

# MCAT

From the *Preview Guide for the MCAT Exam (Second Edition)*

## ***What is different and exciting about the new (2015) exam?***

- The natural sciences sections of the MCAT exam reflect recent changes in medical education. They test the concepts in biology, general and organic chemistry, biochemistry, and physics that medical school faculty rate as most important to entering students' success. Though undergraduate course offerings differ by institution, these concepts are covered in many undergraduate schools in introductory sequences in biology, general chemistry, organic chemistry, and physics and in first-semester biochemistry courses.
- The MCAT exam includes a section on the social and behavioral sciences: *Psychological, Social, and Biological Foundations of Behavior*. This section tests your knowledge of important introductory psychology and sociology concepts, as well as the introductory biology concepts that relate to mental processes and behavior. The addition of this section to the exam recognizes the importance of socio-cultural and behavioral determinants of health and health outcomes.
- The *Critical Analysis and Reasoning Skills* section asks you to analyze, evaluate, and apply information provided by passages from a wide range of social sciences and humanities disciplines. It does not require specific knowledge of these disciplines, but it tests the analysis and reasoning skills you need for medical school, and may prompt you to read broadly as you prepare. Along with many others, passages about ethics and philosophy, cultural studies, and population health are included.

## ***Four Sections***

The MCAT exam has four test sections:

- 1) *Biological and Biochemical Foundations of Living Systems*,
- 2) *Chemical and Physical Foundations of Biological Systems*,
- 3) *Psychological, Social, and Biological Foundations of Behavior*, and
- 4) *Critical Analysis and Reasoning Skills*

Four scores will be reported: one for each section of the test.

The *Biological and Biochemical Foundations of Living Systems* and the *Chemical and Physical Foundations of Biological Systems* sections are designed to:

- test introductory-level biology, organic and inorganic chemistry, and physics concepts;
- test biochemistry concepts at the level taught in many colleges and universities in first-semester biochemistry courses;
- test cellular/molecular biology topics at the level taught in many colleges and universities in introductory biology sequences;
- target basic research methods and statistics concepts described by many baccalaureate faculty as important to success in introductory science courses; and
- require you to demonstrate your scientific inquiry and reasoning, research methods, and statistics skills as applied to the natural sciences.

The *Psychological, Social, and Biological Foundations of Behavior* section is designed to:

- test your knowledge and use of the concepts in psychology, sociology, and biology that provide a solid foundation for learning in medical school about the behavioral and socio-cultural determinants of health;
- target concepts taught at many colleges and universities in one-semester introductory psychology and one-semester introductory sociology courses;

- target biology concepts that relate to mental processes and behavior that are taught at many colleges and universities in introductory biology;
- target basic research methods and statistics concepts described by many baccalaureate faculty as important to success in introductory science courses; and
- require you to demonstrate your scientific inquiry and reasoning, research methods, and statistics skills as applied to the social and behavioral sciences.

The *Critical Analysis and Reasoning Skills* section is designed to:

- test your comprehension, analysis, and reasoning skills by asking you to critically analyze information provided in reading passages;
- include content from ethics, philosophy, cultural studies, population health, and a wide range of social sciences and humanities disciplines; and
- provide all of the information needed to answer questions in the passages.

More details about the MCAT are found here:

<https://students-residents.aamc.org/applying-medical-school/article/understand-mcat-exam/>

### ***How can W&L students prepare for the MCAT?***

*Biological and Biochemical Foundations of Living Systems* and the *Chemical and Physical Foundations of Biological Systems* sections

Most of the content in these sections of the MCAT is found in these W&L courses:

CHEM 110 General Chemistry

CHEM 241 (or 241S) Organic Chemistry I

CHEM 242 Organic Chemistry II

BIOL 111 & 113 Fundamentals of Biology

BIOL 220 Genetics and/or BIOL 221 Cell Biology

CHEM 341 Biochemistry I OR BIOL 215 Biochemistry of the Cell

PHYS 111,112,113,114 General Physics I & II and Labs

There is some MCAT content in general chemistry and biology that is not covered in these courses. Examples: Ideal gases are not covered in general chemistry; anatomy and physiology of organ systems is not covered in most “themes” of Fundamentals of Biology. **You will have to learn this content on your own.**

*Psychological, Social, and Biological Foundations of Behavior* section

There are multiple combinations of courses taught at W&L that will cover these content areas. A spreadsheet that lists the competencies for this section of the MCAT along with which W&L courses cover the content (and to what extent) is shown in the spreadsheets below.

For example, a student may take SOAN 101 and PSYC 111 and cover all of the content areas in this section of the MCAT. OR, s/he could take NEUR 120 and SOAN 102. There are many combinations of courses that will cover these content areas. POV 101 is another course that prepares students well for this section of the exam. **Students should plan to take any 100-level courses before their junior year, as there are very limited spaces for juniors and seniors.**

Content Category	COURSE NUMBER									
	NEUR 120	PSYC 110	PSYC 111	PSYC 112 Whiting	PSYC 112 Johnson	PSYC 113	PSYC 114	POV 101	POV102	POV 103
6A	+++	+++	+++	++	++		++			
6B	++	+++	+++	+++	+++	+	++	++	++	++
6C	++	++	++	+	+	+	++	++	++	++
7A	++	+++	+++	+	+	+	++			
7B		+	+		+	+++	+++			
7C	+	++	++	++	++	+++	+++			
8A		+	+		+	+++	+++	+	++	+
8B		+	+		+	++	+++	+++	+++	+++
8C		++	++		+	++	+++	+++	+++	+++
9A		+	+		+	++	+	+++	+++	+++
9B		+	+		+	+++	+	++	++	++
10A		+	+		+	+	++	++++	+++	++++
KEY: ++++ = COMPLETE COVERAGE; +++ = STRONG COVERAGE; ++ = MODERATE COVERAGE; + = MINIMAL COVERAGE										

Content Category	COURSE NUMBER								
	SOAN 101	SOAN 102 Chin	SOAN 102 Eastwood	SOAN 180 Chin	SOAN 202	SOAN 228	SOAN 265	SOAN 266	SOAN 268
6A	+	N/A		N/A		+			
6B	+	+		+		+			
6C	++	+		+		+			
7A	+	N/A		+		+			
7B	+++	+++		++	+++	+++			
7C	+++	N/A		N/A	+++	+++			
8A	+++	+++	++	++	+++	+++	+	++	+++
8B	+++	+++	+	+++	+++	+++	+	++	++
8C	+++	+++	+	+++	+++	+++	++	++	++
9A	+++	+++	+++	++	+++	+++	++++	++++	+++
9B	++	+++	+++	++	+++	+++	++++	++++	++++
10A	+++	+++	++++	+++	+++	+++	++	++++	++++
<b>KEY: ++++ = COMPLETE COVERAGE; +++ = STRONG COVERAGE; ++ = MODERATE COVERAGE; + = MINIMAL COVERAGE</b>									

Content/Skill Category	COURSE NUMBER			
	SOAN 277	SOAN 278	SOAN 286	SOAN 288
6A	+++	N/A	+	+++
6B	+++	+	+++	+++
6C	+++	++	+++	+++
7A	+++	+	+++	+++
7B	+++	+++	+++	+++
7C	+++	+	+++	+++
8A	+++	+++	+++	+++
8B	+++	+++	+++	+++
8C	+++	+++	+++	+++
9A	+++	+++	+++	+++
9B	+++	++	++	++
10A	+++	+++	+++	+++
<b>KEY: ++++ = COMPLETE COVERAGE; +++ = STRONG COVERAGE; ++ = MODERATE COVERAGE; + = MINIMAL COVERAGE</b>				