### Course SLO Assessment Report - 4-Column

**El Camino College**

**El Camino: Course SLOs (NSC) - Physics**

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<tbody>
<tr>
<td><strong>El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 11 - Descriptive Introduction to Physics - SLO #1 Applying Relevant Principles</strong> (Given a description of a physical situation (floating ice cube, falling body,...) the student should be able to recognize the basic physical principles involved in order to correctly answer conceptual questions. (Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))</td>
<td><strong>Assessment Method Description:</strong> A quiz consisting of multiple choice questions will be given to the class. See attached document (SLO#1_PHYS 1A_ Sp 14_QUIZ.docx).</td>
<td><strong>07/11/2014 -</strong> Refer to &quot;SLO#1_PHYS11_SP14_QUIZ.PDF&quot;. Refer to &quot;Assessment Data and Analysis_SLO#1_P11.docx&quot;</td>
<td><strong>07/11/2014 -</strong> As a result of previous SLO analyses, faculty has discussed the need to improve the instruction of conceptual basic principles of physics. The results of this SLO indicate students basic ideas of mass and weight as well as those related to Newton's First Law of Motion are adequate. We need to continue to put emphasis on the teaching of basic concepts of physics to our students. <strong>Action Category:</strong> Teaching Strategies</td>
</tr>
</tbody>
</table>
| **Course SLO Assessment Cycle:** 2013-14 (Spring 2014)                                                                                       | **Standard Met?** : Yes                                                                                                           | **Semester and Year Assessment Conducted:** 2013-14 (Spring 2014) | **Faculty Assessment Leader:** Susana Prieto  
**Faculty Contributing to Assessment:** Susan Stolovy and Susana Prieto  
**Related Documents:**  
SLO#1_PHYS 1A_ Sp 14_QUIZ.PDF  
Assessment Data and Analysis_SLO#1_P11.docx | **07/11/2014 -** Students' understanding of the concept of mass and weight is satisfactory. Students' understanding of Newton's First Law of Motion is also satisfactory. It would be useful to have a more complete SLO assessment in order to test students' understanding of other basic concepts of physics such as Newton's Second Law of Motion and Newton's Third law of Motion. **Action Category:** SLO/PLO Assessment Process |
| **Input Date:** 07/01/2013                                                                                                                | **Assessment Method:** Exam/Test/Quiz                                                                                          | **Related Documents:**  
SLO#1_PHYS 11_Sp 14_QUIZ.PDF                                                                 | **08/01/2014 -** More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts. **Action Category:** Teaching Strategies |
| **Course SLO Status:** Active                                                                                                           | **Standard and Target for Success:** The average score will be 60% or better.                                                      | **Semester and Year Assessment Conducted:** 2013-14 (Spring 2014) | **Faculty Assessment Leader:** Susana Prieto  
**Related Documents:**  
SLO#1_PHYS 11_Sp 14_QUIZ.PDF                                                                 | **08/01/2014 -** Students' understanding of the concept of mass and weight is satisfactory. Students' understanding of Newton's First Law of Motion is also satisfactory. It would be useful to have a more complete SLO assessment in order to test students' understanding of other basic concepts of physics such as Newton's Second Law of Motion and Newton's Third law of Motion. **Action Category:** SLO/PLO Assessment Process |

**El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 1A - Mechanics of Solids - SLO #1 Applying Relevant Principles - Students can recognize the basic physical principles which are relevant in a given physical situation involving mechanics in order to correctly answer conceptual questions. (Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))**

