

MILLERSVILLE UNIVERSITY

Student Name:

Student I.D. #:

DEGREE: BS

MAJOR: CHEM

OPTION: POLY

MAJOR REQUIREMENTS FOR A BS DEGREE IN POLYMER CHEMISTRY

Total credit hours required: 120 minimum

REQUIREMENTS AND POLICIES FOR THE BS CHEMISTRY MAJOR

A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Chemistry major by the Office of Admissions upon admission to the University.
2. Admission into the Chemistry major from other departments is upon approval of the chairperson of the Chemistry Department.
3. Non-degree and continuing education students must be admitted to the Chemistry major by the Office of Admissions.

B. Policies for Retention in the Major

1. University requirements for retention.
2. The student is required to have a 2.00 grade point average in the major courses by the end of the of sophomore year. If not, it is recommended that courses be repeated to achieve a 2.00 average in the major or that there be a change of major.
3. Chemistry majors are required to have a 2.00 grade or better in Chemistry courses required for the major at the 100 and 200 level before proceeding to a new course for which it is a prerequisite. (Currently, these courses include: CHEM 111,112,231,232,251, and 265).

C. Policies for Completion of the Major

1. Completion of all University curricular requirements.

Note to the Student: *This form is provided as a guide. IT is your responsibility to consult regularly with your advisor to be aware of change and curriculum details which are not incorporated on this form.*

MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS CHEMISTRY**
 Option: **POLYMER**
 Major Field Requirements: **59.0 Credits**
 Other Requirements: **22.0 Credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

Course	No.	Short Title	C.H.	Grade	Course	No.	Short Title	C.H.	Grade
REQUIRED CHEMISTRY COURSES (48.0 Credits)					REQUIRED RELATED (22.0 credits)				
CHEM	111	Intro Chemistry I	4.0	_____	Mathematics (12.0 credits)				
CHEM	112	Intro Chemistry II	4.0	_____	MATH	161	Calculus I	4.0	_____
CHEM	188	Freshman Seminar	1.0	_____	MATH	211	Calculus II	4.0	_____
CHEM	231	Organic Chem I	4.0	_____	MATH	311	Calculus III	4.0	_____
CHEM	232	Organic Chem II	4.0	_____	Physics (10.0 credits)				
CHEM	251	Inorganic Chem I	3.0	_____	PHYS	231	Physics I with Calc	5.0	_____
CHEM	265	Quant Analysis	4.0	_____	PHYS	232	Physics II with Calc	5.0	_____
CHEM	341	Physical Chem I	4.0	_____	Suggested general education courses:				
CHEM	342	Physical Chem II	4.0	_____	BUAD 101, BUAD 161, ECON 101, ECON 102,				
CHEM	381	Polymer Chem I	4.0	_____	and two foreign language courses (101 and 102).				
CHEM	452	Inorganic Chem II	3.0	_____	General Electives (as necessary)				
CHEM	465	Analytical Chem	4.0	_____	_____	_____	_____	_____	_____
CHEM	482	Polymer Chem II	4.0	_____	_____	_____	_____	_____	_____
CHEM	487	Seminar in Chem I	0.5	_____	_____	_____	_____	_____	_____
CHEM	488	Seminar in Chem II	0.5	_____	_____	_____	_____	_____	_____
CHEM	498	Independent Study	1.0	_____	_____	_____	_____	_____	_____
CHEMISTRY & RELATED ELECTIVES (min 11.0 Credits)									
CHEM	300	Cooperative Educ	3.0-6.0	_____					
CHEM	400	Cooperative Educ	3.0-6.0	_____					
CHEM	312	Chem in Nanotech	3.0	_____					
CHEM	324	Plant Biochemistry	4.0	_____					
CHEM	326	Biochemistry I	4.0	_____					
CHEM	327	Biochemistry II	4.0	_____					
CHEM	328	Analyt. Biochem Lab	1.0	_____					
CHEM	375	Environmental Chem	4.0	_____					
CHEM	391	Advanced Lab I	1.0	_____					
CHEM	392	Advanced Lab II	1.0	_____					
CHEM	435	Advanced Organic Chem	3.0	_____					
CHEM	476	Environmental Chem II	4.0	_____					
CHEM	486	Topics in Chemistry	1.0-4.0	_____					
CHEM	489	Dept. Honors	1.0-3.0	_____					
CHEM	498	Independent Study	1.0-3.0	_____					
CHEM	499	Dept. Honors	1.0-3.0	_____					
ITEC	271	Proc. Non-Met. Mater.	3.0	_____					
ITEC	375	Poly & Ceramic Tech	3.0	_____					

