General Education Annual Course Assessment Form

Course Number/Title: ENGR 100W "Engineering Reports on the Earth and Environment"
GE Areas: Z and R
Results reported for AY: Spring 2013  # of sections: 11 sections  # of instructors: 6 instructors
Course Coordinator: Dr. Jeanne Linsdell  E-mail: JeanneLinsdell@aol.com
Department Chair: Dr. Ahmed Hambaba, General Engineering  College: College of Engineering

Part 1: To be completed by the course coordinator:
(1) What SLO(s) were assessed for the course during the AY?
[Each semester we highlight three of the ENGR100W Student Learning Objectives. The following were selected for Spring 2013. Every semester we study Area Z, LO 1.]

**Area Z: Written Communication**
1. Z SLO 1: Students shall be able to refine the competencies established in Written Communication IA and IB as summarized by the WRC. (Students technical writing skills shall improve throughout ENGR 100W.)
2. Z SLO 3: Students shall be able to organize and develop essays and documents for both professional and general audiences, including appropriate editorial standards for citing primary and secondary sources. [Z SLO 2 assessed in Fall 2012]

**Area R: Earth and Environment**
3. R SLO 2: Students will be able to apply a scientific approach to answer questions about the earth and environment. [R SLO 1 assessed in Fall 2012]
4. Other: Ethics*

(2) What were the results of the assessment of this course? What were the lessons learned from the assessment?

Direct Measurement:

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<th>SLO</th>
<th>Performance criteria set at 70%, minimum percentage of students who should reach performance criteria.</th>
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<td>1. Z SLO 1</td>
<td>Assignment (Introductory memo) – 83% passed&lt;br&gt;Assignment (Grammar, punctuation, syntax quiz) – 82% passed&lt;br&gt;Assignment (Memo: Forming a partnership with SEI) – 87% passed&lt;br&gt;Assignment (Peer editing in-class memo followed by re-write) -- 93% passed&lt;br&gt;Assignment (Final Technical Proposal paper) – 95% passed&lt;br&gt;Assignment (Applying for a job in Antarctica research station) – 87% passed&lt;br&gt;All sections (Green Dilemma) – same assignment and timed: Outside scored [writing 50% of score (6/12) and content 50% of score (6/12)]: 230 passed out of 248 students papers</td>
</tr>
<tr>
<td>2. Z SLO 3</td>
<td>Assignment (Avoiding Plagiarism Quiz) – 84% passed&lt;br&gt;Assignment (Proper Documentation Review Quiz) – 89% passed&lt;br&gt;Assignment (Status Report) – 94% passed&lt;br&gt;Assignment (Mercury Poster) – 96% passed&lt;br&gt;Assignment (Progress Reports) – 92% passed&lt;br&gt;Assignment (Letter of request for a letter of recommendation) – 92% passed&lt;br&gt;Assignment (Banning Plastic Bags) – 94% passed&lt;br&gt;Assignment (Letter to Sustainable Communities Program Director) – 90% passed&lt;br&gt;Assignment (Environmental Proposal) – 100% passed</td>
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* Ethics
assignment (does wave energy have potential?) – 96% passed
assignment (goodbye to the light bulb?) – 93% passed
assignment (pacific gyre/tsunami trash) – 96% passed
assignment (tracking home energy use for four weeks*) – 95% passed
assignment (personal transportation study) – 96% passed
assignment (green manufacturing and sustainability) – 100% passed
assignment (exit exam) – 94% passed

3. Other ethics

| Performance criteria set at 70%, minimum percentage of students who should reach performance criteria: |
| Green Manufacturing Ethics Dilemma -- 92% passed |
| Silicon Valley Ethics Codes (compare and contrast) -- 94% passed |

From the spring 2013 assessment journal, seeking continuous improvement:

**Implemented:**
Bi-weekly, the team shares journal articles and best-practices articles on: a.) new teaching methods and b.) environmental issues. There is follow up at our regular meetings.

**Sign-up Sheets:** For the first time this semester we staffed a table for sign-up sheets at all of the GreenTalks. This has increased attendance and accountability. We will continue to do this.

**GreenTalk Student Involvement:** For the first time we asked students who were interested to introduce some of the GreenTalk speakers. This was very successful – and developed confidence and practice speaking to a very large audience.

**Canvas:** Two members of our team used Canvas for the first time this semester.

**Criterion:** Half of our team plan to experiment with Criterion in the fall. We had two team meetings learning how to use it.

**BART silicon valley project tour** for ENGR 100W students
On March 1 students and faculty met at the BART Silicon Valley Project Office for a full day tour of construction sites and presentations.

**Planned:** Daren Gee, VTA, has invited us to come back and see the progress in the various stages during Fall 2013 and Spring 2014.

**Planned and implemented: jointly sponsored events:** Jointly sponsored by the Meteorology and Climate Science Department and the College of Engineering: GreenTalk April 17, 2013. More planned for fall 2013, one with the Urban Planning Department and the Public Administration Program.