**Assessment Method Description:** A quiz consisting of multiple choice questions will be given to the class. Refer to "SLO#1_PHYS 1A_ Sp 14_QUIZ.docx"  
**Assessment Method:** Exam/Test/Quiz  
**Standard and Target for Success:** Students will earn a score of 50% or better.  
**Related Documents:**  
SLO#1_PHYS 1A_ Sp 14_QUIZ.PDF  
Assessment Data and Analysis_SLO#1_P1A.docx  
Assessment Data and Analysis_SLO#1_P11.docx
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<td>El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 1B - Fluids, Heat and Sound - SLO #1 Applying Relevant Principles - Students can recognize the basic physical principles which are relevant in a given physical situation involving heat, fluids or sound in order to correctly answer conceptual questions. (Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))</td>
<td>Assessment Method Description: A quiz consisting of multiple choice questions will be given to the class. (SLO#1_PHY1 BSp 14 QUIZ.doc)</td>
<td>07/27/2014 - Refer to &quot;Assessment Data and Analysis_SLO#1_P1B.docx&quot; and &quot;SLO#1_PHY1 BSp 14 QUIZ.doc&quot; Standard Met? : No</td>
<td>08/01/2014 - Instructors will meet to discuss ways to improve the teaching of challenging concept without sacrificing student performance in other important areas of physics such as problem-solving. Action Category: Teaching Strategies</td>
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<td>Assessment Method Description: A quiz consisting of multiple choice questions will be given to the class. &quot;SLO#1_PHY1C Sp 14 QUIZ.docx&quot;.</td>
<td>07/25/2014 - Refer to &quot;Assessment Data and Analysis_SLO#1_P1C.docx&quot; and &quot;SLO#1_PHY1C Sp 14 QUIZ.docx &quot; Standard Met? : Yes</td>
<td>08/01/2014 - More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts. Action Category: Teaching Strategies</td>
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**Related Documents:**
- Assessment Data and Analysis_SLO#1_P1C.docx
- SLO#1_PHYS 1C_ Sp 14_QUIZ.docx

**Action & Follow-Up:**
- 07/25/2014 - More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts.

**Action Category:**
- Teaching Strategies

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**Related Documents:**
- Physics 1D SLO Evaluation.docx

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz was given to the class with five multiple choice questions. The questions were conceptual in nature. Each question required the use of a relevant physical principle in order to arrive at the correct answer. |

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- Average score of 50%.

**Related Documents:**
- SLO#1_PHYS 2A_ Sp 14_QUIZ.docx

**Results:**
- 03/18/2014 - 31 students took the assessment. The average score on the assessment was 39%, well under the 50% target. Respectively, the number (percent) of correct answers on the five questions were: 10 (32%), 16 (52%), 3 (10%), 12 (39%), 19 (61%).

**Standard Met? :**
- No

**Semester and Year Assessment Conducted:**
- 2013-14 (Fall 2013)

**Faculty Assessment Leader:**
- Eyal Goldmann

**Faculty Contributing to Assessment:**
- Eyal Goldmann

**Action Category:**
- Teaching Strategies

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**Related Documents:**
- SLO#1_PHYS 2A_Sp_14_Assessment.docx

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz consisting of multiple choice questions will be given to the class. See attached document (SLO#1_PHYS 2A_Sp 14_QUIZ.docx).

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- Students will earn a score of 50% or better.

**Related Documents:**
- SLO#1_PHYS 2A_Sp 14_QUIZ.docx

**Results:**
- 07/18/2014 - A quiz consisting of multiple choice questions was be given to the class. See attached document (SLO#1_PHYS2A_Sp_14_Assessment.docx).

**Standard Met? :**
- No

**Semester and Year Assessment Conducted:**
- 2013-14 (Fall 2013)

**Faculty Assessment Leader:**
- Eyal Goldmann

**Faculty Contributing to Assessment:**
- Eyal Goldmann

**Action Category:**
- Teaching Strategies

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**Related Documents:**
- SLO#1_PHYS2A_Sp_14_Assessment.docx

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz consisting of multiple choice questions was be given to the class. See attached document (SLO#1_PHYS2A_Sp_14_Assessment.docx).

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- No

**Semester and Year Assessment Conducted:**
- 2013-14 (Spring 2014)

**Faculty Assessment Leader:**
- Susana Prieto

**Faculty Contributing to Assessment:**
- John Coroneus and Kyle Strohmaier

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz consisting of multiple choice questions will be given to the class. See attached document (SLO#1_PHYS 2A_Sp 14_QUIZ.docx).

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- Students will earn a score of 50% or better.

**Related Documents:**
- SLO#1_PHYS 2A_Sp 14_QUIZ.docx

**Results:**
- 07/18/2014 - One is tempted to suggest that future instructors should consider conceptual questions as a more regular part of instruction alongside calculational problems. This is probably worth trying. However, it is unclear whether instruction of this nature strengthens students' conceptual understanding generally, or more narrowly their ability to correctly answer conceptual questions which are highly similar to what they have seen previously.

**Standard Met? :**
- No

**Semester and Year Assessment Conducted:**
- 2013-14 (Fall 2013)

**Faculty Assessment Leader:**
- Eyal Goldmann

**Faculty Contributing to Assessment:**
- Eyal Goldmann

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz consisting of multiple choice questions was be given to the class. See attached document (SLO#1_PHYS2A_Sp_14_Assessment.docx).

