

**Bachelor of Science (BS)**  
**Chemistry**  
**7-12, Teacher Certification**

The 2026-2027 list of core courses can be found in the 2026-2027 Undergraduate Catalog: [www.utrgv.edu/catalog](http://www.utrgv.edu/catalog) > See 'Bachelors Degree Program Regulations'

| Symbols Key  |          |              |                             |               |   |        |      |   |  |  |
|--|----------|--------------|-----------------------------|---------------|---|--------|------|---|--|--|
| Campus: B - Offered in Brownsville; E - Offered in Edinburg; O - Offered Online; T - Travel Required   |          |              |                             |               |   |        |      |   |  |  |
| Bolted Course Number*: Program Admission Requirement   |          |              |                             |               |   |        |      |   |  |  |
| Min Grade: A - Excellent; B - Good; C - Satisfactory; D - Below Average; CR - Credit; P - Passing; S - Satisfactory.   |          |              |                             |               |   |        |      |   |  |  |
| Core: 010 - Communication; 020 - Mathematics; 030 - Life and Physical Sciences; 040 - Language, Philosophy & Culture; 050 - Creative Arts; 060 - American History; 070 - Government/Political Science; 080 - Social and Behavioral Sciences; |          |              |                             |               |   |        |      |   |  |  |
| Core: 090 - Applied Communication and Literacies; Humanities; Leadership; Science Labs; Interdisciplinary; Technologies; Language Diversity & Writing  |          |              |                             |               |   |        |      |   |  |  |
| Year   | Semester | Credit Hours | Campus                      | Course Number | Course Title  | imum G | Core | Prerequisite  | Additional Notes   |  |
| 1  | Fall     | 3            | B/E                         | Choose 1      | Communication   | C      | 010  | Satisfactory scores on English portion of ACT test and TSI examination or ENGL 0301.  | See General Education Core for more details<br>Options: ENGL 1301  |  |
| 1  | Fall     | 3            | B/E/O                       | CHEM 1311     | General Chemistry I   |        | 030  | MATH 1314, MATH 1414, MATH 1342, MATH 1343, MATH 2412, MATH 2413 with a grade of "C" or higher."                                  |  |  |
| 1  | Fall     | 1            | B/E                         | CHEM 1111     | General Chemistry I Lab   |        | 090  | Credit/registration in CHEM 1311  |  |  |
| 1  | Fall     | 3            | B/E/O                       | POLS 2305     | U.S. Federal Government & Politics  |        | 070  |   | See General Education Core for more details.   |  |
| 1  | Fall     | 4            | B/E/O                       | MATH 2413     | Calculus I  | C      | 020  | MATH 2412 with a grade of 'C' or better; or passing the Precalculus Exemption Test administered by the Department of Mathematics. |  |  |
| 1  | Fall     | 1            | B/E                         | UTCH 1101     | Inquiry Approaches to Teaching  | C      |      | Must be in a College of Sciences or BS Integrated Health Sciences majors.   |  |  |
| 1  | Fall     |              | B/E/O                       | UNIV          | 1301 Learning Framework<br>1101 Academic and Career Success<br>1001/1300 Living and Working by Design |        |      |   | As required, based on a number of factors such as credit hours earned, TSI status, high school rank, major declaration, etc. |  |
| 1  | Spring   | <b>15</b>    | <b>Semester Total Hours</b> |               |   |        |      |   |  |  |
| 1  | Spring   | 3            | B/E/O                       | Choose 1      | Communication   | C      | 010  | Satisfactory scores on English portion of ACT test and TSI examination or ENGL 0301.  | See General Education Core for more details<br>Options: ENGL 1302 or ENGL 1305   |  |
