (Armory)
- 36 MCV Day Nursery (Belle Bryan)
- 37 Central Laundry Building
- 38 Newton House
- 39 Monumental Church
- 40 MCV-West Hospital
- 41 MCV-East Hospital (St. Philip)
- 42 MCV-North Hospital (E. G. Williams)
- 43 MCV-South Hospital (Memorial)
- 44 A. D. Williams Memorial Clinic
- 45 Nelson Clinic
- 46 Skull & Bones Restaurant
- 47 MCV Alumni Building
- 48 Richmond Academy of Medicine
- 49 Virginia Treatment Center



Bulletin
Medical College of Virginia of
Virginia Commonwealth University
Richmond, Virginia 23298

Miss Caywood Garrett
Tompkins-McCaw Library
MCV Station

SPECIAL FOURTH CLASS BOOK RATE