Spring 2017

Physics Discipline 5-Year Assessment Plan 2016-2021

Physics Discipline

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The physics will lead to the following student learning outcomes, as appropriate to the specifications in the curriculum:

1. Students will demonstrate an understanding of the concepts of classical and modern physics.

2. Students will demonstrate skill solving quantitative physics problems.

3. Students will demonstrate skill performing, understanding, analyzing, and interpreting physics experiments.

4. Students will demonstrate skill communicating the methods and results of scientific work in physics, both orally and in writing.
<table>
<thead>
<tr>
<th>Program Student Learning Outcome(s) to be assessed</th>
<th>How will you measure the outcome?</th>
<th>Where will the data be collected and by whom?</th>
<th>When will the data be collected?</th>
<th>Overlap with CSLOs?* If yes, which CSLO?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016-17</strong> Phys 1091 Principles of Physics I – PSLOs 1 and 2 Phys4901/2 Senior Thesis I and II- PSLO 4</td>
<td>The course instructors will measure the outcome by scoring, recording, and interpreting specific problems, laboratory reports, oral presentations, and written reports. The data will be collected throughout the semester during which the course is taught.</td>
<td>No report to assessment committee due.</td>
<td></td>
<td>Yes, CSLOs 1, 2 and 4</td>
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<tr>
<td><strong>2017-18</strong> Phys1092 Principles of Physics 2 -- PSLOs 1 and 2 Phys1101 General Physics 1 – PSLO 3 Phys2101 Modern Physics – PSLO 3</td>
<td>The course instructors will measure the outcome by scoring, recording, and interpreting specific problems, laboratory reports, oral presentations, and written reports. The data will be collected throughout the semester during which the course is taught.</td>
<td>Report due at the end of this period for 16/17 and 17/18</td>
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<td>Yes, CSLOs 1, 2 and 4</td>
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<td><strong>2018-19</strong> Phys1102 General Physics 2 Both for PSLOs 1 and 2 One upper-level course (tbd) for PSLOs 1 and 2 Phys2201 Circuits – PSLO 3 Phys4901/2 Senior Thesis I and II- PSLO 4</td>
<td>The course instructors will measure the outcome by scoring, recording, and interpreting specific problems, laboratory reports, oral presentations, and written reports. The data will be collected throughout the semester during which the course is taught.</td>
<td></td>
<td></td>
<td>Yes, CSLOs 1, 2 and 4</td>
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<tr>
<td>Year</td>
<td>Course Code</td>
<td>Course Title</td>
<td>PSLOs</td>
<td>CSLOs</td>
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<tr>
<td>2019-20</td>
<td>Phys1092</td>
<td>Principles of Physics 2</td>
<td>Both for PSLOs 1 and 2</td>
<td>Yes, CSLOs 1, 2 and 4</td>
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<td></td>
<td>One upper-level course for PSLOs 1, 2 and/or 4</td>
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<td>Phys3401 Optics for PSLO 3</td>
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<tr>
<td></td>
<td>Phys1102</td>
<td>General Physics 2 -- PSLOs 1 and 2</td>
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<td>Yes, CSLOs 1, 2 and 4</td>
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<td></td>
<td>One upper-level course for PSLOs 3 and/or 4</td>
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<td>Phys4901/2 Senior Thesis I and II- PSLO 4</td>
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</tbody>
</table>

*CSLOs are Campus Student Learning Outcomes. These are reprinted below for your convenience. Your PSLOs need not overlap with CSLOs, but if your PSLO does reinforce or overlap with a CSLO, please report that information.*
Please report any other planned assessment for your academic program in the space below:
UMM Campus Student Learning Outcomes (CSLOs)
Approved Unanimously by the Curriculum Committee, December 10, 2009
Approved by Campus Assembly, March 3, 2010

The University of Minnesota, Morris’s goal is for students to have gained, by the time of graduation:

1. Knowledge of Human Cultures and the Physical and Natural World through:
   a) Core studies in the liberal arts: arts, histories, humanities, languages, mathematics, sciences, and social sciences
   b) In-depth study in a particular field: its schools of thought, advanced theories, language, and methods of inquiry
   c) Engagement with big questions, both contemporary and enduring

2. Intellectual and Practical Skills, practiced extensively across students’ college experiences, including:
   a) Inquiry and analysis
   b) Critical thinking and problem-solving
   c) Creative thinking and artistic expression
   d) Written, multi-media, and oral communication
   e) Quantitative literacy
   f) Information and technology literacy
   g) Collaboration

3. An Understanding of the Roles of Individuals in Society, through active involvement with diverse communities and challenges, including:
   a) Civic knowledge and engagement—local and global
   b) Intercultural knowledge and competence
   c) Aesthetic/artistic engagement
   d) Environmental stewardship
   e) Ethical reasoning and actions

4. Capacity for Integrative Learning, including:
   a) Synthesis and advanced accomplishment across general and specialized studies, and through coand extra-curricular activities
   b) Application of knowledge, skills, and responsibilities to new settings and progressively more complex problems
   c) Skills for sustained learning and personal development