**Chemistry Summary Curriculum Map**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **If the course requires students to produce an artifact demonstrating student learning relevant to the outcome, indicate by placing the appropriate letter in the box (I = Introduced; D = Developed; M = Mastered). This form should be completed in concert with the “Student Learning Evidence Inventory” forms.** | | | | | | | | | | | | | | | | | | | | |
|  | **CHEMISTRY COURSES** | | | | | | | | | | | | | | | | **CO-REQUISITES** | | | |
| **MATH** | | **PHYSICS** | |
| **LEARNING OUTCOMES** | 131 | 132 | 231 | 232 | 301 | 320 | 330 | 331 | 332 | 345 | 378 | 394 | 425 | 431 | 445 | 478 | 118/119 or 121 | 122 | 220/ 231 | 221/ 232 |
| 1. Master content in organic, physical, analytical, and inorganic chemistry by:    1. Describing chemical and physical structures,    2. Problem solving using mathematical models, and    3. Analyzing and describing the nature of chemical reactions and energy | I | I\* | I | D\* | D | D | D | D | D\* | D | D | D | M | M\* | D | M\* | I | I | I | I |
| 1. Be independent learners, by searching and explaining the chemical literature and other scientific resources in order to teach themselves new concepts | I | I\* | I | D |  |  | D\* | D | D | D | D | D\* | M | M | D | M\* |  |  |  |  |
| 1. Measure and characterize properties of matter using a variety of research-level chemical instrumentation, laboratory techniques, statistical and computational methods | I | I\* | I | D | D | D | D\* | D |  |  | D |  |  | M\* |  | M\* |  |  | I | I |
| 1. Display effective cooperation with others on projects in various learning and work environments | I | I\* |  |  |  | D | D\* | D |  |  |  |  |  | M\* |  |  |  |  |  |  |
| 1. Design and conduct original laboratory, computational or theoretical experiments and analyze the results leading to the capstone research project |  | I\* |  | I |  |  | D\* | D |  |  | D |  |  | M |  | M\* |  |  |  |  |
| 1. Clearly communicate experimental motivations and results through oral and written means | I | I | I | I\* | D | D | D | D\* |  |  | D | M\* | M | M |  | M\* |  |  |  |  |
| 1. Demonstrate professional integrity, safety, and environmental stewardship | I\* | I | I | D | D | D | D\* | D |  |  | D |  |  | M\* |  | M |  |  |  |  |