

## 2019-20 Student Learning Assessment Report, Academic

|   |                         |   |  |                                      |
|---|-------------------------|---|--|--------------------------------------|
| <b>Program:</b><br>Applied Physics  | <b>Degree:</b><br>Major | <b>Department Head:</b><br>John Moustakas | <b>Submitted By:</b><br>John Moustakas | <b>Date Submitted:</b><br>10/19/2020 |
| <b>Mission:</b><br>The Department of Physics & Astronomy aims to develop in students a thorough understanding of the laws of physics and their applications to engineering problems. It fosters an understanding and appreciation of the meaning and significance of the laws of physics and their relevance to broader society; the ability to apply the laws of physics to real world situations to solve problems analytically and numerically; to think and write critically; to design experiments and analyze and present data and results; and hands-on experience with current research techniques employed in physics and applied physics. |                         |   |  |                                      |
| <b>1. Major/Program Student Learning Outcomes</b> Students will be able to...   |                         | <b>2. Phase</b>                           |  |                                      |
| 1. Students will understand the fundamental concepts and theories of physics and how they are applied to engineering.   |                         | Planning                                  |  |                                      |
| <b>3. Assessment Procedures</b> (Planning/ determining)<br><b>Method: (ex. tests, presentations, research paper)</b><br><br>TBD   |                         |   |  |                                      |
| <b>Using a Sample of Students?</b>  |                         |   |  |                                      |
| <b>If yes, describe your sample.</b>  |                         |   |  |                                      |
| <b>When does assessment occur?</b>  |                         |   |  |                                      |
| <b>How often does assessment occur?</b>   |                         |   |  |                                      |
| <b>Criteria</b> (How do you know students are achieving learning outcome?)<br><br>This is a brand new major / program and so we are still in the process of determining how to best assess this learning goal.  |                         |   |  |                                      |
| <b>1. Major/Program Student Learning Outcomes</b> Students will be able to...   |                         | <b>2. Phase</b>                           |  |                                      |
| 2. Students will develop strong analytical skills and facility with mathematical and numerical modeling.  |                         | Planning                                  |  |                                      |
| <b>3. Assessment Procedures</b> (Planning/ determining)<br><b>Method: (ex. tests, presentations, research paper)</b>  |                         |   |  |                                      |

TBD

**Using a Sample of Students?**

**If yes, describe your sample.**

**When does assessment occur?**

**How often does assessment occur?**

**Criteria** (How do you know students are achieving learning outcome?)

This is a brand new major / program and so we are still in the process of determining how to best assess this learning goal.

**1. Major/Program Student Learning Outcomes** Students will be able to...

**2. Phase**

3. Students will design, build, and troubleshoot experiments, and they will gain competency with both the instrumentation and data-visualization software that are frequently encountered in the engineering workplace.

Planning

**3. Assessment Procedures** (Planning/ determining)  
**Method:** (ex. tests, presentations, research paper)

TBD

**Using a Sample of Students?**

**If yes, describe your sample.**

**When does assessment occur?**

**How often does assessment occur?**

**Criteria** (How do you know students are achieving learning outcome?)

This is a brand new major / program and so we are still in the process of determining how to best assess this learning goal.

**1. Major/Program Student Learning Outcomes** Students

**2. Phase**

|  |                 |
|--|-----------------|
| will be able to...   |                 |
| 4. Students will learn to assess the validity of experimental data and assess the uncertainties in these data.   | Planning        |
| <b>3. Assessment Procedures</b> (Planning/ determining)<br><b>Method: (ex. tests, presentations, research paper)</b><br>TBD  |                 |
| <b>Using a Sample of Students?</b>   |                 |
| <b>If yes, describe your sample.</b>   |                 |
| <b>When does assessment occur?</b>   |                 |
| <b>How often does assessment occur?</b>  |                 |
| <b>Criteria</b> (How do you know students are achieving learning outcome?)<br>This is a brand new major / program and so we are still in the process of determining how to best assess this learning goal. |                 |
| <b>1. Major/Program Student Learning Outcomes</b> Students will be able to...  | <b>2. Phase</b> |
| 5. Students will be able to effectively communicate their solutions to physics and engineering-oriented problems and experiments in written and oral form.   | Planning        |
| <b>3. Assessment Procedures</b> (Planning/ determining)<br><b>Method: (ex. tests, presentations, research paper)</b><br>TBD  |                 |
| <b>Using a Sample of Students?</b>   |                 |
| <b>If yes, describe your sample.</b>   |                 |
| <b>When does assessment occur?</b>   |                 |
| <b>How often does assessment occur?</b>  |                 |

**Criteria** (How do you know students are achieving learning outcome?)

This is a brand new major / program and so we are still in the process of determining how to best assess this learning goal.