

Department of Chemistry

Dr. Jessica Epstein, *Chairperson*

The Chemistry Department offers a Chemistry major (B.S and B.A.), a Medicinal Chemistry major, and a Chemistry major with a concentration in Forensic Science. A minor in Chemistry and Medicinal Chemistry is also offered

Requirements for Chemistry Major

Degree of Bachelor of Science

Twelve of the required credits for the major count towards the Core Curriculum Requirements.

CH-131	General Chem and Qualitative Analysis 1 ¹	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2 ¹	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1
CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1
CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
CH-329	Analytical Chemistry	3
CH-329L	Analytical Chemistry Lab	1
CH-365	Physical Chemistry I	3
CH-365L	Physical Chemistry I Lab	1
CH-366	Physical Chemistry II	3
CH-366L	Physical Chemistry II Lab	1
CH-449	Inorganic Chemistry	3
CH-449L	Inorganic Chemistry Lab	1
CH-460	Instrumental Analysis	3
CH-460L		1
CH-499	Research in Chemistry (Capstone, WI)	3
MA-143	Differential Calculus ²	4
MA-144	Integral Calculus ²	4
MA-273	Multivariable Calculus I	4
PC-185	General Physics I	3
PC-187	General Physics Laboratory I	1
PC-186	General Physics II	3
PC-188	General Physics Laboratory II	1
Total Credits		59

¹ May count towards the Core Natural Science Requirement.

² May count towards the Core Mathematics Requirement.

Requirements for a Chemistry Major with a Concentration in Forensic Science

Twelve of the required credits for the major count towards the Core Curriculum Requirements.

CH-131	General Chem and Qualitative Analysis 1 ¹	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2 ¹	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1

CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1
CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
CH-329	Analytical Chemistry	3
CH-329L	Analytical Chemistry Lab	1
CH-365	Physical Chemistry I	3
CH-365L	Physical Chemistry I Lab	1
CH-366	Physical Chemistry II	3
CH-366L	Physical Chemistry II Lab	1
CH-460	Instrumental Analysis	3
CH-460L		1
CH-499	Research in Chemistry (Capstone, WI)	3
MA-143	Differential Calculus ²	4
MA-144	Integral Calculus ²	4
MA-273	Multivariable Calculus I	4
PC-185	General Physics I	3
PC-187	General Physics Laboratory I	1
PC-186	General Physics II	3
PC-188	General Physics Laboratory II	1
Additional courses:		
BI-183	General Biology I	3
BI-185	General Biology I Lab	1
CH-361	Criminalistics & Forensic Science	3
CH-442	Biochemistry I	3
CJ-170	Intro to Criminal Justice	3
CJ-405	Crime Investigation	3
Total Credits		71

¹ May count towards the Core Natural Science Requirement.

² May count towards the Core Mathematics Requirement.

Special Notes on Requirements for Chemistry Majors

¹ CH-361/BI-361 Criminalistics & Forensic Science is required for the concentration in Forensic Science is a cross-listed course, team-taught by members of the Chemistry and Biology Departments.

² CH-499 Research in Chemistry is a senior research course. For students with a concentration in Forensic Science, this course would be satisfied by an internship in a forensic science laboratory (preferred) or by research on a forensic science topic.

Requirements for Chemistry Major

Degree of Bachelor of Arts

Twelve of the required credits for the major count toward core curriculum requirements.

CH-131	General Chem and Qualitative Analysis 1 ¹	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2 ¹	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1
CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1

CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
CH-329	Analytical Chemistry	3
CH-329L	Analytical Chemistry Lab	1
CH-347	Principles of Physical Chemistry	3.00
CH-442	Biochemistry I	3
CH-442L	Biochemistry 1 Lab	1
CH Elective (choose any 300 or 400 level course) ²		3
MA-132	Statistics for Life Sciences ³	3
MA-133	Calculus for the Life Sciences ³	4
BI-183	General Biology I	3
BI-185	General Biology I Lab	1
BI-184	General Biology II	3
BI-186	General Biology II Lab	1
PC-185	General Physics I	3
PC-187	General Physics Laboratory I	1
PC-186	General Physics II	3
PC-188	General Physics Laboratory II	1
Total Credits		53

¹ May count towards Core Natural Science Requirement.

² Choose any 300 or 400 level Chemistry course as an elective. CH-353 Medicinal Chemistry, CH-355 Polymer Functionality, CH-443 Biochemistry II, CH-449 Inorganic Chemistry, CH-460 Instrumental Analysis or CH-499 Research in Chemistry. (capstone, WI). Note that a capstone course in another discipline must be completed if CH-499 is not completed to satisfy the core requirements,

³ May count towards Core Mathematics Requirement. Students may substitute MA-143 Differential Calculus and MA-144 Integral Calculus.

Requirements for Medicinal Chemistry Major

Degree of Bachelor of Science

CH-131	General Chem and Qualitative Analysis 1 ¹	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2 ¹	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1
CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1
CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
CH-329	Analytical Chemistry	3
CH-329L	Analytical Chemistry Lab	1
CH-347	Principles of Physical Chemistry	3
CH-353	Medicinal Chemistry	3
CH-355	Polymer Functionality	3
CH-372	Synthetic Organic Chemistry	3
CH-442	Biochemistry I	3
CH-442L	Biochemistry 1 Lab	1
CH-443	Biochemistry II	3
CH-443L	Biochemistry II Lab	1
CH-449	Inorganic Chemistry	3

CH-449L	Inorganic Chemistry Lab	1
CH-499	Research in Chemistry (Capstone, WI)	3
MA-143	Differential Calculus ²	4
MA-144	Integral Calculus ²	4
PC-185	General Physics I	3
PC-187	General Physics Laboratory I	1
PC-186	General Physics II	3
PC-188	General Physics Laboratory II	1
Total Credits		63

¹ May count towards the Core Natural Science Requirement.

² May count towards the Core Mathematics Requirement.

Requirements for Chemistry Minor

Six of the required credits for the minor count towards the Core Curriculum Requirements.

CH-131	General Chem and Qualitative Analysis 1 ¹	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2 ¹	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1
CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1
CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
Choose 3 courses (7 credits) 300 or 400 level chemistry courses 2 lectures and 1 lab		7
Total Credits		23

¹ May count towards the Core Natural Science Requirement.

Requirements for Medicinal Chemistry Minor (26 Credits Chemistry)

CH-131	General Chem and Qualitative Analysis 1	3
CH-131L	Gen Chem and Qualitative Analysis 1 Lab	1
CH-132	General Chem and Qualitative Analysis 2	3
CH-132L	Gen Chem and Qualitative Analysis 2 Lab	1
CH-251	Organic Chemistry I	3
CH-251L	Organic Chemistry I Lab	1
CH-252	Organic Chemistry II	3
CH-252L	Organic Chemistry II Lab	1
CH-329	Analytical Chemistry	3
CH-329L	Analytical Chemistry Lab	1
CH-353	Medicinal Chemistry	3
CH-355	Polymer Functionality	3
Total Credits		26

Special Note on Requirements

¹ Biochemistry and Biotechnology majors looking to minor in Medicinal Chemistry must choose an additional 4 credit 300 or 400 level chemistry course not indicated on this list.