

Advising Information for Students Planning a Career in Medicine (2007-08)

Standard Requirements for Most Medical Schools (prerequisites are listed in parentheses after each course title)
[Compiled from AAMC publication, *Medical School Admission Requirements (MSARTM)*, 2008-2009]

Science Requirements:

Biology: Three to Four courses...

- 151*, Introductory Biology I: How Science Works (no prerequisite) (**OR** AP Biology or International Baccalaureate (IB) credit)
- 152*, Introductory Biology II: How Life Works (no prerequisite) or equivalent (e.g., AP Biology, IB credit, BIOL 141, 142)
[*BIOL 153 (6 cr hrs; no prerequisite) can be taken, in summers only, in place of the two introductory courses (151/ 152).]
- 230, Molecular and Cellular Biology (BIOL 151, 152, & CHEM 120; **OR** CHEM 220)
- **365, Genetics (BIOL 230) (**required by 2 and recommended by 42 of 125 U.S. medical schools)

Chemistry: Four to Five courses...

- 120, General Chemistry I: Structure and Bonding
- 121, General Chemistry II: Introduction to Chemical Analysis (CHEM 120)
- 220, Introduction to Organic Chemistry (CHEM 121)
- 320, Intermediate Organic Chemistry (CHEM 220)
- **366, Basic Biochemistry (BIOL 230 and CHEM 320) (x BIOL 366)
(**required by 13 and recommended by 71 of 125 U.S. medical schools)

Physics: Two Courses (EITHER the algebra-based 113 & 114 **OR the calculus-based 213 & 214)...**

- 113, Principles of Physics I, **AND**
- 114, Principles of Physics II (PHYS 113 or 213)
- 213, Fundamentals of Physics I (MATH 198, may be taken concurrently), **AND**
- 214, Fundamentals of Physics II (PHYS 213 and MATH 199, may be taken concurrently)
- ****Mathematics: One or two courses (197, 198, &/or 199)** (**required by 35 of 125 U.S. med. schools)
- 197, Pre-Calculus (Math placement exam)
- 198, Calculus (MATH 197 or equivalent, such as Math placement exam)
- 199, Calculus II (MATH 198)
- **108, Statistics (Math placement exam, taken during First Year Institute before Fall semester)
(**recommended by several U.S. medical schools)

Typical Frequency of Science and Mathematics Course Offerings at Hiram College

- Courses offered twice/year: **Fall & Spr.:** CHEM 120, 121; MATH 198
- Courses offered once/year: **Fall:** BIOL 151, 230; BIOL/CHEM 366; CHEM 220; MATH 197; PHYS 113, 213
Spr.: BIOL 152, 338, 365; CHEM 320; PHYS 114, 214 **Sum.:** BIOL 153 (6 cr hrs)

Other Required/Recommended Coursework: Each medical school has specific requirements that can be found in the *MSARTM* or at www.aamc.org. Some require/recommend courses in behavioral science, computer science, humanities, and diversity and/or ethics. Many of these courses will be taken by students to satisfy graduation requirements at Hiram.

Preparation for the MCAT: The Medical College Admission Test (MCAT) is offered throughout the year, but the most typical time to take this entrance exam is in mid-April of the second last year of college before matriculation to medical school in the fall after graduation. The MCAT has four parts: Verbal Reasoning (10), Physical Sciences (9), Biological Sciences (10), and a Writing Sample (P). The first three parts are given a numerical score of up to 15 points and the writing sample is scored with letter designations from J through T. The median MCAT scores for applicants accepted in 2006 are indicated in the parentheses above for each part of the exam. The key message in preparing for the MCAT is to study in each of your courses to learn the material for the long term, not simply to do well on the exams in the course. This will enable you to truly review what you have already learned prior to the MCAT rather than trying to learn it all in a “cram” session the semester before you take the test. The MCAT is “a standardized, multiple-choice examination designed to assess the examinee's problem solving, critical thinking, writing skills, and knowledge of science concepts and principles prerequisite to the study of medicine” (*MSARTM*). Thus, you will have to be able to think and use what you have learned more than regurgitating things that you have memorized. More detailed information about the MCAT can be found at <http://www.aamc.org/students/mcat/about/start.htm>.