| 1  | Spring   | 3            | B/E                         | CHEM 1312     | General Chemistry II  |        | 030  | CHEM 1311.  |  |  |
| 1  | Spring   | 1            | B/E                         | CHEM 1112     | General Chemistry II Lab  |        | 090  | Credit/registration in CHEM 1312.   |  |  |
| 1  | Spring   | 4            | B/E/O                       | MATH 2414     | Calculus II   |        |      | MATH 2413 with a grade of 'C' or better.  |  |  |
| 1  | Spring   | 3            | B/E/O                       | POLS 2306     | Texas Government & Politics   |        | 070  |   | See General Education Core for more details.   |  |
| 1  | Spring   | 1            | B/E                         | UTCH 1102     | Inquiry-Based Lesson Design   | C      |      | UTCH 1101 with a grade of "C" or better or concurrent enrollment with UTCH 3301 and College of Sciences major.                    |  |  |
| 1  | Spring   | <b>15</b>    | <b>Semester Total Hours</b> |               |   |        |      |   |  |  |
| Year   | Semester | Credit Hours | Campus                      | Course Number | Course Title  | imum G | Core | Prerequisite  | Additional Notes   |  |
| 2  | Fall     | 3            | B/E                         | CHEM 2323     | Organic Chemistry I   |        |      | CHEM 1312.  |  |  |
| 2  | Fall     | 1            | B/E                         | CHEM 2123     | Organic Chemistry I Lab   |        |      | CHEM 1112.  |  |  |
| 2  | Fall     | 3            | B/E                         | CHEM 2301     | Analytical Chemistry  |        |      | CHEM 1312 and CHEM 1112.  |  |  |
| 2  | Fall     | 1            | B/E                         | CHEM 2101     | Analytical Chemistry Lab  |        |      | CHEM 2301.  |  |  |
| 2  | Fall     | 3            | B/E/O                       | Choose 1      | Social and Behavioral Sciences  |        | 080  |   | See General Education Core for course options.   |  |
| 2  | Fall     | 3            | B/E/O                       | Choose 1      | Language, Philosophy & Culture  |        | 040  |   | See General Education Core for course options.   |  |
| 2  | Fall     | 3            | O                           | UTCH 3301     | Knowing and Learning in Mathematics and Science   | C      |      | UTCH 1101 and UTCH 1102 with a grade of 'C' or better or concurrent enrollment with UTCH 1102.                                    |  |  |
| 2  | Fall     | <b>17</b>    | <b>Semester Total Hours</b> |               |   |        |      |   |  |  |
| 2  | Spring   | 3            | B/E                         | CHEM 2325     | Organic Chemistry II  |        |      | CHEM 2323.  |  |  |
| 2  | Spring   | 1            | B/E                         | CHEM 2125     | Organic Chemistry II Lab  |        |      | CHEM 2325.  |  |  |
| 2  | Spring   | 3            | B/E/O                       | Choose 1      | American History  |        | 060  |   | See General Education Core for more details.<br>Options: HIST 1301 or HIST 2327  |  |
| 2  | Spring   | 3            | B/E/O                       | Choose 1      | Creative Arts   |        | 050  |   | See General Education Core for course options.   |  |
| 2  | Spring   | 3            | B/E/O                       | Choose 1      | Integrative/Experiential Learning Option  |        | 090  |   | See General Education Core for course options.   |  |
| 2  | Spring   | <b>13</b>    | <b>Semester Total Hours</b> |               |   |        |      |   |  |  |
| 2  | Summer   | 4            | B/E/O                       | PHYS 1401     | General Physics I   |        | 090  | MATH 1414 or MATH 1314, MATH 2412 or MATH 2413  |  |  |
| 2  | Summer   | 3            | B/E                         | BIOL 4392     | Research Methods in the Science and Mathematics Classroom (UTeach)                                    |        |      | Grade C or better in the following: MATH 2413 and UTCH 1102.  |  |  |
| 2  | Summer   | <b>7</b>     | <b>Semester Total Hours</b> |               |   |        |      |   |  |  |

