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| Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Chemistry Major**Professional Track** **2022-2023** | Student ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Advisee: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Graduation Year: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **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/](https://inside.towson.edu/universityrelations/core/corerequirements.cfm)[universityrelations/core/corerequirements.cfm](https://inside.towson.edu/universityrelations/core/corerequirements.cfm)New Towson University Core Curriculum Requirements 🞏 1. Towson Seminar TSEM 102 (3 units)\* 🞏 2. English Composition\* 🞏 3. EXEMPT 🞏 4. Creativity and creative Development 🞏 5. Arts and Humanities 🞏 6. Social and Behavioral Sciences 🞏 7. EXEMPT 🞏 8. EXEMPT 🞏 9. Advanced Writing Seminar\* **Perspectives (10-14):** One course under Perspectives must be taken in a discipline in the arts and humanities, different from the discipline in requirement 5. One course under Perspectives must be taken in a discipline in the social and behavioral sciences, different from the discipline in requirement 6.🞏 10. Metropolitan Perspectives 🞏 11. The United States as a Nation 🞏 12. Global Perspectives 🞏 13. Diversity and Difference 🞏 14. Ethical Issues and Perspectives \****Grade of ‘C’ or better required; all other core curriculum course require ‘D’ or better.*** | **Major in Chemistry – Professional Track****Required Chemistry Courses (35 Units)**🞏 CHEM 131 General Chemistry I Lecture (3) 🞏 CHEM 131L General Chemistry I Laboratory (1) 🞏 CHEM 132 General Chemistry II Lecture (3) 🞏 CHEM 132L General Chemistry II Laboratory (1) 🞏 CHEM 220 Analytical Chemistry Lecture (3)🞏 CHEM 220L Analytical Chemistry Lab (2)🞏 CHEM 310 Instrumental Analysis (4) 🞏 CHEM 323 Inorganic Chemistry (4) 🞏 CHEM 331 Organic Chemistry I (5) 🞏 CHEM 332 Organic Chemistry II (5) 🞏 CHEM 345 Principles of Physical Chem (3) 🞏 CHEM 346 Theoretical Foundations of Physical Chemistry (3) 🞏 CHEM 351 Biochemistry I (3)🞏 CHEM 372 Physical Chemistry Laboratory (2) 🞏 CHEM 401 Communication Skills in Chemistry (1) 🞏 CHEM 491 Research in Chemistry (2)$**Additional Required Courses (16 units)**🞏 Math 273 Calculus I (4) 🞏 Math 274 Calculus II (4) 🞏 PHYS 241 General Physics I (calculus-based) (4)@ 🞏 PHYS 242 General Physics II (calculus-based) (4)@**$** The required 2 units of CHEM 491 can be satisfied by earning 1  unit in two separate semesters. Additional units may be counted  toward the electives if more than 2 total units are earned.**@** PHYS 211 and PHYS 212 may be taken in place of PHYS 241 and  PHYS 242, but this is not recommended.**Major Electives (at least 6 units)***See reverse side for list of elective courses.*    |
|  | **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. |

**Chemistry Major – Professional Track Elective Courses (at least 6 units)**

**At least 6 units selected from the following list.**

**At least one course must be a CHEM or FRSC course.**

🞏 CHEM 356 Biochemistry Lab (2)

🞏 CHEM 357 Biochemistry II (3)

🞏 CHEM 391 Special Problems in Chemistry (1)#

🞏 CHEM 461 Advanced Lecture Topics (1-3)

🞏 CHEM 462 Advanced Laboratory Techniques (1-2)

🞏 CHEM 472 Applications of Environmental Chemistry (3)

🞏 CHEM 480 Chemical Toxicology (3)

🞏 CHEM 491 Research in Chemistry (1-2)#

🞏 CHEM 499 Honors Thesis in Chemistry (3)#

🞏 FRSC 363 Chemistry of Dangerous Drugs (3)

🞏 FRSC 367 Forensic Chemistry (3)

🞏 FRSC 467 Forensic Analytical Chemistry (3)

🞏 BIOL 408 Cell Biology (4)**+**

🞏 BIOL 409 Molecular Biology (3)**+**

🞏 BIOL 421 Immunology (4)**+**

🞏 BIOL 428 Virology (3)**+**

🞏 GEOL 331 Mineralogy (4)**+**

🞏 GEOL 415 Hydrogeology (4)

🞏 MATH 330 Introduction to Statistical Methods (4)

🞏 MATH 374 Differential Equations (3)

🞏 MBBB 301 Intro to Bioinformatics (4)

🞏 MBBB 401 Advanced Bioinformatics (3)**+**

🞏 PHYS 307 Introductory Mathematical Physics (3)

🞏 PHYS 311 Modern Physics I (3)

🞏 PHYS 352 Thermodynamics and Kinetic Theory (3)

🞏 PHYS 354 Electricity and Magnetism (4)**+**

# 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.

Note

A Student may repeat no more three courses required for the Chemistry Major. This includes all required courses and electives for the major. # repeats \_\_\_\_\_