Chemistry, B.A. (120 Units)
Valid for Catalog Years: 2018/2019 to 2020/2021
*Official planning guide approved by the College of Science \& Math

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 | 19-20 | 16-17 | 15-16 | 13-17 | 16 | 14-16 | 15-19 |
| Milestones | CHEM 1A and 1AL | CHEM 1B and 1BL Major Advising | CHEM 128A MATH 75 | $\begin{aligned} & \text { CHEM 128B } \\ & \text { BIOL 1A } \end{aligned}$ | UDWS BIOL 1B and 1BL PHYS 2A Major Advising | BIOL 102 | CHEM 108 <br> CHEM 155A |  |
| General Education | A1 (3 Units) <br> Oral Communication *Must pass with a C or better | A3 (3 Units) Critical Thinking *Must pass with a C or better | $\begin{aligned} & \text { C1 (3-4 Units) } \\ & \text { Arts } \end{aligned}$ | C1/C2 (3-4 Units) <br> Arts or Humanities | D1 (3 Units) <br> American History | D2 (3 Units) <br> American Government | E1 (3 Units) <br> Lifelong Understanding \& Self Development | ID (3-4 Units) <br> Social, Political, \& Economic Institutions |
|  | A2 (3 Units) <br> Written Communication <br> *Must pass with a C or better | C2 (3-4 Units) Humanities |  |  |  | D3 (3 Units) <br> Social Science | IB (3 Units) <br> Physical Universe \& Its Life Forms |  |
|  |  |  |  |  |  |  | IC (3-4 Units) <br> Arts \& Humanities |  |
| Major | GE Area B1 <br> CHEM 1A (3 Units) <br> Physical Sciences <br> [Pre-Req: High school chemistry. May be taken concurrently: GE B4; CHEM 1AL] <br> *Not open to students with credit in CHEM 1B | CHEM 1B <br> (3 Units) <br> [Pre-Req: CHEM 1A \& 1AL (both passed with a C or better); CHEM 1BL (may be taken concurrently)] | GE Area B2 <br> BIOL 1A <br> (4 Units) <br> Life Sciences | BIOL 1B <br> (3 Units) <br> [Pre-Req: BIOL 1A; first-time enrollees must take BIOL 1BL concurrently] | BIOL 102 <br> (3 Units) <br> [Pre-Req: BIOL 1A, 1B; Corequisites: CHEM 8 or 128A] | BIOL 103 \& 104, <br> or 120 <br> (4 Units) <br> *See course catalog for prerequisite requirements | CHEM 129B <br> (2 Units) <br> [Pre-Req: CHEM 129A; CHEM 128B (may be taken concurrently)] |  |

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|  | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring |
| Units | 15 | 19-20 | 16-17 | 15-16 | 13-17 | 16 | 14-16 | 15-19 |
| Major | GE Area B3 <br> CHEM 1AL <br> (2 Units) Lab <br> [Pre-Req: CHEM 1A (may be taken concurrently)] | CHEM 1BL <br> (2 Units) <br> [Pre-Req: CHEM 1B (may be taken concurrently)] | CHEM 128A (3 Units) <br> [Pre-Req: CHEM 1B or 8 (C or better) or instructor permission] | BIOL 1BL <br> (1 Unit) <br> [Pre-Req: First-time enrollees must take BIOL 1B concurrently] | CHEM 108 <br> (4 Units) <br> [Pre-Req: MATH 76; CHEM 8 or 128A; PHYS 2A, 2B or 4A, 4AL, 4B, 4BL, 4C; MATH 77 recommended)] | CHEM 155B (3 Units) <br> [Pre-Req: CHEM 150 or 155A] |  |  |
|  | GE Area B4 <br> MATH 75 <br> (4 Units) <br> Quantitative Reasoning <br> *See course catalog for prerequisite requirements | MATH 76 <br> (4 Units) <br> [Pre-Req: MATH 75 or <br> MATH 75A \& B] | CHEM 129A <br> (2 Units) <br> [Pre-Req: CHEM 8 or 128A (C or better; may be taken concurrently)] | CHEM 102 (5 Units) <br> [Pre-Req: CHEM 1B (C or better); CHEM 128A] | $\begin{aligned} & \text { CHEM 155A } \\ & \text { (3 Units) } \\ & \text { [Pre-Req: CHEM } \\ & \text { 128B] } \end{aligned}$ | CHEM 156 (3 Units) <br> [Pre-Req: Senior standing or instructor permission; CHEM 150,155 , or 155 A (CHEM 155A may be taken concurrently); CHEM 102 or 105, 129A; UDWS] |  |  |
|  |  | PHYS 2A <br> (4 Units) <br> [Pre-Req: DS 71, MATH 75, MATH 70, or department permission] | PHYS 2B <br> (4 Units) <br> [Pre-Req: PHYS 2A] | CHEM 128B (3 Units) <br> [Pre-Req: CHEM 128A ( C or better)] |  |  |  |  |
| Additional Graduation Requirements |  |  |  |  | UDWS (0-4 Units) <br> *Upper Division Writing Exam OR "W" Course (must pass with a C or better) |  | Elective | MI (3 Units) <br> Multicultural/ <br> International |

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|  | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring |
| Units | 15 | 19-20 | 16-17 | 15-16 | 13-17 | 16 | 14-16 | 15-19 |
| Additional Graduation Requirements |  |  |  |  |  |  |  | Elective |
|  |  |  |  |  |  |  |  | Elective |
|  |  |  |  |  |  |  |  | Elective |

## FOOTNOTES:

Prerequisites/Corequisites: Other restrictions may apply. Please see your course catalog for detailed prerequisite/corequisite requirements.
Grade Requirements: Chemistry majors may not take the following courses for CR/NC grading: CHEM 1A, 1AL, 1B, 1BL, 102, 108, 128A, 128B, 129A, 129B, 155A, 155B, 156; BIOL 1A, 1B, 1BL, IOL 102, 103, 104, 120 ; MATH 75, 76, MATH 77; PHYS 2A, 2B, 4A, 4AL, 4B, 4BL, 4C.
Electives ( 9 units): Units in this area may be used toward a double major or minor. 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.