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- No

**Semester and Year Assessment Conducted:**
- 2013-14 (Spring 2014)

**Faculty Assessment Leader:**
- Susana Prieto

**Faculty Contributing to Assessment:**
- John Coroneus and Kyle Strohmaier

**Action Category:**
- Teaching Strategies

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| Assessment Method Description: |
| A quiz consisting of multiple choice questions was be given to the class. See attached document (SLO#1_PHYS2A_Sp_14_Assessment.docx).

**Assessment Method:**
- Exam/Test/Quiz

**Standard and Target for Success:**
- No
### El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 2B - General Physics - SLO #1

**Applying Relevant Principles** - Students can identify the physical principles which are relevant in a given physical situation involving electricity, magnetism, electromagnetism, optics or modern physics in order to correctly answer conceptual questions. 

(Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))

#### Course SLO Assessment Cycle:
2013-14 (Spring 2014)

#### Input Date:
11/08/2013

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#### Action & Follow-Up

07/18/2014 - More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts.

**Action Category:**
Teaching Strategies

08/01/2014 - In the future question should be restricted to a single correct answer since that simplifies assessments.

**Action Category:**
Teaching Strategies

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#### Related Documents:
SLO#1_PHYS 3A_Sp 14_QUIZ.docx

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**El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 3A - General Physics With Calculus**

**SLO #1 Applying Relevant Principles** - Students can identify the physical principles which are relevant in a given physical situation involving mechanics, heat, fluids or sound in order to correctly answer conceptual questions. 

(Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))

#### Course SLO Assessment Cycle:
2013-14 (Spring 2014)

#### Input Date:
11/08/2013

#### Course SLO Status:
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#### Action & Follow-Up

07/19/2014 - See attached document (Assessment Data and Analysis_SLO#1_P2B.docx).

07/19/2014 - More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts.

**Action Category:**
Teaching Strategies

07/19/2014 - Instructors will meet to discuss ways to improve the teaching of challenging concept without sacrificing student performance in other important areas of physics such as problem-solving.

**Action Category:**
Teaching Strategies

---

#### Related Documents:
SLO#1_PHYS 3B_Sp 14_QUIZ.docx

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**El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 2B - General Physics - SLO #1**

- **Applying Relevant Principles** - Students can identify the physical principles which are relevant in a given physical situation involving electricity, magnetism, electromagnetism, optics or modern physics in order to correctly answer conceptual questions. (Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))

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#### Action & Follow-Up

07/14/2014 - See attached document (Assessment Data and Analysis_SLO#1_P2B.docx).

07/15/2014 - More conceptual questions should be included in exams, quizzes, homework and labs in order to motivate students to better understand concepts.

**Action Category:**
Teaching Strategies

07/15/2014 - Instructors will meet to discuss ways to improve the teaching of challenging concept without sacrificing student performance in other important
### Course SLO Assessment Cycle:

**El Camino: Course SLOs (NSC) - Physics - ECC: PHYS 3B - General Physics With Calculus**

- **SLO #1 Applying Relevant Principles**
  - Students can recognize the physical principles of which are relevant in a given physical situation involving electricity, magnetism, electromagnetism, optics or modern physics in order to correctly answer conceptual questions.

(Created By El Camino: Course SLOs (NSC) - Life Science: Allied Health (Anatomy, Physiology, Microbiology))

**Course SLO Assessment Cycle:** 2013-14 (Spring 2014)

**Input Date:** 11/08/2013

**Course SLO Status:** Active

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### Assessment Methods & Standard and Target for Success / Tasks

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**Assessment Method:** Exam/Test/Quiz

**Standard Met?**

**Yes**

**Semester and Year Assessment Conducted:** 2013-14 (Spring 2014)

**Faculty Assessment Leader:** Susana Prieto

**Faculty Contributing to Assessment:** Natalya Lev

**Related Documents:**
- Assessment Data and Analysis_SLO#1_P3B.docx
- SLO#1_PHYS 3B_Sp 14_QUIZ.docx

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### Action & Follow-Up

- **Related Documents:**
  - SLO#1_PHYS 3A_Sp 14_QUIZ.docx
  - Assessment Data and Analysis_SLO#1_P3A.docx

**Action Category:** Teaching Strategies

- 08/01/2014 - In the future question should be restricted to a single correct answer since that simplifies assessments.

**Action Category:** SLO/PLO Assessment Process

- 07/25/2014 - Instructors will meet to discuss ways to improve the teaching of challenging concept without sacrificing student performance in other important areas of physics such as problem-solving.

**Action Category:** Teaching Strategies

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