

# Pre-professional and Allied Health Programs

UMBC offers strong liberal arts preparation and advising for students planning advanced study in professional programs including law, medicine, dentistry and allied health.

Special advice on course selection and applying to professional schools is provided to students planning careers in these professions.

## Pre-professional Programs

### Pre-medicine and Pre-dentistry

Medical and dental school, while not requiring any particular major course of study, do require that a certain selection of undergraduate courses be completed. The Dean's Office of the College of Natural and Mathematical Sciences assists students pursuing admission to medical and dental schools by providing advising and counseling throughout a student's academic career, sponsoring workshops on applying to health professions schools, inviting health professional school representatives onto campus to speak with students and guiding students through the application process.

In addition, students are encouraged to participate in research experiences both on and off campus. In recent years, successful applicants have been involved in projects at Harvard Medical School; The Johns Hopkins University School of Medicine; the National Institutes of Health;

the University of Colorado at Boulder and the University of Maryland School of Medicine.

Pre-medical and pre-dental students have been accepted into many programs throughout the United States, including those at Cornell; Duke; Harvard; Johns Hopkins; University of California, San Francisco; University of Maryland, Baltimore; University of Pennsylvania and Yale.

### Professional School

Requirements	UMBC Courses
English [6]	ENGL 100 and one English literature course
Biology [12]	BIOL 100 and 100L, BIOL 302 and 302L
Chemistry [19]	CHEM 101, CHEM 102 and 102L, CHEM 351 and 351L, CHEM 352 and 352L
Mathematics [8]	MATH 150 and 151
Physics [8]	PHYS 111 and 112

Other course includes work [37-67] general and major requirements

### Pre-optometry

Optometry is the largest vision care profession and the third largest independent

health care profession in the nation today. All 17 accredited schools and colleges of optometry in the United States require a minimum of three years of pre-optometric studies and four years of professional courses. However, more than 75 percent of all successful applicants complete bachelor's degrees before entering schools of optometry.

Prospective optometric students should be acquainted with the required courses necessary for the schools or colleges they expect to attend. Requirements may vary per optometry school and students are encouraged to research the admissions criteria of the professional school to which they will be applying. The Association of Schools and Colleges of Optometry (ASCO, [www.opted.org](http://www.opted.org)) provides information on various optometry school requirements as well as career information.

Students interested in pre-optometry should contact Christy Botdorf, UMBC health professions advising coordinator, College of Natural and Mathematical Sciences, University Center, room 116, 410-455-5827.

Applicants to all schools and colleges of optometry in the United States are required to take the Optometry Admission Test (OAT). Further information, including OAT application forms, is available in the Office of Academic and Pre-professional advising.

### Pre-veterinary Medicine

Veterinarians serve society by preventing and treating animal disease, improving the quality of the environment, controlling diseases transmitted from animals to humans and advancing medical knowledge. Although the majority of veterinarians in the United States are in private practice, significant numbers are involved in preventative medicine, regulatory veterinary medicine, military

veterinary medicine, aquatic animal or avian medicine, laboratory animal medicine, research and development in industry, and teaching.

Today's schools of veterinary medicine, while not requiring a particular major, do require that students complete certain courses, including a year in general chemistry, organic chemistry, biology, physics, mathematics and English.

After receiving an undergraduate degree, students complete four years of study at an accredited schools of veterinary medicine prior to earning their doctor of veterinary medicine degree. Many UMBC graduates pursue their education at the Virginia-Maryland Regional College of Veterinary Medicine.

Students interested in pre-veterinary medicine should contact Christy Botdorf, UMBC health professions advising coordinator, College of Natural and Mathematical Sciences, University Center, room 116, 410-455-5827.

### Pre-law

Law schools do not prescribe a particular pre-law curriculum, nor do they require specific undergraduate courses.

Students are advised to select a major according to individual interest. Because the law touches nearly every phase of human activity, most liberal arts majors can be of value to a lawyer.

