

# 2017-2018 Bulletin

## Bachelor of Science in Chemistry

### Biochemistry Track

This document corresponds to the Bulletin 2017-2018. Determine your Bulletin year by performing a Degree Evaluation in Trailhead. Important: this document is an advising tool for students and faculty -- not an official document. Students are responsible for complying with all graduation requirements as stated in the Mines Bulletin that corresponds to your enrollment term.

#### LEGEND

	Required by the Mines Core Curriculum
	Distributed Science Courses

F R E S H M A N  Y E A R	F A L L	4.0 hr. <b>MATH 111</b> Calculus for Scientists and Engineers I <i>Pre-req: Pre-calculus</i>	4.0 hr. <b>CBEN 110</b> Fundamentals of Biology I	4.0 hr. <b>CHGN 121</b> Principles of Chemistry I with Lab	0.5 hr. <b>CSM 101</b> Freshman Success Seminar	3.0 hr. <b>EPIC 151</b> Design (EPICS) I	0.5 hr. <b>PAGN</b> Physical Education <i>(any PAGN course)</i>
	S P R I N G	4.0 hr. <b>MATH 112</b> Calculus for Scientists and Engineers II <i>Pre-req: MATH 111 with a C or better</i>	4.5 hr. <b>PHGN 100</b> Physics I - Mechanics <i>Pre-req: MATH111; Co-Req: MATH112 or MATH113 or MATH122</i>	4.0 hr. <b>CHGN 122</b> Principles of Chemistry II with Lab <i>Pre-req: CHGN 121 with C- or better</i>		4.0 hr. <b>LAIS 100</b> Nature and Human Values	0.5 hr. <b>PAGN</b> Physical Education <i>(any PAGN course)</i>
S O P H O M O R E  Y E A R	F A L L	4.0 hr. <b>MATH 213</b> Calculus for Scientists and Engineers III <i>Pre-req: MATH 112 with a C or better</i>	4.5 hr. <b>PHGN 200</b> Physics II - Electromagnetism & Optics <i>Pre-req: PHGN 100, MATH 213 with C- or better</i>	3.0 hr. <b>CHGN 209</b> Intro to Chemical Thermodynamics <i>Pre-req: CHGN 122 or CHGN 125, MATH 112, PHGN 100</i>	3.0 hr. <b>CHGN 221</b> Organic Chemistry I <i>Pre-req: CHGN 122 or CHGN 125 with C- or better</i>	1.0 hr. <b>CHGN 223</b> Organic Chemistry I Lab	0.5 hr. <b>PAGN</b> Physical Education <i>(any PAGN course)</i>
	S P R I N G	3.0 hr. <b>MATH 225</b> Differential Equations <i>Pre-req: MATH 112 or MATH 122 with a C or better, or concurrent MATH 113</i>	3.0 hr. <b>CHGN 335</b> Instrumental Analysis <i>Pre-req: CHGN 122 with C- or better</i>	3.0 hr. <b>EBGN 201</b> Principles of Economics	3.0 hr. <b>CHGN 222</b> Organic Chemistry II <i>Pre-req: CHGN 221 with C- or better</i>	1.0 hr. <b>CHGN 224</b> Organic Chemistry II Lab	3.0 hr. <b>LAIS 200</b> Human Systems <i>Pre-req: LAIS 100</i>
J U N I O R  Y E A R	F A L L	3.0 hr. <b>CHGN 341</b> Inorganic Chemistry I <i>Pre-req: CHGN 222 and CHGN 209 with C- or better</i>	4.0 hr. <b>CHGN 351</b> Physical Chemistry: A Molecular Perspective I <i>MATH 225, PHGN 200, CHGN 122 and (CHGN 209 or CBEN 210) with C- or better</i>	1.0 hr. <b>CHGN 395</b> Introduction to Undergraduate Research <i>Pre-req: CHGN 222, 224 or consent of Dept Head. Complete Chemistry Curriculum thru spring semester sophomore year</i>	3.0 hr. <b>CHGN 336</b> Analytical Chemistry <i>Pre-req: CHGN 122 and (CHGN 209 or CBEN 210) with C- or better</i>	1.0 hr. <b>CHGN 337</b> Analytical Chemistry Lab	4.0 hr. <b>TECH ELECT*</b> Technical Elective
	S P R I N G	4.0 hr. <b>CHGN 353</b> Physical Chemistry: A Molecular Perspective II <i>MATH 225, PHGN 200, CHGN 122 and (CHGN 209 or CBEN 210) C- or better</i>	2.0 hr. <b>CHGN 323</b> Qualitative Organic Analysis and Applied Spectroscopy <i>Pre-req: CHGN 222 and 224, C- or better</i>	3.0 hr. <b>CHGN 428</b> Biochemistry <i>Pre-req: CHGN 222 or consent of instructor</i>	4.0 hr. <b>CBEN 120</b> Fundamentals of Biology II <i>Pre-req: CBEN 110 or equivalent course</i>		3.0 hr. <b>LAIS/EBGN***</b> H&SS Restricted Elective I
S U M M E R		6.0 hr. <b>CHGN 490</b> Field Session <i>Pre-req: CHGN 323, CHGN 341, and CHGN 351 or consent of instructor</i>					
S E N I O R  Y E A R	F A L L	3.0 hr. <b>CHGN ELECT **</b> Chemistry Elective	3.0 hr. <b>TECH ELECT*</b> Technical Elective	3.0 hr. <b>CHGN 429</b> Biochemistry II <i>Pre-req: CHGN 428 or consent of instructor</i>		3.0 hr. <b>LAIS/EBGN***</b> H&SS Restricted Elective II	3.0 hr. <b>FREE</b> Free Elective
	S P R I N G	2.0 hr. <b>CHGN ELECT **</b> Chemistry Elective	3.0 hr. <b>CHGN 401</b> Inorganic Chemistry II <i>Pre-req: CHGN 341 or consent of instructor</i>		3.0 hr. <b>FREE</b> Free Elective	3.0 hr. <b>LAIS/EBGN***</b> H&SS Restricted Elective III	3.0 hr. <b>FREE</b> Free Elective

#### Notes:

\* Technical Electives are courses in any technical field. LAIS, PAGN, Military Science, ROTC, McBride and the business courses of EBGN are not accepted technical electives.

\*\* Chemistry Electives are non-required courses taught within the Chemistry Department. In addition, graduate level Chemistry and Geochemistry courses taught within the Chemistry Department are acceptable.

\*\*\* The list of courses that qualify for this requirement are revised yearly and posted on the Mines website. At least one of the courses must be at the 400-level; at least one must have an LAIS prefix.

**132.5 Credit Hours**