**BACHELOR OF SCIENCE IN CHEMISTRY
POLYMER CHEMISTRY OPTION
RECOMMENDED PROGRAM**

FIRST SEMESTER

CHEM	111	Intro Chem I	4.0
CHEM	188	Freshman Seminar	1.0
MATH	161	Calculus I	4.0
ENGL	110	English Composition	3.0
_____	_____	Soc. Science Course #1	<u>3.0</u>
		<i>Total S.H.</i>	15.0

SECOND SEMESTER

CHEM	112	Intro Chem II	4.0
MATH	211	Calculus II	4.0
COMM	100	Fund. Of Speech	3.0
CHEM	251	Inorganic I	3.0
_____	_____	Soc. Science Course #2	<u>3.0</u>
		<i>Total S.H.</i>	17.0

THIRD SEMESTER

CHEM	231	Organic I	4.0
PHYS	231	Physics I	5.0
MATH	311	Calculus III	4.0
WELL	175	Wellness	<u>3.0</u>
		<i>Total S.H.</i>	16.0

FOURTH SEMESTER

CHEM	232	Organic II	4.0
PHYS	232	Physics II	5.0
CHEM	265	Quant. Analysis	4.0
_____	_____	Humanities Course #1	<u>3.0</u>
		<i>Total S.H.</i>	16.0

FIFTH SEMESTER

CHEM	341	Physical Chemistry I	4.0
CHEM	381	Polymer Chemistry I	4.0
_____	_____	Humanities Course #2	3.0
ENGL	3XX	Advanced Writing	<u>3.0</u>
		<i>Total S.H.</i>	14.0

SIXTH SEMESTER

CHEM	342	Physical Chemistry II	4.0
CHEM	482	Polymer Chemistry II	3.0
_____	_____	Humanities Course #3	3.0
_____	_____	Soc. Sciences Course #3	3.0
		<i>Total S.H.</i>	13.0

SEVENTH SEMESTER

CHEM	452	Inorganic II	3.0
CHEM	487	Chemistry Seminar	0.5
CHEM	498	Intro to Research (Req)	3.0
CHEM	_____	Chemistry Elective*	4.0
_____	_____	Perspectives Course	3.0
_____	_____	C&E Course #1	<u>3.0</u>
		<i>Total S.H.</i>	14.5

EIGHTH SEMESTER

CHEM	465	Analytical Chemistry	4.0
CHEM	488	Chemistry Seminar	0.5
CHEM	_____	Chemistry Elective*	4.0
ITEC	271	Proc Non-Met Materials	3.0
_____	_____	C&E Course #4	<u>3.0</u>
		<i>Total S.H.</i>	14.5

COMMENTS, NOTES OR RECOMMENDATIONS:

* Students opting for ACS Certification in Polymer Chemistry should take Biochemistry I (CHEM 326).

1. Connections and Exploration (C&E) courses #1 and #4 can be satisfied with any approved GenEd course.
2. Cultural Diversity & Community (D) course may be satisfied with approved courses from the GenEd requirements (including Perspectives), the major, the minor, the required related area, or general electives.

The American Chemical Society (ACS) and the Chemistry Department strongly recommend an Introductory Economics course (ECON 101 or 102, for example) and an Introductory Business Administration course (BUAD 101 or 161, for example) among the Social Science (G3) electives, and Elementary Foreign Language (FORL 101 and 102) among the Humanities (G1) electives. ENGL 312 (Technical Writing) is highly recommended.