| Year | Semester | Credit Hours | Campus                      | Course Number          | Course Title                            | imum G | Core | Prerequisite   | Additional Notes  |  |
|------|----------|--------------|-----------------------------|------------------------|---|--------|------|--|---|--|
| 3    | Fall     | 3            | B/E/O                       | CHEM 3303 or CHEM 3387 | Biochemistry I or Biochemistry I Honors |        |      | CHEM 2323.   |   |  |
| 3    | Fall     | 1            | B/E                         | CHEM 3103              | Biochemistry I Lab                      |        |      | CHEM 3303.   |   |  |
| 3    | Fall     | 3            | B/E/O                       | Choose 1               | American History                        |        | 060  |  | See General Education Core for more details.<br>Options: HIST 1302 or HIST 2328 |  |
| 3    | Fall     | 3            | B/E                         | UTCH 3302              | Classroom Interactions                  | C      |      | (a) An institutional grade point average of at least 2.75, (b) UTCH 1102 with a grade of 'C' or better, (c) UTCH 3301 with a grade of 'C' or better, and (d) admission to the Teacher Education Program. |   |  |
| 3    | Fall     | 3            | B/E                         | CHEM 3301              | Inorganic Chemistry                     |        |      | 12 hours of chemistry, including CHEM 2323.  |   |  |
| 3    | Fall     | 1            | B/E                         | CHEM 3101              | Inorganic Chemistry Lab                 |        |      | CHEM 3301.   |   |  |
| 3    | Fall     | 14           | <b>Semester Total Hours</b> |                        |   |        |      |  |   |  |
| 3    | Spring   | 3            | B/E                         | CHEM 3304              | Physical Chemistry I                    |        |      | PHYS 1402; MATH 2413 with a grade of "C" or better and pre or co-requisites in <u>MATH 2414</u> .  |   |  |
| 3    | Spring   | 1            | B/E                         | CHEM 3104              | Physical Chemistry I Lab                |        |      | CHEM 3304.   |   |  |
| 3    | Spring   | 4            | B/E/O                       | PHYS 1402              | General Physics II                      |        |      | PHYS 1401.   |   |  |
| 4    | Spring   | 3            | B/E                         | PHIL 3317              | Perspectives on Science and Mathematics |        |      | Credit of "C" or better or registration in UTCH 3302.  |   |  |
| 3    | Spring   | 3            | B/E                         | CHEM 4304              | Instrumental Analysis                   |        |      | CHEM 2301 and CHEM 2101.   |   |  |
| 3    | Spring   | 1            | B/E                         | CHEM 4104              | Instrumental Analysis Lab               |        |      | CHEM 4304.   |   |  |
| 3    | Spring   | 15           | <b>Semester Total Hours</b> |                        |   |        |      |  |   |  |
| Year | Semester | Credit Hours | Campus                      | Course Number          | Course Title                            | imum G | Core | Prerequisite   | Additional Notes  |  |
| 4    | Fall     | 3            | B/E                         | CHEM 3305              | Physical Chemistry II                   |        |      | CHEM 3304  |   |  |
| 4    | Fall     | 1            | B/E                         | CHEM 3105              | Physical Chemistry II Lab               |        |      | CHEM 3304.   |   |  |
| 4    | Fall     | 3            | B/E                         | CHEM 4305              | Chemistry Capstone                      |        |      | Chemistry Major with senior standing or consent of instructor.   |   |  |
| 4    | Fall     | 3            | O                           | READ 4305              | Disciplinary Literacy in the Classroom  |        |      |  |   |  |
| 4    | Fall     | 2            | B/E                         | CHEM 4201              | Chemistry Problems I                    |        |      | Chemistry major with junior standing or consent of instructor.   |   |  |
| 4    | Fall     | 3            | B/E                         | UTCH 3303              | Project-Based Instruction               |        |      | UTCH 3302 with a grade of 'C' or better. Must be officially admitted to the Educator Preparation Program.  |   |  |
| 4    | Fall     | 15           | <b>Semester Total Hours</b> |                        |   |        |      |  |   |  |
| 4    | Spring   | 6            | B/E                         | UTCH 4601              | Apprentice Teaching                     |        |      | UTCH 3303 with a grade of 'C' or better.   |   |  |
| 4    | Spring   | 3            | B/E                         | UTCH 4301              | Apprentice Teaching Seminar             | C      |      | UTCH 3303 with a grade of 'C' or better and admission to clinical teaching.  | UTeach requirement  |  |
| 4    | Spring   | 9            | <b>Semester Total Hours</b> |                        |   |        |      |  |   |  |

120 TOTAL HOURS  
(42) Advanced minimum credit hours