Of primary importance to a lawyer is the ability to express thoughts clearly and cogently. Courses in composition, communication arts and literature develop these skills. Political science, economics, history, government and sociology courses are of value because of their close relation to law and their influence on its development. Ethics, because of its relationship to legal principles, and philosophy, because of the influence of philosophic reasoning on legal reasoning and jurisprudence, are also of interest. Some

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knowledge of the principles of accounting and of the sciences is recommended and will prove of practical value to the lawyer in general practice in the modern world.

UMBC's political science department offers especially strong preparation for students interested in law school, including courses in American constitutional and administrative law taught by the case method. The department also offers a Legal Internship Program that places students in legal positions in the Baltimore area. The department operates the Pre-law Resource Office, which is open to all UMBC students.

Other parts of the university curriculum offer courses in private law and the history of law.

For additional information, students should consult the Pre-law Handbook, published by the Law School Admissions Council and the Association of American Law Schools, available in the Pre-law Resource Office in the Public Policy Building, room 357.

### Allied Health Pre-professional Programs

- ◆ Dental Hygiene
- ◆ Medical and Research Technology
- ◆ Nursing
- ◆ Pharmacy
- ◆ Physical Therapy

UMBC offers allied health programs to prepare students for clinical training in dental hygiene, medical technology, nursing, pharmacy and physical therapy. These programs involve two to four years of intensive study at UMBC. After completing 63 to 120 credits of required course work and satisfying other requirements (which may include evidence of exceptional promise, volunteer work

and scores on a national entrance examination), students apply to allied health programs in Maryland and throughout the United States.

UMBC's Office for Academic and Pre-professional Advising has full-time advisors for students considering allied health professions. These advisors help students select courses, plan their careers and apply to professional schools.

### Pre-dental Hygiene

Dental hygienists are licensed members of the dental health care team who strive to improve the oral health of the public through preventative services and education.

They have special clinical and educational skills, an aptitude for science and a genuine concern for people.

The Pre-dental hygiene area of concentration usually involves two years of study at UMBC. Students then will complete professional studies at another institution and will not receive a degree from UMBC. The Office for Academic and pre-professional Advising can assist students interested in pursuing the pre-dental hygiene curriculum.

The University of Maryland Dental School at the University of Maryland, Baltimore (UMB) offers a Bachelor of Science in Dental Hygiene. To become eligible for the professional program at UMB, students must complete a minimum of 63 hours in specific coursework at UMBC.

The program description below meets the requirements of the professional school at UMB. Students should become familiar with the requirements of the school from which they eventually wish to obtain the degree to plan a program that will best use time spent at UMBC.

### Requirements

English [6]

Biology [11]

Chemistry [9]

Anatomy and Physiology [8]

Nutrition [3]

Psychology [4]

Sociology [3]

Social Sciences [6]

Humanities [6]

Speech [3]

Statistics [4]

**TOTAL CREDITS 63**

### UMBC Courses

ENGL 100 and one other English writing course

BIOL 100 and 100L, BIOL 275 and 275L

CHEM 123, CHEM 124 and 124L

BIOL 251 and 251L, BIOL 252 and 252L

BIOL 233

PSYC 100

SOCY 101

Psychology, Sociology, Geography, Political Science, Economics, Anthropology, Africana Studies, History

Selected from two of the following areas: Literature, Mathematics, Philosophy, Fine Arts (no studio courses), Foreign Languages, American Studies, Africana Studies

SPCH 100

STAT 121

### Pre-medical and Research Technology

Medical technologists assist in diagnosing and treating disease by applying scientific knowledge and skill to the supervision and accurate performance of complex laboratory, diagnostic and therapeutic procedures. Career opportunities exist for medical technologists in hospitals, private clinics, pharmaceutical research, government and industry.

The professional curriculum usually includes courses in hematology, clinical chemistry, microbiology, immunology and immunohematology (blood banking).

