



BIOCHEMISTRY

Students majoring in Biochemistry take a selection of chemistry and biology courses that apply the fundamentals of chemistry to living systems. Students in the major select one of the following concentrations: 1) Research and Industry, 2) Pre-Medical, or 3) Pre-Pharmacy. Biochemistry is a great choice if you are planning a career in the biochemical or pharmaceutical industry, or planning to pursue graduate studies in health care.

\$5,000

SCHMIDLAPP SCHOLARSHIP

Open to incoming freshmen majoring in biology, chemistry, computer science, or math. Based on academic talent and location. The deadline to apply is January 31. Download an application at msj.edu/aid-forms.

100%

CAREER OUTCOMES RATE

100% of Biomedical & Natural Sciences graduates were successfully employed, enrolled in graduate studies, or volunteering within six months of graduation. The knowledge rate for this survey was 80%.

HANDS-ON EXPERIENCE

Under the guidance of faculty, Biochemistry students participate in chemistry research. Students have the opportunity to present their work at regional professional meetings. Cooperative education provides real-world experience in industrial settings or research labs in Greater Cincinnati and has often led to full-time positions.



FURTHER YOUR EDUCATION

Students graduating with a Biochemistry degree may choose to pursue graduate degrees in biochemistry or in health care fields such as medicine, pharmacy, physical therapy, or physician assistant studies. Students may also enter the workforce as a researcher in a biomedical lab. Biochemistry majors work with their academic advisor to identify a career path that aligns with their goals.

CAREERS IN BIOCHEMISTRY

DOCTOR

LAB
TECHNICIAN

PHARMACIST

PHYSICIAN
ASSISTANT

RESEARCH
SCIENTIST

TEACHER



SCAN TO FIND:

- Featured courses
- Program requirements and more!



MOUNT ST. JOSEPH UNIVERSITY®

SCHOOL OF ARTS & SCIENCES

Office of Admission
513-244-4531 | 800-654-9314
msj.edu | admission@msj.edu

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BIOCHEMISTRY MAJOR - PRE-MEDICAL - BACHELOR OF SCIENCE

FIRST YEAR-SEMESTER #1		FIRST YEAR- SEMESTER #2		UNIVERSITY CORE	
BIO 111 Principles of Biology I	4	BIO 112 Principles of Biology II	4	COMMON GOOD	
BIO 111A Prin. of Biology I Lab	0	BIO 112A Prin. of Biology II Lab	0	CORE 115 Common Ground	Code COR
BIO 111R Prin. of Bio Recitation	0	CHE 112 General Chemistry II	3	Justice & the Common Good	Code JCG
CHE 111 General Chemistry I	3	CHE 112A Gen. Chem II Lab	1	Ethics	Code CE
CHE 111A Gen. Chem. I Lab	1	CHE 112R Gen. Chem. II Rec	0	Experiential Learning	Code EXP
CHE 111R Gen. Chem. I Rec	0	COM 100/ ENG 101	3	Core Capstone	Code CCP
MTH 174 Statistics	3	SOC 103 Our Social World	3	HUMANITIES	
PSY 103 Intro to Psychology	3	Core requirement	3	Speech (COM 100)	Code C
CORE 115 Common Ground	3			Writing (ENG 101)	Code C
SECOND YEAR-SEMESTER #1		SECOND YEAR-SEMESTER #2		Literature (ENG)	Code CL
CHE 211 Organic Chemistry I	3	CHE 212 Organic Chemistry II	3	Art or Music	Code CAM
CHE 211A Org. Chem I Lab	1	CHE 212A Org. Chem II Lab	1	History	Code CH
PHY 201 General Physics I	3	CHE 200 Chem. Soph. Seminar	1	Religious Studies	Code CR
PHY 201A Gen. Physics I Lab	1	PHY 202 General Physics II	3	Philosophy	Code CP
CED 220 Foundations of Professionalism	1	PHY 202A Gen. Physics II Lab	1	SCIENCES	
COM 100/ENG 101	3	Core requirement	3	Biology/Chemistry/Physics + Lab	Code CN
Core requirement	3	Core requirement	3	Mathematics	Code CMA
THIRD YEAR-SEMESTER #1		THIRD YEAR-SEMESTER #2		SOC 103 Our Social World	Code CS
CHE 325 Biochemistry I	3	CHE 326 Biochemistry II	3	Choose one discipline:	
CHE 325A Biochem. I Lab	1	CHE 326A Biochem. II Lab	1	ECO 212 Microeconomics	Code CEP
BIO 197/197A or 305/305A or 310/310A or 320/320A	4	CHE 300 Chem. Junior Seminar	1	PSY 103 Psychology	Code CEP
Core requirement	3	BIO 198/198A or 305/305A or 310/310A or 320/320A	4	NOTES	
Core requirement	3	Core requirement	3	Prerequisites:	
Core requirement	3	Elective	3	Chemistry- College preparatory high school chemistry or the successful completion of a placement test.	
FOURTH YEAR-SEMESTER #1		FOURTH YEAR-SEMESTER #2		Math- Three years of college preparatory high school mathematics including functions.	
CHE 314 Inter. Analytical Chem	3	CHE 315 [#] or 360 or elective	3	120 credit hours minimum needed to graduate	
CHE 314A Inter. Analytical Chem Lab	1	CHE 315A [#] or 360A or elective	1	*Students must have an appropriate math placement before enrolling in MTH 174 and CHE 111.	
BIO 197/197A or 305/305A or 310/310A or 320/320A or		CHE 400 Chem. Seminar & Capstone	1	**Curriculum Guide does not replace advising by a faculty member within the Chemistry program**	
Core Capstone	3	BIO 198/198A or 305/305A or 310/310A or 320/320A or			
Elective	3 or 4	Elective	3 or 4		
Core requirement	3	Elective	3		
		Elective	3		