Possible Majors for Pre-Medical Preparation: Students who are working toward medical school can major in any discipline they want so long as they complete the requirements for admission for a particular school. Previous Hiram graduates from the last decade who were admitted to medical programs have majored in several programs including Biology, Biomedical Humanities, Chemistry, Communications, Philosophy, Religious Studies, and Spanish. The key point is that you can major in anything you desire to get into medical school provided you complete, and do well in, all the requirements for admission, and you show good knowledge of this material through a good performance on the MCAT.

Course Planning: Below is a four year schedule with two options laid out to help you plan your college curriculum. The courses listed are all required or recommended for premed students and must be taken by the spring 12-week session of your third year if you plan to take the MCAT in mid April to allow admission to medical school the year after graduation. Students on an accelerated schedule also will have to accelerate taking these premed requirements in a shorter time frame.

Even though there are two options listed for each term, any combination of these BIOL, CHEM, and PHYS sequences, as well as one or two MATH courses, is fine provided they are completed before taking the MCAT.

The most important decision about your initial course selection process is to begin at least one of the science sequences (BIOL, CHEM, or PHYS) in the fall term of the first year. Once that is begun, fitting in the other premed requirements before mid-April of the third year to be ready for the MCAT will work out fairly well.

Year One:	Year Two:	Year Three:	Year Four:
Fall 12	Fall 12	Fall 12	Fall 12
Pursue premed & degree requirements	Pursue premed & degree requirements	Pursue premed & degree requirements	Finish degree requirements
OPTION 1: FRCL _____ BIOL 151 Introductory Biology I CHEM 120 General Chemistry I	OPTION 1 (cont.): BIOL 230 Molecular/Cellular Biol. CHEM 220 Intro Organic Chem _____	OPTION 1 (cont): PHYS 113 or 213 Physics I MATH 197 or 198 Precalc. or Calc. _____	*BIO/CHE 366 Basic Biochem _____
OPTION 2: FRCL _____ CHEM 120 General Chemistry I _____	OPTION 2 (cont): BIOL 151 Introductory Biology I CHEM 220 Intro Organic Chem (120) MATH 197, Precalc; or 198 Calculus or MATH 108, Statistics	OPTION 2 (cont): BIOL 230 Molecular/Cellular Biol. PHYS 113 or 213 Physics I _____	Application process (cont)... Secondary applications begin in Aug; MCAT scores must be at the medical schools before secondary application is complete and the possibility for an invitation for interview(s) can occur. -Interviewing occurs early Sep--Feb
Fall 3	Fall 3	Fall 3	Fall 3
Pursue degree requirements	Pursue degree requirements	Pursue degree requirements	Finish degree requirements
_____	_____	_____	_____
		*Late Dec: Register for Spr MCAT	
Holiday Break	Holiday Break	Holiday Break	Holiday Break
Study/Review for MCAT	Study/Review for MCAT		
Spring 12	Spring 12	Spring 12	Spring 12
Pursue premed & degree requirements	Pursue premed & degree requirements	Pursue premed & degree requirements	Finish degree requirements
OPTION 1 (cont): FSEM _____ BIOL 152 Introductory Biology II CHEM 121 General Chemistry II	OPTION 1 (cont): BIOL 365 Genetics or _____ CHEM 320 Intermed Org Chem (220) MATH 197, Precalc; or 198 Calculus or MATH 108, Statistics	OPTION 1 (cont): PHYS 114 or 214 Physics II MATH 198 or 199 calculus or calc II _____	_____
OPTION 2 (cont): FSEM _____ CHEM 121 General Chemistry II _____	OPTION 2 (cont): BIOL 152 Introductory Biology II CHEM 320 Intermed Org Chem (220) _____	OPTION 2 (cont): BIOL 365 Genetics or _____ PHYS 114 or 214 Physics II _____	_____
	Study/Review for MCAT	**Take MCAT early to mid-Apr**	BIOL 365 Genetics
Spring 3	Spring 3	Spring 3	Spring 3
Pursue degree requirements	Pursue degree requirements	Pursue degree requirements	Finish degree requirements
_____	_____	_____	_____
Summer	Summer	Summer	Summer
Shadowing a Health Care Provider	Shadowing &/or Research Project	Shadowing &/or Research Project	Preparations for medical school: Moving to medical school;
Study/Review for MCAT	Study/Review for MCAT	Application process begins: primary applications accepted beginning 1 Jun and continuing through fall semester.	