The pre-medical and research technology area of the concentration usually involves only the first two years of study at UMBC. Students then will complete professional studies at another institution and will not receive a degree from UMBC.

The University of Maryland School of Medicine at the University of Maryland, Baltimore (UMB) offers a Bachelor of Science in Medical and Research Technology. To complete the requirements for this degree, students should obtain 66 credits at UMBC. The final two years then are devoted to clinical studies at the University of Maryland School of Medicine. Upon successful completion of the program, a student earns the B.S. degree and is eligible to take the national certification exam given by the American Society for Clinical Pathologists.

The program description below meets the requirements of the professional schools at UMB. Students should become familiar with the requirements of the school from which they finally wish to obtain the degree to plan a program that will best use the time spent at UMBC. The Office for Academic and pre-professional Advising can assist students interested in pursuing the Premedical and research technology curriculum.

<b>Requirements</b>	<b>UMBC Courses</b>
English [6]	ENGL 100 and another ENG course
Chemistry [14]	CHEM 101, CHEM 102 and 102L, CHEM 351 and 351L
Biology [19]	BIOL 100 and 100L, BIOL 275 and 275L, BIOL 251 and 251L, four elective credits in biology
Mathematics [7]	MATH 106 and STAT 121
Guided Electives [3]	CMSC 100 or SPCH 100
Social Sciences [6]	Sociology, Psychology, Economics, Geography, Political Science, Anthropology, Africana Studies
Humanities [3]	Literature, History, Philosophy, Fine Arts (no studio courses), American Studies, Foreign Languages*
Electives [8]	Selected with an advisor. May be selected from CHEM 352 and 352L or PHYS 111 and 112 are recommended

**TOTAL CREDITS 66**

\* Credit for a foreign language will be given for the first elementary semester of a language only if the student has completed the second elementary semester.

**Pre-nursing**

Nurses today have become the primary caregivers in many health care settings. A nurse is generally responsible for the planning, implementation and evaluation of a patient's health plan. Within the profession, a choice of career opportunities exists, including nurse clinician, nurse

educator, nurse researcher, community health nurse, visiting nurse, psychiatric nurse and nurse practitioner. Nurses also find employment in settings outside the hospital or physician's office, including hospice care, occupational health, industrial medicine, public health, quality assurance and risk management. The Prenursing area of concentration usually involves two years of study at UMBC. Students then will complete professional studies at another institution and will not receive a degree from UMBC. The Office for Academic and Pre-professional Advising can assist students interested in pursuing the Prenursing curriculum.

**Requirements UMBC Courses**

English [6]	ENGL 100 and one literature course*
Biology [11]	BIOL 100 and 100L, BIOL 275 and 275L
Chemistry [9]	CHEM 123, CHEM 124 and 124L
Statistics [4]	STAT 121
Mathematics [3]	MATH 106 or higher
Anatomy and Physiology [8]	BIOL 251 and 251L, BIOL 252 and 252L
Nutrition [3]	BIOL 233
Psychology [4]	PSYC 100
Sociology [3]	SOCY 101

Social Science [3]  
Psychology, Sociology, Geography, Political Science, Economics, Anthropology, Social Work, History

Human Growth and Development [3] PSYC 306  
Humanities [9]  
Literature, Foreign Language, Art, History, Music, Mathematics, Philosophy, Speech\*\*

**TOTAL CREDITS 66**

\* See advisor for acceptable courses.  
\*\*Courses must be completed in two different academic areas.

To become eligible for a professional program in nursing, students must complete a minimum of 66 credits in specific coursework. Taking this into consideration, an increasing number of students are planning to complete a bachelor's degree at UMBC prior to continuing their professional studies in nursing at another institution. This option entitles students to assemble a more competitive overall portfolio for nursing program admission.