**Implemented:** After meeting with publishers and reviewing a number of texts we returned to the Cunningham environmental text with specialized chapters -- at half the cost.

**Overall Comments**
- We require a minimum of 11,000 words; every instructor provided detailed feedback.
- The Exit Exam analysis shows overall improvement when comparing WST exam results to the ENGR 100W Exit Exam
  - 1.0 improvement (on a scale of 0 - 12)
After completing ENGR 100W, when student writing was graded by outside evaluators for the Exit Exam, in a timed environment, under the same guidelines as the WST, their Exit Exam scores (also graded on a scale of 0-12) went up one solid point. For example, an 8 went up to a 9, a 9 went up to a 10, or more....
  - 252 students enrolled
  - 11 failed the Exit Exam
  - 21 passed LLD100A and enrolled in ENGR 100W, of these:
  - 14 passed the Exit Exam
  - 7 failed the Exit Exam
Part 2
To be completed by the department chair (with input from course coordinator as appropriate):  (4) Are all sections of the course still aligned with the area Goals, Student Learning Objectives (SLOs), Content, Support, and Assessment? If they are not, what actions are planned?  

YES

*Student Learning Objectives for ENGR 100W Ethics Module:*

1. Students should be able to develop a well-reasoned response to an ethical problem in engineering and/or about the earth and environment.
2. Students should be able to demonstrate an understanding of the ways that ethical concerns and responsible practices play a role in professional interactions within the community of engineers and between the community of engineers and the public at large.

[Instructions: Each year, the department will prepare a brief (two page maximum) report that documents the assessment of the course during the year. This report will be electronically submitted, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by September 1 of the following academic year.]
General Education Annual Course Assessment Form

Course Number/Title ___ ENGR 100W Engineering Reports on Earth and Environment GE Area(s) __ Z and R____

Results reported for AY __2013-2014____  # of sections ___14____  # of instructors _______9_______

Course Coordinator: _______Jeanne Linsdell (Retired)____  E-mail: ____JeanneLinsdell@aol.com _______

Department Chair: _______Ahmed Hambaba __________  College: __Engineering____________________

Part 1

(1)  **What SLO(s) were assessed for the course during the AY?:**

Note: Dr. Branz asked us to incorporate the new SLOs (Area Z Communication) for Spring 2014

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<td>SLO 3: organize and develop essays and documents for both professional and general audiences</td>
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<td>SLO 5: locate, organize, and synthesize information effectively to accomplish a specific purpose, and to communicate that purpose in writing</td>
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**COURSE OBJECTIVES:** Earth and Environment: Area R

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<td>Within the particular scientific content of the course, a student should be able to:</td>
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<td>SLO 1: demonstrate an understanding of the methods and limits of scientific investigation;</td>
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<td>SLO 3: apply a scientific approach to answer questions about the earth and environment.</td>
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(2)  **What were the results of the assessment of this course? What were the lessons learned from the assessment?**

**Direct Measurement**

<table>
<thead>
<tr>
<th>SLO 3</th>
<th>Performance criteria set at <strong>70%, minimum</strong> percentage of students who should reach performance criteria (excludes students who did not submit papers).</th>
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<tbody>
<tr>
<td></td>
<td>Unit 3 class activities: 14 students in Fall 2013 and 8 students in Spring 2014 did not submit Unit 3.</td>
</tr>
<tr>
<td></td>
<td>• Assignment (The Industrial Revolution (Section 1—Technology and work)) –97% passed</td>
</tr>
<tr>
<td></td>
<td>• Assignment (The Industrialization of Society in the 19th century (Section 2—Technology and work)) – 97% passed</td>
</tr>
<tr>
<td></td>
<td>• Assignment (Scientific Management (Section 4—Technology and work)) – 91% passed</td>
</tr>
<tr>
<td></td>
<td>Unit 4 class activities: 13 students in Fall 2013 and 6 students in Spring 2014 did not submit Unit 4.</td>
</tr>
<tr>
<td></td>
<td>• Assignment (Women at work before 1900 (Section 2—Technology and Gender)) -- 97% passed</td>
</tr>
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Based upon the AY201/2013 assessment of the class, the instructor instituted additional reminders to students in Canvas and by email that increased the number of students turning in their Research Exercise 1 and classwork assignments in AY 2013-2014. In AY 2012/2013, 14% of the students did not submit their final papers for Research Exercise 1. This number was reduced for AY 2013/2014; only 10% of the 2013/2014 students did not submit their final papers for Research Exercise 1.

