

# UMBC Pre-Medical Requirements

The PreMedical and PreDental Advising Office, University Center 116

PreMedical ♦ PreDental ♦ PreOptometry ♦ PrePodiatry ♦ PreVeterinary

[www.umbc.edu/premed](http://www.umbc.edu/premed); Health Professions Advising Coordinator, Ms. Botdorf, [botdorf@umbc.edu](mailto:botdorf@umbc.edu)

Minimum Requirements determined by Medical Schools	UMBC Course Equivalents of Medical School Requirements	UMBC Course Title	Number of Credits at UMBC
8 credits of Biology with Labs	<p><b>Choose two lecture courses (with their labs) from the list below:</b></p> <p>BIOL 302 BIOL 302 Lab --- BIOL 303 BIOL 300 Lab  --- BIOL 305 BIOL 305 Lab</p>	<p>Molecular &amp; General Genetics Genetics Lab (pre-req: 302 lecture) --- Cell Biology*** Experimental Biology Lab (the only lecture/lab combination where the lecture and lab numbers do not match) --- Comparative Animal Physiology Animal Physiology Lab</p>	<p>4.0 credits 2.0 lab credits  4.0 credits 2.0 lab credits  3.0 credits 2.0 lab credits</p>
		<p>*** It is predicted that an increasing number of medical schools will start to require Biochemistry as a prerequisite in the coming years. Given BIOL 303 is a prerequisite for BIOL 430/ Biological Chemistry, students should plan their coursework carefully when choosing between BIOL 303 and BIOL 305. Currently, only 15 out of 132 U.S. medical schools require Biochemistry as a prerequisite for admission. (Source: MSAR, 2011-12).</p> <p>UMBC offers two different Biochemistry courses: Biological Chemistry, BIOL 430 (prerequisites: BIOL 303/Cell Biology and CHEM 352/Organic Chemistry II)</p> <p><b>or</b></p> <p>Comprehensive Biochemistry I, CHEM 437 (prerequisite: CHEM 352. Offered Fall only.)</p>	
<p><b>Transfer students may already have completed pre-medical courses at other institutions and therefore can use those previous courses toward fulfilling the minimum requirements of medical schools. Medical schools evaluate transcripts of all colleges attended and will look at the original course when determining if a student fulfills the minimum requirements.</b></p>			

8 credits of Inorganic Chemistry with Labs	CHEM 101	Principles of Chemistry I	4.0 credits
	CHEM 102 CHEM 102 Lab	Principles of Chemistry II Introductory Chemistry Lab	4.0 credits 2.0 lab credits
8 credits of Organic Chemistry with Labs	CHEM 351 CHEM 351 Lab	Organic Chemistry I Organic Chemistry I Lab	3.0 credits 2.0 lab credits
	CHEM 352 CHEM 352 Lab	Organic Chemistry II (Spring/Summer only) Lab (Spring/Summer only)	3.0 credits 2.0 lab credits
	PHYS 111 PHYS 112	Basic Physics I (combines lecture and lab) Basic Physics II	4.0 credits 4.0 credits
8 credits of Physics with Labs  <b>A student's major determines which physics sequence a student should take, although the 111/112 sequence is preferred.</b>	<b>or</b> PHYS 121 PHYS 122	(Calculus-based) Introductory Physics I  Introductory Physics II (PHYS 122 Lab is not required by medical schools.)	4.0 credits 4.0 credits 4.0 credits
6 credits of College English:			
Composition <b>and</b>	ENGL 100 <b>and</b>	Composition	3.0 credits
Composition or Literature	A second ENGL-prefix Composition or ENGL-prefix Literature course from the UMBC course catalog.	Please see the UMBC course catalog for the entire list of ENGL-prefix composition and ENGL-prefix literature courses.  <b>All courses must have the ENGL-prefix</b>	3.0 credits
6 credits of College Mathematics (must include either MATH 155 <u>or</u> MATH 151)  <b>Math selections depend on math placement exam results and a student's declared major.</b>	<b>Choose one course from the list below:</b> MATH 155 <b>or</b> MATH 151  <b>And, one course from this second list:</b> STAT 350 <b>or</b> MATH 152	Applied Calculus I  Calculus & Analytic Geometry I  Statistics with Applications in Biological Sciences  Calculus & Analytic Geometry II	4.0 credits 4.0 credits 4.0 credits 4.0 credits

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## Pre-Medical Requirement Pre-requisites

