ASSESSMENT PLAN: M.S. in Statistics

Updated Date: Winter 2015, By Lynn Eudey

PROGRAM MISSION

CSUEB Missions, Commitments, and ILOs, 2012

CSUEB Department of Statistics and Biostatistics Mission Statement
The California State University, East Bay Department of Statistics and Biostatistics aims to provide a strong education in statistics and biostatistics that prepares its students with both theoretical and practical training to function and thrive in our society in roles such as statisticians, biostatisticians, statistical programmers, and data analysts. We also strive to equip non-major students with a better understanding of the quantitative aspects of academia, business and industry.

PROGRAM STUDENT LEARNING OUTCOMES (SLOs)

Students graduating with a M.S. in Statistics will be able to:

<table>
<thead>
<tr>
<th>SLO</th>
<th>ILO</th>
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<tbody>
<tr>
<td>SLO 1</td>
<td>ILO 6</td>
</tr>
<tr>
<td>SLO 2</td>
<td>ILO 1, 6</td>
</tr>
<tr>
<td>SLO 3</td>
<td>ILO 1, 2, 6</td>
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<tr>
<td>SLO 4</td>
<td>ILO 1, 2, 6</td>
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<tr>
<td>SLO 5</td>
<td>ILO 1, 2, 3, 4, 6</td>
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<tr>
<td>SLO 6</td>
<td>ILO 1, 2, 3, 6</td>
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</table>

apply statistical methodologies, including a) descriptive statistics and graphical displays, b) probability models for uncertainty, stochastic processes, and distribution theory, c) hypothesis testing and confidence intervals, d) ANOVA and regression models (including linear, and multiple linear), and analysis of residuals from models and trends,

derive and understand basic theory underlying these methodologies

Formulate and model practical problems for solutions using these methodologies

produce relevant computer output using standard statistical software and interpret the results appropriately

communicate statistical concepts and analytical results clearly and appropriately to others; and

understand theory, concepts, and terminology at a level that supports lifelong learning of related methodologies.
### Year 1: 2013-2014

1. **Which SLO(s) to assess**
   - All SLO’s

2. **Assessment indicators**
   - Rubric from Master’s Comprehensive Examination

3. **Sample (courses/# of students)**

4. **Time (which quarter(s))**
   - Fall 2013, Spring 2014

5. **Responsible person(s)**
   - Joshua Kerr/Lynn Eudey

6. **Ways of reporting (how, to who)**
   - Josh Kerr and Lynn Eudey will collect the data, write a report and submit to the chair, Eric Suess, who will distribute to faculty.

7. **Ways of closing the loop**
   - Relevant faculty will brainstorm and implement improved curriculum covering concepts in which student performance does not meet expectations.

### Year 2: 2014-2015

1. **Which SLO(s) to assess**
   - SLO 1 – SLO 5

2. **Assessment indicators**
   - Rubric from written/oral project

3. **Sample (courses/# of students)**
   - STAT 6509 Theory and Application of Regression

4. **Time (which quarter(s))**
   - Spring 2015

5. **Responsible person(s)**
   - Faculty teaching STAT 6509

6. **Ways of reporting (how, to who)**
   - Instructor of STAT 6509 collects the data, writes a report to the chair, Eric Suess, who will distribute to faculty

7. **Ways of closing the loop**
   - Relevant faculty will brainstorm and implement improved curriculum covering concepts in which student performance does not meet expectations.

### Year 3: 2015-2016

1. **Which SLO(s) to assess**
   - Continuation of practices of 2013-2014 and 2014-2015

2. **Assessment indicators**

3. **Sample (courses/# of students)**

4. **Time (which quarter(s))**

5. **Responsible person(s)**

6. **Ways of reporting (how, to who)**

7. **Ways of closing the loop**

### Year 4: 2016-2017

1. **Which SLO(s) to assess**
   - Continuation of practices of 2013-2014 and 2014-2015

2. **Assessment indicators**

3. **Sample (courses/# of students)**

4. **Time (which quarter(s))**

5. **Responsible person(s)**

6. **Ways of reporting (how, to who)**

7. **Ways of closing the loop**
<table>
<thead>
<tr>
<th>Year 5: 2017-2018</th>
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<tbody>
<tr>
<td>1. <em>Which SLO(s) to assess</em></td>
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<td>2. <em>Assessment indicators</em></td>
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