**UMBC/UMB Nursing Partnership**

For incoming freshmen who are interested in nursing, UMBC is proud to offer a collaborative partnership with the University of Maryland Baltimore (UMB), a premiere school of Nursing in the country. This partnership focuses on enhanced advising, programming and preparation for nursing school while at UMBC. Students are paired with pre-nursing advisors who will mentor them through their academic career and foster a connection between UMBC and the UMB School of Nursing. While at UMBC, students also have the added benefit of collective programmatic opportunities, including site visits to UMB to see classrooms, labs and clinical sites. Eligible students must indicate their intended program of study as Pre-Nursing prior to matriculation at UMBC. As part of this collaboration, each year UMBC secures fifteen seats in the UMB School of Nursing

class, offered to those who have met certain academic requirements. For more information on this exclusive partnership, please contact the Office for Academic and Pre-professional Advising.

**Pre-pharmacy**

The field of pharmacy trains students for the efficient, ethical practice of all branches of pharmacy. Through exposure to general scientific and cultural subjects, students learn to read critically, express themselves clearly and think logically as members of a profession and citizens of a democracy. The curriculum also prepares students for scholarship and research in the healing arts of pharmacy.

The pre-pharmacy concentration involves at least three years of study at UMBC. Given that 81 credits is currently required in terms of preparatory coursework, an increasing number of students are planning to complete a bachelor's degree at UMBC prior to continuing their professional studies in Pharmacy at another institution. This option entitles students to assemble a more competitive overall portfolio for admission. The Office for Academic and Pre-professional Advising can assist students interested in pursuing a Pre-pharmacy curriculum.

The program description below meets the requirements for most nationally accredited pharmacy programs. Yet students should become familiar with the particular requirements of all the programs to which they intend to apply.

**Requirements UMBC Courses**

English [6]	ENGL 100 and one course in world or English literature
Mathematics [8]	MATH 151 and STAT 350

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Biology [11]	BIOL 100 and BIOL 100L, BIOL 251 and BIOL 252, BIOL 275 and BIOL 275L, BIOL 430 or CHEM 437	Clinical experiences are provided in acute/general, chronic/rehabilitation, orthopedic, sports medicine, pediatrics, nursing home, industrial and community health settings. While most clinical placements are offered locally or elsewhere in the Northeastern corridor, opportunities are also available in centers located over a wide geographic area throughout the United States.
Chemistry [19]	CHEM 101, CHEM 102 and 102L, CHEM 351 and 351L, CHEM 352 and 352L	
Physics [8]	PHYS 111 and 112	

### Requirements UMBC Courses

ECON 101		Biology [14]	BIOL 100 and 100L, BIOL 251 and 251L, BIOL 252 and 252L
SPCH 100		Chemistry [9]	CHEM 123, CHEM 124 and 124L or CHEM 101, CHEM 102 and 102L
Humanities [12] English, Fine Arts (no studio courses), Music, Philosophy, Foreign Languages, American Studies, Africana Studies, Ancient Studies		Physics [8]	PHYS 111 and 112
Social Sciences [9] Psychology, Sociology, Geography, History, Political Science, Economics, Anthropology, Africana Studies		Psychology [7]	PSYC 100 and PSYC 285 or PSYC 306
<b>TOTAL CREDITS 81</b>		Statistics [4]	STAT 121

### Pre-physical Therapy

Physical therapists work with people who are disabled by illness or accident or born with a handicap. Practitioners evaluate each patient's ability, disability and potential for recovery. The most common areas of disorder include neuromuscular, musculo-skeletal, sensory motor, and related cardiovascular and respiratory functions.

Students pursuing the Prephysical therapy area of concentration must receive a bachelor's degree from UMBC; while no particular major is required, they must complete a certain selection of courses. The Office for Academic and Pre-professional Advising can assist students interested in pursuing the Pre-physical therapy curriculum.

Other course work [78]

### TOTAL CREDITS 120

A minimum of 100 hours of work or volunteer experience in a physical therapy setting is also required.