Course	Pre-requisites
MATH 155	Qualifying score on UMBC Math Placement Exam. <a href="http://www.umbc.edu/lrc/placement_test.htm">http://www.umbc.edu/lrc/placement_test.htm</a>
MATH 151	Qualifying score on UMBC Math Placement Exam. <a href="http://www.umbc.edu/lrc/placement_test.htm">http://www.umbc.edu/lrc/placement_test.htm</a> or MATH 150
MATH 152	MATH 151
STAT 350	MATH 150 or MATH 155
PHYS 111 (preferred physics sequence, selection depends on a student's declared major)	High school mathematics, including trigonometry or MATH 150
PHYS 112 (preferred physics sequence)	PHYS 111
PHYS 121	Pre- or co-requisite: MATH 151
PHYS 122	PHYS 121. Co-requisite: MATH 152.
CHEM 101	Working knowledge of elementary algebra. Highly recommended: MATH 150.
CHEM 102	CHEM 101
CHEM 102Lab	CHEM 101. Pre- or co-requisite: CHEM 102.
CHEM 351	CHEM 102
CHEM 351Lab	CHEM 102, 102Lab. Pre- or co-requisite: CHEM 351.
CHEM 352 (Offered in Spring/Summer only.)	CHEM 351
CHEM 352Lab	CHEM 351, 351Lab. Pre- or co-requisite: CHEM 352.
BIOL 302	BIOL 141, BIOL 142, CHEM 101. Co-requisite: CHEM 102. Sophomore standing. [BIOL 141, co-requisite: MATH 150 or equivalent] [BIOL 142, pre-requisite: MATH 150 or equivalent]
BIOL 302Lab	BIOL 302
BIOL 303	BIOL 302, CHEM 102
BIOL 300Lab	BIOL 302, CHEM 102, CHEM 102Lab
BIOL 305	BIOL 303
BIOL 305Lab	BIOL 303. Pre- or co-requisite:BIOL305,PHYS112.
ENGL 100	Qualifying score on UMBC Placement Exam. <a href="http://www.umbc.edu/lrc/placement_test.htm">http://www.umbc.edu/lrc/placement_test.htm</a>

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Admission requirements vary slightly among medical schools and therefore, it is a student's responsibility to research the admissions criteria of the medical schools to which they will be applying. The Association of American Medical Colleges (AAMC, [www.aamc.org](http://www.aamc.org)) provides information on various medical school requirements and career information. The AAMC annually publishes the *Medical School Admission Requirements* (MSAR) book, a comprehensive source for medical school admissions information. Copies of AAMC's *Medical School Admission Requirements* (MSAR) book are available at UMBC's Albin O. Kuhn Library. Students may also purchase their own copy from AAMC or log onto each individual medical school's website for detailed information about each school's admission requirements.

NOTE: The science prerequisite courses must be completed before a student takes the Medical College Admission Test (MCAT). UMBC pre-medical students are required to take the MCAT by the end of April; the April that precedes the summer during which they will submit their AMCAS application. Please see the office website, [www.umbc.edu/premed](http://www.umbc.edu/premed), for more detailed information about UMBC's pre-health committee's requirements and recommended MCAT study and completion timelines.

Current UMBC students are encouraged to join the Pre-Medical Society. Please check out the UMBC Student Life website for more information, [www.umbc.edu/studentlife/](http://www.umbc.edu/studentlife/).

## The MCAT Study Phase

**Approximately 26 months prior to expected medical school matriculation (beginning of medical school)**

For in-depth MCAT information, please reference: [www.umbc.edu/premed/medical\\_applying.php](http://www.umbc.edu/premed/medical_applying.php)

The MCAT Study Phase begins when students are completely finished with the prerequisite science courses required by medical schools. Students should be mastering the content of courses as they are taking the classes, so MCAT study technically begins with the first science prerequisite course. To keep the timeline as uncomplicated as possible, the MCAT Study Phase deals with the time frame after students are finished with the science prerequisite coursework.

Most students completely finish the science prerequisites in the Spring or Summer semesters, 26–24 months prior to expected matriculation to medical school. This allows students sufficient MCAT study time prior to sitting for the exam. UMBC students who posted competitive MCAT scores reported that they studied 8–10 hours per week for 30 weeks (the equivalent of two semesters) prior to taking the MCAT.

Students should only take the MCAT exam when they are fully prepared. “Trialing” the MCAT is never recommended, leads to poor scores, and makes it very difficult for an applicant to gain admission. Statistics show that scores on second attempts of the MCAT rarely produce significant increases (Reference: [www.aamc.org/students/mcat/admissionsadvisors/examstatistics/retester/start.htm](http://www.aamc.org/students/mcat/admissionsadvisors/examstatistics/retester/start.htm)). Therefore, adequate and sufficient preparation for the first (and hopefully only) attempt at the MCAT is strongly recommended.