# COURSE OUTCOME MATRIX
# COURSE SYLLABUS
# PART 2 of 3

| | |
|---|---|
| Course Number and Title | SC109 ~General Physical Science I |

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|---|---|
| Credit Hours | 4 |

| | |
|---|---|
| Course Description | Laboratory Course: 3 hours in the classroom and 2 hours lab work each week.<br>An introductory and conceptual study of basic physics and astronomy designed to increase one's awareness of the physical universe. The **physics** component focuses on mechanics, thermodynamics, waves, electricity, and magnetism. The **astronomy** component concerns the solar system and Milky Way galaxy, as well as the formation of the universe. This course is not intended for science majors. |

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| Prerequisite(s) and/or Corequisite(s) | MT 121 or MT 121E or MT 124A or minimum acceptable test scores for placement in college-level math (quantitative reasoning). |

Required Textbooks/References/Course Materials:

| | | | | |
|---|---|---|---|---|
| Physical Science (Looseleaf) - With Connect | 12th | Tillery, Bill W. | McGraw-Hill Publishing Company | 1260699250 |
| Physical Science - Connect Plus Access | 12th | Tillery, Bill W. | McGraw-Hill Publishing Company | 1260411281 |
| Physical Science (hardback) | 12th | Tillery, Bill W. | McGraw-Hill Publishing Company | 1260150542 |

| | **General Education Outcomes** |
|---|---|
| **1** | Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology). |
| **2** | Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking). |
| **3** | Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency). |
| **4** | Communicate in appropriate ways with those who are culturally diverse (intercultural competence). |

| | **Program/Department Outcomes** |
|---|---|
| **1** | Students demonstrate a broad knowledge of science. |
| **2** | Students demonstrate how science processes work |
| **3** | |
| **4** | |
| **5** | |
| **6** | |
| **7** | |
| **8** | |
| **9** | |
| **10** | |

| | Course Outcomes (CO) | Bloom's Domain for CO (C, A, P), Category, and Level | Program/ Department Outcome(s) | Written Language | Verbal Language | Information Technology | Critical Thinking | Quantitative Literacy and Fluency | Intercultural Competence |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Apply mathematic principles and use metric measurement to translate and use mathematic formulas and identify givens in word problems | C-Understanding (1) | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2 | Perform laboratory exercises while displaying safe laboratory practices and | P-Manipulate (2) | 1,2 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3 | Write laboratory exercise summaries | C-Understanding (2) | 1,2 | 1 | 0 | 0 | 1 | 1 | 0 |
| 4 | Define basic motion terminology and apply all Newton's Laws of motion in order to calculate problems involving momentum, impulse, work and power | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 5 | Define and understand concepts of optics, waves, light and the electromagnetic spectrum | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 6 | Define and understand concepts of heat, energy and temperature | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 7 | Define and understand fluids and the concepts of density, buoyancy and pressure | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 8 | Define and understand electricity and magnetism | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 9 | Define and use astronomical terminology and various astronomical diagrams and charts | C-Understanding (2) | 1 | 1 | 0 | 0 | 1 | 0 | 0 |

Bloom's Domain Legend
C = Cognitive
A = Affective
P = Psychomotor

General Education Outcome Legend
2 = Included and Measurable
1 = Introduced and/or Minimally Addressed and Not Measurable
0 = Not included

Approved: October 14, 2021
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