

## Sample Schedule : Chemistry (Non-Comprehensive) Major, Biomedical Sciences (BMS) Minor

First Semester (Fall)		Second Semester (Spring)	
	Hrs		Hrs
CHM 160 General Chemistry I	4	CHM 170 General Chemistry II	3
CHM 161 General Chemistry I Lab	1	CHM 171 General Chemistry II Lab	1
MTH 261 Analytic Geom & Calculus I -OR-	5	MTH 280 Analytic Geom. and Calculus II -OR-	5
MTH 287 Comp. Calculus w/Anal. Geom. I	3	MTH 288 Computational Calculus II	3
BMS 110 Intro to Biomedical Sciences	3	BMS 231 Human Genetics w/ Lab	3
BMS 111 Intro Lab in the Biomedical Sciences	1	ENG 110 Writing I	3
GEP 101 First Year Foundations	2		
<b>Total Hours</b>	<b>14-16</b>	<b>Total Hours</b>	<b>14-16</b>

Third Semester (Fall) *		Fourth Semester (Spring)	
	Hrs		Hrs
CHM 342 Organic Chemistry I *	3	CHM 343 Organic Chemistry II	3
CHM 375 Inorganic Chemistry **	3	CHM 345 Microscale Organic Chem. Lab	2
BMS 307 Human Anatomy	4	BMS 308 Human Physiology	4
COM 115 Fundamentals in Public Speaking	3	ENG 210 Writing II - Writing Across the Disciplines	3
PSY 121 Intro to Psychology	3	CHM 398 Chemical Symposium	1
		SOC 150 Intro to Society	3
<b>Total Hours</b>	<b>16</b>	<b>Total Hours</b>	<b>16</b>

Fifth Semester (Fall)		Sixth Semester (Spring)	
	Hrs		Hrs
CHM 445 Intermediate Organic Chem Lab	2	CHM 302 Intro to Analytical Chemistry	5
CHM 554 Biochemistry I **	3	CHM 556 Biochemistry II ***	3
CHM 555 Biochemistry Lab I **	2	CHM 399 Undergraduate Research	1
PHY 123/203 Intro to/Foundations of Physics I	4-5	PHY 124/204 Intro to/Foundations of Physics II	4-5
BMS 321 Biomolecular Interactions	4	HST 121/122 Survey of US History (Choose one)	3
<b>Total Hours</b>	<b>15-16</b>	<b>Total Hours</b>	<b>16-17</b>

Seventh Semester (Fall)		Eighth Semester (Spring)	
	Hrs		Hrs
CHM 502 Instrumental Analysis **	3	CHM 504 Fundamentals of Physical Chem ***	3
CHM 503 Instrumental Analysis Lab **	1	CHM 505 Fundamentals of Physical Chem Lab	1
CHM 498 Chemistry Careers	1	CHM 492 Program Assessment	0
GEC 111 Humanities Gen. Ed. of Interest	3	PLS 101 American Democracy & Citizenship	3
GEC 112 The Arts Gen. Ed. of Interest	3	GEC 115 Cultural Competence Gen. Ed. of Interest	3
		GEC 116 Public Issues Gen. Ed. of Interest	3
<b>Total Hours</b>	<b>11</b>	<b>Total Hours</b>	<b>13</b>

\*Suggested intersession course (taken week prior to CHM 342): CHM 242 (1 Hr) Preparing for Organic Chemistry.

\*\* Offered only in the Fall.

\*\*\* Offered only in the Spring.

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## Pre-Medicine Fact Sheet

Department of Chemistry  
and Biochemistry

College of Natural and Applied Sciences

[www.chemistry.missouristate.edu](http://www.chemistry.missouristate.edu)

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## Career Preparation

The practice of medicine is devoted to the diagnosis and treatment of disease and trauma. Entry into medical practice may be gained through admission to an allopathic medical school from which the graduate earns an M.D. degree or through admission to an osteopathic medical school from which the graduate earns a D.O. degree. Although there are some differences in education and practice emphases, both types of physicians are licensed health care professionals. Either of the two routes requires a total of about 11 years of formal undergraduate and professional training.

Admission to medical schools remains highly competitive with more students applying than can be admitted. Competitive admission and the long period of educational preparation that is required to become a physician demands that students understand the qualifications and preparations needed to become a viable applicant to medical school. These include a strong personal commitment and a large investment of effort, time and financial resources. Admission becomes possible only when a student possesses high intellectual and personal abilities and demonstrates a record of academic excellence.

Other qualities sought by medical schools include social consciousness, good interpersonal communication skills and a record of community service and leadership.



Activities must demonstrate that the applicant is service- and people-oriented. Medical- and hospital-related experiences demonstrate that the student has the experience to be able to make an informed decision about becoming a physician. Other factors taken into consideration include letters of recommendation, personality, motivation, interview impressions and difficulty of course work. All premedical students are wise to plan for alternate career options while pursuing their undergraduate degree.

## Academic Program

Commitment to a premedical program is a professional intention and does not represent an academic major. However, most premedical students choose a science major that incorporates medical school core requirements. Pre-medical students are also urged to participate in the student Pre-Medical Society and other university-sponsored activities.

## Coursework and the MCAT

Courses selected in the sample schedule on the backside of this flier were chosen to best prepare you for the Medical College Admission Test (MCAT). This course of study also constitutes a Chemistry (non-comprehensive) degree, with a biochemistry emphasis, and a Biomedical Sciences minor.

The MCAT exam has four multiple-choice test sections:

- Chemical and Physical Foundations of Biological Systems
  - o Concepts tested are taught in academic-year-long courses in general chemistry, organic chemistry, introductory physics, introductory biology, and first semester biochemistry.

- Biological and Biochemical Foundations of Living Systems
  - o Concepts tested are taught in academic-year-long courses in general chemistry, organic chemistry, introductory biology, and first semester biochemistry.
- Psychological, Social, and Biological Foundations of Behavior
  - o Concepts tested are taught in academic-year-long courses in biology as well as first-semester psychology and sociology courses.
- Critical Analysis and Reasoning Skills
  - o Concepts tested are learned through exposure to different applications of critical thinking and reasoning skills, including undergraduate courses in the humanities and social sciences.

## Pre-Medical Committee

Missouri State University has a pre-medical committee that conducts interviews of students and prepares committee recommendation letters. These committee letters often carry much more weight than individual letters of recommendation (often only a single committee letter of recommendation is required by medical school in place of three personal letters of recommendation). More information about the Pre-Medical Committee, including the application to request an interview can be found at: <https://www.missouristate.edu/premed/>

## Pre-Medical Society

The Missouri State University Pre-Medical Society is a student organization dedicated to assisting students in their medical school endeavors. The society has members at all stages of their undergraduate careers. They hold regular meetings to help provide information and opportunities to its members in regards to pursuing admission to a medical school. More information about the Pre-Medical Society can be found at: <https://organizations.missouristate.edu/premedsociety/medical-school-preparation.htm>

### Pre-Medical Advisor:

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