#Students take CHE 315/315A Instrumental Analysis with lab
Or CHE 360/360A Intermediate Inorganic Chem with lab

Students choose two from BIO 197 Human Anatomy & Physiology I; BIO 198 Human Anatomy & Physiology II; BIO 305 Microbiology; BIO 310 Cell Biology; BIO 320 Genetics (all with lab)

BIOCHEMISTRY MAJOR - PRE-PHARMACY - BACHELOR OF SCIENCE

FIRST YEAR-SEMESTER #1		FIRST YEAR- SEMESTER #2		UNIVERSITY CORE	
BIO 111 Principles of Biology I	4	CHE 112 General Chemistry II	3	COMMON GOOD	
BIO 111A Prin. of Biology I Lab	0	CHE 112A Gen. Chem II Lab	1	CORE 115 Common Ground	Code COR
BIO 111R Prin. of Bio Recitation	0	CHE 112R Gen. Chem. II Rec	0	Justice & the Common Good	Code JCG
CHE 111 General Chemistry I	3	MTH 174 Statistics	3	Ethics	Code CE
CHE 111A Gen. Chem. I Lab	1	COM 100/ ENG 101	3	Experiential Learning	Code EXP
CHE 111R Gen. Chem. I Rec	0	SOC 103 Our Social World	3	Core Capstone	Code CCP
MTH 193 Calculus I	4	Core requirement	3	HUMANITIES	
PSY 103 Intro to Psychology	3			Speech (COM 100)	Code C
CORE 115 Common Ground	3			Writing (ENG 101)	Code C
SECOND YEAR-SEMESTER #1		SECOND YEAR-SEMESTER #2		Literature (ENG)	Code CL
CHE 211 Organic Chemistry I	3	CHE 212 Organic Chemistry II	3	Art or Music	Code CAM
CHE 211A Organic Chem I Lab	1	CHE 212A Organic Chem II Lab	1	History	Code CH
PHY 201 General Physics I	3	CHE 200 Chem. Soph. Seminar	1	Religious Studies	Code CR
PHY 201A Gen. Physics I Lab	1	PHY 202 General Physics II	3	Philosophy	Code CP
CED 220 Foundations of Professionalism	1	PHY 202A Gen. Physics II Lab	1	SCIENCES	
COM 100/ENG 101	3	Core requirement	3	Biology/Chemistry/Physics + Lab	Code CN
Core requirement	3	Core requirement	3	Mathematics	Code CMA
THIRD YEAR-SEMESTER #1		THIRD YEAR-SEMESTER #2		SOC 103 Our Social World	Code CS
CHE 325 Biochemistry I	3	CHE 326 Biochemistry II	3	Choose one discipline:	
CHE 325A Biochem. I Lab	1	CHE 326A Biochem. II Lab	1	ECO 212 Microeconomics	Code CEP
BIO 197 Human Anatomy & Physiology I	4	CHE 300 Chem. Junior Seminar	1	PSY 103 Psychology	Code CEP
BIO 197A Human Anatomy & Physiology I Lab	0	BIO 198 Human Anatomy & Physiology II	4	NOTES	
Core requirement	3	BIO 198A Human Anatomy & Physiology II Lab	0	Prerequisites:	
Core requirement	3	ENG 300 Advanced Composition	3	Chemistry- College preparatory high school chemistry or the successful completion of a placement test.	
Core requirement	3	Core requirement	3	Math- Three years of college preparatory high school mathematics including functions.	
FOURTH YEAR-SEMESTER #1		FOURTH YEAR-SEMESTER #2		120 credit hours minimum needed to graduate	
CHE 314 Inter. Analytical Chem	3	CHE 315 [#] or 360 or elective	3	*Students must have an appropriate math placement before enrolling in MTH 193 and CHE 111.	
CHE 314A Inter. Analytical Chem Lab	1	CHE 315A [#] or 360A or elective	1	**Curriculum Guide does not replace advising by a faculty member within the Chemistry program**	
BIO 215 Microbiology or Elective	3/4	CHE 400 Chem. Seminar & Capstone	1		
BIO 215 Microbiology Lab	0	BIO 305 Microbiology or Elective	3/4		
Core Capstone	3	BIO 305A Microbiology Lab	0		
#Students take CHE 315/315A Instrumental Analysis with lab Or CHE 360/360A Intermediate Inorganic Chem with lab					

