

**Biochemistry, B.S. (120 Units)**

Valid for Catalog Years: 2018/2019 to 2021/2022

\*Official planning guide approved by the College of Science & Math

For assistance or to schedule an advising appointment, please contact the  
the  
**CSM Advising and Resources Center**  
at 559-278-4150, Science I 136  
**Department of Chemistry:**  
559-278-2103, Science I 380

	Freshman		Sophomore		Junior		Senior	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Units	15	16	17-18	15-17	13-17	15	29-35	
<b>Milestones</b>	CHEM 1A and 1AL	CHEM 1B and 1BL Major Advising	CHEM 128A MATH 75	CHEM 128B BIOL 1A	UDWS BIOL 1B and 1BL PHYS 2A Major Advising	CHEM 102 BIOL 102	CHEM 106(S) CHEM 110A CHEM 155A	
<b>General Education</b>	<b>A1 (3 Units)</b> Oral Communication *Must pass with a C or better	<b>A3 (3 Units)</b> Critical Thinking *Must pass with a C or better	<b>C1 (3-4 Units)</b> Arts	<b>C2 (3-4 Units)</b> Humanities		<b>D2 (3 Units)</b> American Government	<b>E1 (3 Units)</b> Lifelong Understanding & Self Development	<b>ID (3-4 Units)</b> Social, Political, & Economic Institutions
	<b>A2 (3 Units)</b> Written Communication *Must pass with a C or better		<b>D1 (3 Units)</b> American History	<b>C1/C2 (3-4 Units)</b> Arts or Humanities		<b>D3 (3 Units)</b> Social Science	<b>IB (3 Units)</b> Physical Universe & Its Life Forms	
							<b>IC (3-4 Units)</b> Arts & Humanities	
<b>Major</b>	<b>GE Area B1</b> <b>CHEM 1A (3 Units)</b> Physical Sciences [Pre-Req: High school chemistry. May be taken concurrently: GE B4; CHEM 1AL] *Not open to students with credit in CHEM 1B	<b>CHEM 1B (3 Units)</b> [Pre-Req: CHEM 1A & 1AL (both passed with a C or better); CHEM 1BL (may be taken concurrently)]	<b>GE Area B2</b> <b>BIOL 1A (4 Units)</b> Life Sciences	<b>BIOL 1B (3 Units)</b> [Pre-Req: BIOL 1A; first-time enrollees must take BIOL 1BL concurrently]	<b>CHEM 102 (5 Units)</b> [Pre-Req: CHEM 1B (C or better); CHEM 128A]	<b>CHEM 112 (3 Units)</b> [Pre-Req: CHEM 108 or 110A]	<b>CHEM Courses (4-7 Units)</b> Select TWO courses from the following: <b>CHEM 106, 106S, 111, 123, 124, 190, or other approved courses</b> *See course catalog for prerequisite requirements	
	<b>GE Area B3</b> <b>CHEM 1AL (2 Units)</b> Lab [Pre-Req: CHEM 1A (may be taken concurrently)]	<b>CHEM 1BL (2 Units)</b> [Pre-Req: CHEM 1B (may be taken concurrently)]	<b>CHEM 128A (3 Units)</b> [Pre-Req: CHEM 1B or 8 (C or better) or instructor permission]	<b>BIOL 1BL (1 Unit)</b> [Pre-Req: First-time enrollees must take BIOL 1B concurrently]	<b>CHEM 110A (3 Units)</b> [Pre-Req: MATH 76; CHEM 1B, 8 or 128A; PHYS 2B or 4B; MATH 77 & PHYS 4C recommended]	<b>CHEM 155B (3 Units)</b> [Pre-Req: CHEM 150 or 155A]	<b>BIOL Courses (6-7 Units)</b> Select TWO courses from the following: <b>BIOL 102, 103, 104, 120, or other approved courses</b> *See course catalog for prerequisite requirements	

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	Freshman		Sophomore		Junior		Senior	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
<b>Units</b>	<b>15</b>	<b>16</b>	<b>17-18</b>	<b>15-17</b>	<b>13-17</b>	<b>15</b>	<b>29-35</b>	
<b>Major</b>	<b>GE Area B4 MATH 75 (4 Units)</b> Quantitative Reasoning *See course catalog for prerequisite requirements	<b>MATH 76 (4 Units)</b> [Pre-Req: MATH 75 or MATH 75A & B]	<b>PHYS 2B (4 Units)</b> [Pre-Req: PHYS 2A]	<b>CHEM 128B (3 Units)</b> [Pre-Req: CHEM 128A (C or better)]	<b>CHEM 129B (2 Units)</b> [Pre-Req: CHEM 129A; CHEM 128B (may be taken concurrently)]	<b>CHEM 156 (3 Units)</b> [Pre-Req: Senior standing or instructor permission; CHEM 150, 155, or 155A (CHEM 155A may be taken concurrently); CHEM 102 or 105, 129A; UDWS]		
		<b>PHYS 2A (4 Units)</b> [Pre-Req: DS 71, MATH 75, MATH 70, or department permission]		<b>CHEM 129A (2 Units)</b> [Pre-Req: CHEM 8 or 128A (C or better; may be taken concurrently)]	<b>CHEM 155A (3 Units)</b> [Pre-Req: CHEM 128B]			
<b>Additional Graduation Requirements</b>					<b>UDWS (0-4 Units)</b> *Upper Division Writing Exam OR "W" Course (must pass with a C or better)			<b>MI (3 Units)</b> Multicultural/International
								<b>Elective</b>

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**FOOTNOTES:**

**Prerequisites/Corequisites:** Other restrictions may apply. Please see your course catalog for detailed prerequisite/corequisite requirements.

**Grade Requirements:** Biochemistry majors may not take the following courses for CR/NC grading: BIOL 1A, 1B, 1BL, 102, 103, 104, 120; CHEM 1A, 1AL, 1B, 1BL, 102, 106, 106S, 110A, 111, 112, 123, 124, 128A, 128B, 129A, 129B, 155A, 155B, 156, 190; MATH 75, 76; PHYS 2A, 2B.

**Electives (4 units):** Students must earn a minimum of 120 units total to graduate. The number of required elective units may vary, depending on the amount of units earned from major and GE courses.

**Upper Division Writing Skills requirement (UDWS):** All undergraduate students must demonstrate competency in writing skills by passing the Upper Division Writing Exam (UDWE) or by obtaining a C or better in an approved upper division writing course, identified by the letter "W."

**Substitutions:** If substitutions/exceptions/waivers are made for any major courses that also meet GE and/or the Multicultural/International graduation requirement, the student is responsible for completing additional courses to satisfy the respective areas (GE and/or MI). This also includes the upperdivision writing requirement.