

Sample Schedule : Chemistry (Non-Comprehensive) Major, Biology Minor

First Semester (Fall)		Hrs	Second Semester (Spring)		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 287 Comp. Calculus w/Anal. Geom. I		3	MTH 288 Computational Calculus II		3
BIO 121 General Biology I		4	BIO 122 General Biology II		4
GEP 101 First Year Foundations		2	ENG 110 Writing I		3
Total Hours		14	Total Hours		14
Third Semester (Fall) *		Hrs	Fourth Semester (Spring)		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
BIO 235 Genetics		3	BIO 310 Microbiology		5
BIO 236 Genetics Lab		1	ENG 210 Writing II - Writing Across the Disciplines		3
COM 115 Fundamentals in Public Speaking		3	CHM 398 Chemical Symposium		1
PSY 121 Intro to Psychology		3	SOC 150 Intro to Society		3
Total Hours		16	Total Hours		17
Fifth Semester (Fall)		Hrs	Sixth Semester (Spring)		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	
BIO 320 Cellular and Molecular Biology		4	HST 121/122 Survey of US History (Choose one)		3
Total Hours		15-16	Total Hours		16-17
Seventh Semester (Fall)		Hrs	Eighth Semester (Spring)		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
CHM 399 Undergraduate Research		1-3	GEC 116 Public Issues Gen. Ed. of Interest		3
Total Hours		12-15	CHM 399 Undergraduate Research		1-3
			Total Hours		14-17

*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

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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 resources. Admission becomes possible only when a student possesses high intellectual and personal abilities and demonstrates a record of academic excellence and strong work ethic.

Other qualities sought by medical schools include problem-solving, creativity, etc., via research, 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, extra-curriculars, and difficulty of coursework. All pre-medical students are wise to plan for alternate career options while pursuing their undergraduate degree.

Academic Program

Commitment to a pre-medical program is a professional intention and does not represent an academic major; however, most pre-medical 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:
 - 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:

-- Concepts tested are taught in academic-year-long courses in general, organic chemistry, introductory biology, and first-semester biochemistry.

- Psychological, Social, and Biological Foundations of Behavior:

-- 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:

-- Concepts tested are learned through exposure to different applications of critical thinking and reasoning skills, including undergraduate courses in the humanities, social sciences, and research.

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 their members regarding the pursuit of 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-Med Advisor

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