BIOCHEMISTRY MAJOR - RESEARCH INDUSTRY - BACHELOR OF SCIENCE

FIRST YEAR-SEMESTER #1	FIRST YEAR- SEMESTER #2	UNIVERSITY CORE
BIO 111 Principles of Biology I 4	CHE 112 General Chemistry II 3	COMMON GOOD
BIO 111A Prin. of Biology I Lab 0	CHE 112A Gen. Chem II Lab 1	CORE 115 Common Ground Code COR
BIO 111R Prin. of Bio I Recitation 0	CHE 112R Gen. Chem. II Rec 0	Justice & the Common Good Code JCG
CHE 111 General Chemistry I 3	MTH 194 Calculus II 4	Ethics Code CE
CHE 111A Gen. Chem. I Lab 1	COM 100/ ENG 101 3	Experiential Learning Code EXP
CHE 111R Gen. Chem. I Rec 0	SOC 103 Our Social World 3	Core Capstone Code CCP
MTH 193 Calculus I 4	Core requirement 3	HUMANITIES
CORE 115 Common Ground 3		Speech (COM 100) Code C
SECOND YEAR-SEMESTER #1	SECOND YEAR-SEMESTER #2	Writing (ENG 101) Code C
CHE 211 Organic Chemistry I 3	CHE 212 Organic Chemistry II 3	Literature (ENG) Code CL
CHE 211A Organic Chem I Lab 1	CHE 212A Organic Chem II Lab 1	Art or Music Code CAM
PHY 201 General Physics I 3	CHE 200 Chem. Soph. Seminar 1	History Code CH
PHY 201A Gen. Physics I Lab 1	PHY 202 General Physics II 3	Religious Studies Code CR
CED 220 Foundations of Professionalism 1	PHY 202A Gen. Physics II Lab 1	Philosophy Code CP
COM 100/ENG 101 3	Core requirement 3	SCIENCES
Core requirement 3	Core requirement 3	Biology/Chemistry/Physics + Lab Code CN
THIRD YEAR-SEMESTER #1	THIRD YEAR-SEMESTER #2	Mathematics Code CMA
CHE 350 Physical Chemistry I 3	CHE 326 Biochemistry II 3	SOC 103 Our Social World Code CS
CHE 350A Phys. Chem I Lab 1	CHE 326A Biochemistry II Lab 1	Choose one discipline:
CHE 325 Biochemistry I 3	CHE 355 [#] or elective 3	ECO 212 Microeconomics Code CEP
CHE 325A Biochemistry I Lab 1	CHE 355A [#] 1	PSY 103 Psychology Code CEP
Core requirement 3	CHE 300 Chem. Junior Seminar 1	NOTES
Core requirement 3	BIO 305/305A or 310/310A 4	Prerequisites:
Core requirement 3	or 320/320A 4	Chemistry- College preparatory high school chemistry or the successful completion of a placement test.
FOURTH YEAR-SEMESTER #1	FOURTH YEAR-SEMESTER #2	Math- Three years of college preparatory high school mathematics including functions.
CHE 314 Inter. Analytical Chem 3	CHE 315 [#] or 360 or elective 3	120 credit hours minimum needed to graduate
CHE 314A Inter. Analytical Chem Lab 1	CHE 315A [#] or 360A or elective 1	*Students must have an appropriate math placement before enrolling in MTH 193 and CHE 111.
Core requirement 3	CHE 390 Research Problems in Chemistry 1	**Curriculum Guide does not replace advising by a faculty member within the Chemistry program**
Core Capstone 3	CHE 400 Chem. Seminar & Capstone 1	
Elective 3	BIO 305/305A or 310/310A or 320/320A 4	
#Students take CHE 315/315A Instrumental Analysis with lab or CHE 355/355A Physical Chem. II with lab or CHE 360/360A Int. Inorganic Chem. with lab		
Students choose two from BIO 305 Microbiology; BIO 320 Genetics; BIO 310/310A Cell Biology with lab		

Approved by EJ on 04.03.2025



**MOUNT ST. JOSEPH
UNIVERSITY®**

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Mount St. Joseph University ("the University") is committed to providing an educational and employment environment free from discrimination or harassment on the basis of race, color, national origin, religion, sex, age, disability, sexual orientation, gender identity, veteran status or other minority or protected status. This commitment extends to the University's administration of its admission, financial aid, employment, and academic policies, as well as the University's athletic programs and other University-administered programs, services, and activities.

The University has designated the Vice President of Compliance Risk and Legal Affairs/General Counsel/Title IX Coordinator, (513) 244-4393, as the individual responsible for responding to inquiries, addressing complaints, and coordinating compliance with its responsibilities under Title IX of the Education Amendments of 1972 and other related federal and state civil rights laws. The University has designated the Chief Human Resources Officer, (513) 244-4979, as the individual responsible for responding to inquiries, issues, or complaints relating to discriminatory, harassing, or retaliatory conduct related to race, color, national origin, religion, age, disability, veteran status or any other legally protected status. The University has designated the Associate Provost for Academic Affairs, (513) 244-4614, as the individual responsible for responding for addressing formal complaints regarding compliance with its responsibilities under Section 504 of the Rehabilitation Act of 1973. 09-WO-002903