GTI Tech 198, Section 3, Spring 2014: Learning objective three was assessed through Unit Assignment two, an essay based on the book Wild Swans: Three Daughters of China, which demonstrates how radical political and societal changes affected three generations of women in China in the course of the 20th century, and Research Exercise two, a paper on Taiwan’s development into a democracy and prospects for its future given its difficult relationship with the People's Republic of China. This was an unusual class in that it was a group of 21 students specially selected to participate in the Global Technology Initiative (GTI) trip to Taiwan in July. On the first assignment, 19 students (90 per cent) fulfilled the assignment successfully. One submission was sub-standard and another student failed to turn in the paper. On the second assignment, all 21 students completed the assignment successfully (100 per cent).

(3) What modifications to the course, or its assessment activities or schedule, are planned for the upcoming year? (If no modifications are planned, the course coordinator should indicate this.)

(2) What were the results of the assessment of this course? Direct Measurement:

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<td>Assignment (Introductory memo) – 80% passed Assignment (Stanford Solar Decathlon) – 82% passed Assignment (Green Building Assessment) – 87% passed Assignment (Peer editing in-class memo followed by re-write) – 94% passed Assignment (Applying for a job in an Antarctica research station) – 91% passed Assignment (Green Dilemma, using Case Study Approach in textbook) – 84% passed Assignment (Final Technical Proposal) – 98% passed</td>
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<td>2. Z SLO 3</td>
<td>Assignment (Sol Design Lab Application of Solar Energy) – 86% passed Assignment (Status Report) – 91% passed Assignment (E-waste Poster) – 96% passed Assignment (Progress Reports) – 92% passed Assignment (Letter of request for a letter of recommendation) – 97% passed Assignment (Green Materials, environmentally preferable products) – 94% passed Assignment (Technical Instructions) – 95% passed</td>
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<td>3. Z SLO 5</td>
<td>Assignment (Bus Rapid Transit (BRT)) – 83% passed Assignment (Green City Vision Statements) – 94% passed Assignment (Smart Cities) – 92% passed Assignment (Letter to Sustainable Communities Program Director) – 90% passed Assignment (Exit Exam) – 96% passed</td>
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<td>1. R SLO 1</td>
<td>Assignment (Fluid Lensing) – 78% passed Assignment (Atmospheric and Environmental Monitoring) – 82% passed Assignment (New Forms of Biotechnology) – 91% passed Assignment (Tracking Home Energy Use for three weeks) – 95% passed</td>
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<td>Assignment</td>
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<td>Assignment (Personal Transportation Study)</td>
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2. R SLO 3

Performance criteria set at **70%, minimum** percentage of students who should reach performance criteria:
- Assignment (Green Aviation) – 79% passed
- Assignment (Fighting Wildfires with Science) – 88% passed
- Assignment (Application of LEED Standards) – 92% passed
- Assignment (Drones for Monitoring Coral Reefs) – 94% passed
- Assignment (Novel Data Logging Devices) – 95% passed

GreenTalks: See: http://engineering.sjsu.edu/our-college/events/greentalk

From the Spring 2014 Assessment Journal, Seeking Continuous Improvement:

**Implemented:**
Each week, the team shares journal articles and best-practices articles on: a.) new teaching methods, b.) environmental issues, and c.) in-class writings on GreenTalks. There is follow up at our regular meetings.

**Sign-up Sheets:** In the fall semester we staffers a table for sign-up sheets at all of the GreenTalks. In the spring semester we did not staff a table for sign-up sheets due to the crowds formed and delays in the fall.

**GreenTalk Student Involvement:** In the fall semester we asked students who were interested to introduce some of the GreenTalk speakers. This was very successful—and developed confidence and practice speaking to a very large audience. We continued this in the spring semester.

**Planned:** Daren Gee, VTA, invited us to come back for tours and see the progress in the various stages during Fall 2013 and Spring 2014. We have scheduled another BART speaker who is planning another follow-up tour in Fall 2014.

**Planned and Implemented: Jointly Sponsored Events:** A GreenTalk was Jointly Sponsored by the Meteorology and Climate Science Department & the College of Engineering Fall 2013 & Spring 2014. Another one is planned for Fall 2014.

**Implemented:** One of our instructors has just published a textbook for English Language Learners.

**Change for Fall 2014:** The Director of Technical Communication has retired, effective Fall 2014.

**Overall Writing Success:**
We require a minimum of 11,000 words; instructors provide detailed feedback on every assignment.

- **Exit Exam Results Analysis Spring 2014**
  When comparing WST exam results to the ENGR 100W Exit Exam there is Overall Improvement of **1.1 (on a scale of 0 - 12)**

After completing ENGR 100W, when student writing was graded by outside evaluators for the Exit Exam, in a timed environment, under the same guidelines as the WST, their Exit Exam scores (also graded on a scale of 0-12) went up 1.1 points. For example, an 8 went up to a 9, a 9 went up to a 10, or more.

**Part 2**
To be completed by the department chair (with input from course coordinator as appropriate):

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**YES**
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| 2. Z SLO 3 Performance criteria set at 70%, minimum percentage of students who should reach performance criteria. |
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