**Chemistry Major Professional Track**

**General Track Catalog Years 2018-2020**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Advisee |  |  | Advisor |  |
| Student ID |  |  | Date |  |

Please use the following notations when you complete the checklist:

 X = course completed

 IP = course in progress

 F19 = intend to register for the course in fall 2019

**Core Curriculum Requirements**

To fulfill Towson University’s Core Curriculum requirements students must

Complete one course from each of the following 14 categories. For further explanation of Core Curriculum Courses, visit: <https://inside.towson.edu/universityrelations/core/corerequirements.cfm>

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| **Core Curriculum Requirements** |
|  | 1. Towson Seminar\* |  |  | 10. Metropolitan Perspectives |
|  | 2. English Composition\* |  |  | 11. The United States as a Nation |
|  | 3. EXEMPT |  |  | 12. Global Perspectives |
|  | 4. Creativity and Creat. Develop. |  |  | 13. Diversity and Difference |
|  | 5. Arts and Humanities |  |  | 14. Ethical Issues and Perspectives |
|  | 6. Social and Behavioral Sciences |  |  |  |
|  | 7. EXEMPT |  |  |  |
|  | 8. EXEMPT |  |  | \****Grade of ‘C’ or better required;***  |
|  | 9. Advanced Writing Seminar\* |  |  | ***all others require ‘D’ or better.*** |

**Core Courses (45 units)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | CHEM | 131/131L | 4 units | General Chemistry I  |
|  | CHEM | 132/132L | 4 units  | General Chemistry II  |
|  | CHEM | 210 | 5 units | Analytical Chemistry  |
|  | CHEM | 310 | 4 units  | InstrumentalAnalysis |
|  | CHEM | 323 | 4 units | Inorganic Chemistry  |
|  | CHEM | 331 | 5 units | Organic Chemistry I |
|  | CHEM  | 332 | 5 units | Organic Chemistry II |
|  | CHEM | 345 | 3 units | Principles of Physical Chemistry |
|  | CHEM | 346 | 3 units  | Theor. Foundations of Physical Chem. |
|  | CHEM | 351 | 3 units | Biochemistry I |
|  | CHEM | 372 | 2 units | Physical Chemistry Laboratory  |
|  | CHEM | 401 | 1 unit | Communication Skills in Chemistry  |
|  | CHEM | 491 | 2 units  | Research in Chemistry  |

**Additional Required Courses (16 units)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MATH | 273  | 4 units | Calculus I  |
|  | MATH | 274 | 4 units | Calculus II |
|  | PHYS | 241 | 4 units | Gen. Physics I ( Calc ) |
|  | PHYS | 242 | 4 units | Gen. Physics II ( Calc )  |

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| 1 | [PHYS 211](https://catalog.towson.edu/search/?P=PHYS%20211) and [PHYS 212](https://catalog.towson.edu/search/?P=PHYS%20212) may be taken in place of [PHYS 241](https://catalog.towson.edu/search/?P=PHYS%20241) and [PHYS 242](https://catalog.towson.edu/search/?P=PHYS%20242), but this is not recommended. For ACS certification of the degree, two semesters of calculus-based physics is required. |

In addition to the required courses listed above, students selecting this track must take a minimum of two additional courses (6 additional units) from the list of electives given below. These 6 units must include at least one CHEM or FRSC course.

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| **Elective Courses**  |
|  | CHEM | 356 | 2 units | Biochemistry Laboratory  |
|  | CHEM | 357 | 3 units | Biochemistry 2  |
|  | CHEM | 391 | 1-3 units | Special Problems in Chemistry  |
|  | CHEM | 461 | 1-3 units | Advanced Lecture Topics  |
|  | CHEM | 462 | 1-2 units | Advanced Laboratory Techniques  |
|  | CHEM | 472 | 3 units | Applications of Environmental Chemistry  |
|  | CHEM | 480 | 3 units | Chemical Toxicology  |
|  | CHEM | 499 | 3units | Honors Thesis in Chemistry  |
|  | FRSC | 363 | 3 units | Chemistry of Dangerous Drugs  |
|  | FRSC | 367 | 3 units | Forensic Chemistry  |
|  | FRSC | 467 | 3 units+ | Forensic Analytical Chemistry |
|  | BIOL  | 408 | 4 units +  | Cell Biology |
|  | BIOL | 409 | 3 Units + | Molecular Biology  |
|  | BIOL | 421 | 4 units+ | Immunology  |
|  | BIOL | 428 | 3 units+  | Virology |
|  | GEOL | 331 | 4 units+  | MINERALOGY |
|  | GEOL | 415 | 4 units + | Hydrogeology |
|  | MATH | 330 | 4 units+ | INTRODUCTION TO STATISTICAL METHODS |
|  | MATH | 374 | 3 units+  | DIFFERENTIAL EQUATIONS |
|  | MBBB | 301 | 4 units  | INTRO TO BIOINFORMATICS |
|  | MBBB | 401 | 3 units+ | ADVANCED BIOINFORMATICS |
|  | PHYS | 307 | 3 units+ | INTRODUCTORY MATHEMATICAL PHYSICS |
|  | PHYS | 311 | 3 units + | MODERN PHYSICS I |
|  | PHYS | 352 | 3 units+  | THERMODYNAMICS AND KINETIC THEORY |
|  | PHYS  | 354 | 4 units+  | ELECTRICITY & MAGNETISM |

# A maximum of 1 unit of CHEM 391 and a maximum of 2 units of CHEM 391 and CHEM 491-4 may be used for elective credit.

**+** Course has prerequisite(s) not listed among the core courses above.

**American Chemical Society (ACS) CERTIFICATION**

Students electing the Professional Track may obtain ACS certification of their degree provided they submit a comprehensive written report on their research (CHEM 491). Students who have taken PHYS 211 & 212 may use these courses for ACS certification provided that an additional advanced Physics elective course is taken.

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| NOTE: A student may repeat no more than three courses, including multiple attempts at the same course, required for the major. This includes all foundation courses, as well as required courses and electives for the major. # repeats: \_\_\_\_\_\_ |

**General Graduation Requirements**

**120 Units Required**

Total units to date including current semester: \_\_\_\_\_\_ units.

**32 Units Upper Division Required**

Total Upper Division units to date including current semester: \_\_\_\_\_\_ units

Current GPA: ­\_\_\_\_\_\_

Expected Graduation Date: \_\_\_\_\_\_

**Advisor Notes:**