BIOCHEMISTRY

REQUIREMENTS

CORE CURRICULUM The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at marshall.edu/gened.

CORE 1: CRIT	ICAL THINKING				COF	RE 2:				
CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
FYS 100	First Year Seminar	•	3			ENG 101	Beginning Composition	•	3	
MTH 229	Critical Thinking Course	٠	5		-	ENG 201	Advanced Composition	•	3	
	Critical Thinking Course	٠	3		-	CMM 103	Fund Speech-Communication	•	3	
						MTH 229	Calculus/Analytic Geom I (CT)	• •	5	
Additiona	l University Requirements					BSC 120/L	Principles of Biology I / Lab	• •	3/1	
	Writing Intensive (CHM 357 or 358)		3				Core II Humanities	•	3	
	Writing Intensive		3				Core II Social Science	•	3	
	Multicultural or International		3				Core II Fine Arts	•	3	
CHM 491	Capstone		2							

MAJOR-SPECIFIC

All Biochemistry majors are required to take the following courses:

CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
BSC 121/L	Principles of Biology II / Lab	٠	3/1		-	BSC 322	Principles of Cell Biology	•	4	
CHM 211	Principles of Chemistry I	٠	3			BSC 324	Principles of Genetics	•	4	
CHM 217	Principles of Chemistry I Lab	٠	2		-	PHY 201	College Physics I	•	3	
CHM 212	Principles of Chemistry II	٠	3		-	PHY 202	College Physics I Lab	•	1	
CHM 218	Principles of Chemistry II Lab	٠	2			PHY 203	College Physics II	•	3	
CHM 355	Organic Chemistry I	•	3			PHY 204	College Physics II Lab	•	1	
CHM 356	Organic Chemistry II	٠	3				Biochemistry Elective	•	3-4	
CHM 361	Organic Chemistry II Lab	٠	3				Biochemistry Elective	•	3-4	
CHM 305	Research Methods Chemistry	•	1				Biochemistry Elective	•	3-4	
CHM 358	Physical Chemistry (or 357 in Fall)	٠	4				Biochemistry Elective	•	3-4	
CHM 365	Introductory Biochemistry	٠	3				Free Elective		3	
CHM 366	Intro Biochemistry Lab	•	2				Free Elective		3	
CHM 467	Intermediate Biochemistry	•	3				Free Elective		3	
CHM 491	Capstone	• •	2				Free Elective		2	
CHM 432	Seminar	•	0							

MAJOR INFORMATION

- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.
- In addition to the Core General Education requirements, the College of Science requires 3 hours of Calculus, and 40 hours of upper level credit.
- Coursework listed as "elective" may vary for each student. Students are encouraged to use elective hours toward a 2nd minor or toward prerequisities.
- Students are strongly encouraged to select courses that meet two or more Core or College requirements. For example, a writing intensive literature course could satisfy the Core II Humanities requirement as well as the University writing intensive requirement.
- Course offerings and course attributes are subject to change each semester.
 Please consult each semesters schedule of courses for availability and attributes.
- Math is based on an ACT Mathematics score of 27 or higher. Students with an ACT Mathematics score less than 27 will be placed in the appropriate prerequisite mathematics and science courses.
- CHM 358 or 411 is recommended for students considering graduate school.
- The BSC coursework provides a Biological Sciences minor.
- A Grade Point Average of 2.0 is required 1) overall, 2) at MU, 3) in all required Chemistry courses, 4) in all Chemistry courses, and 5) in all required Chemistry courses taken at MU.
- Biochemistry Electives: Select from the following courses. At least one course must be 4 credit hours, and at least one must be a CHM course. BSC 302, 422, 428, 443, 448, 450, 456, CHM 345, 357, 358, 411, 448, 451, 465, 466.
- Double majors within the Department of Chemistry may include any majors other than the B.S., Major in Chemical Sciences. A double major of Forensic Chemistry with Biochemistry is also currently not permitted.

Area of Emphasis

Major Requirement

College Requirement

BIOCHEMISTRY

Students completing the Biochemistry major will be prepared for career opportunities in the biotechnology, forensics, environmental, pharmaceutical, agricultural, and medical fields. Students will also be well prepared for graduate-level study in biochemistry, biotechnology, and genetics and molecular biology. Additionally, Biochemistry is an excellent choice for students desiring to attend professional training in Medicine, Dentistry, Pharmacy, Law or Engineering.

			FALL SEMESTER						SPRING SEMESTER			
		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
		CHM 211	Principles of Chemistry I	٠	3			BSC 121/L	Principles of Biology II / Lab	٠	3/1	
		CHM 217	Principles of Chemistry I Lab	•	2		-	CHM 212	Principles of Chemistry II	•	3	
E	e	BSC 120/L	Principles of Biology I / Lab	• •	3/1		-	CHM 218	Principles of Chemistry II Lab	٠	2	
NON N		ENG 101	Beginning Composition	•	3			MTH 229	Calculus/Analytic Geom I (CT)	• •	5	
AR		FYS 100	First Year Sem Crit Thinking	•	3							
E/		UNI 100	Freshman First Class		1							
		TOTAL HO	URS		16			TOTAL HO	URS		14	
	Sumi	mer Term (op	tional):									
			FALL SEMESTER						SPRING SEMESTER			
		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
			Core I Critical Thinking	٠	3			BSC 324	Principles of Genetics	•	4	
		CHM 355	Organic Chemistry I	•	3		-	CHM 356	Organic Chemistry II	•	3	
0/	•	ENG 201	Advanced Composition	٠	3		-	CHM 361	Organic Chemistry Lab	•	3	
ΜŢ			Free Elective		3		-	CMM 103	Fund Speech Communication	•	3	
R			Free Elective		3				Core II Fine Arts	•	3	
Έŀ												
	TOTAL HOURS 15				TOTAL HOURS				16			
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			FALL SEMESTER						SPRING SEMESTER			
		CODE	FALL SEMESTER COURSE NAME		HRS	GRADE		CODE	SPRING SEMESTER COURSE NAME		HRS	GRADE
		CODE BSC 322	FALL SEMESTER COURSE NAME Principles of Cell Biology	•	HRS 4	GRADE	•	CODE CHM 366	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab	•	HRS 2	GRADE
ß	,	CODE BSC 322 CHM 305	FALL SEMESTER COURSE NAME Principles of Cell Biology Research Methods Chemistry	*	HRS 4	GRADE	,	CODE CHM 366 CHM 467	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab Intermediate Biochemistry	•	HRS 2 3	GRADE
REE	•	CODE BSC 322 CHM 305 CHM 365	FALL SEMESTER COURSE NAME Principles of Cell Biology Research Methods Chemistry Introductory Biochemistry	* * *	HRS 4 1 3	GRADE		CODE CHM 366 CHM 467 PHY 203	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab Intermediate Biochemistry College Physics II	• • •	HRS 2 3 3	GRADE
THREE	•	CODE BSC 322 CHM 305 CHM 365 PHY 201	FALL SEMESTER COURSE NAME Principles of Cell Biology Research Methods Chemistry Introductory Biochemistry College Physics I	* * *	HRS 4 1 3 3	GRADE	•	CODE CHM 366 CHM 467 PHY 203 PHY 204	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab Intermediate Biochemistry College Physics II College Physics II Lab	* * *	HRS 2 3 3 1	GRADE
.R THREE	•	CODE BSC 322 CHM 305 CHM 365 PHY 201 PHY 202	FALL SEMESTER COURSE NAME Principles of Cell Biology Research Methods Chemistry Introductory Biochemistry College Physics I College Physics I Lab	* * * *	HRS 4 1 3 3 1	GRADE	•	CODE CHM 366 CHM 467 PHY 203 PHY 204	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab Intermediate Biochemistry College Physics II College Physics II Lab Core II Humanities Biochemistry Election	* * * *	HRS 2 3 3 1 3	GRADE
EAR THREE	••• •••	CODE BSC 322 CHM 305 CHM 365 PHY 201 PHY 202	FALL SEMESTER COURSE NAME Principles of Cell Biology Research Methods Chemistry Introductory Biochemistry College Physics I College Physics I Lab Core II Social Science (MC/I)	* * * *	HRS 4 1 3 3 1 3	GRADE		CODE CHM 366 CHM 467 PHY 203 PHY 204	SPRING SEMESTER COURSE NAME Intro Biochemistry Lab Intermediate Biochemistry College Physics II College Physics II Lab Core II Humanities Biochemistry Elective	* * * *	HRS 2 3 3 1 3 3-4	GRADE
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