### Inventory of Educational Effectiveness Indicators

<table>
<thead>
<tr>
<th>Academic Program</th>
<th>(2a) What are these learning outcomes?</th>
<th>(3) Other than GPA, what data/evidence are used to determine that graduates have achieved stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)?</th>
<th>(4) Who interprets the evidence?</th>
<th>(5) What is the process?</th>
<th>How are the findings used?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td>Written Communication</td>
<td>Written Communication -Capstone Project Design Course: The department operates five courses designated as Design Courses, or Capstone Courses, one of which is required for graduation. These courses emphasize project design, team engineering and project presentations focused on program outcomes and objectives. -Transcript review -Degree audits</td>
<td>Written Communication</td>
<td>Written Communication -To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>-Communicate effectively in writing and with visual means -Function on multidisciplinary teams to solve electrical engineering problems</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
<td></td>
</tr>
<tr>
<td>Major: B.S. in Electrical Engineering</td>
<td>Oral Communication</td>
<td>Oral Communication -Communicate effectively in speech and with visual means -Collaborate effectively with others to design a system, component, or process to meet desired needs</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>B.S. in Computer Engineering</td>
<td>Oral Communication</td>
<td>Oral Communication -Communicate effectively in speech and with visual means -Collaborate effectively with others to design a system, component, or process to meet desired needs</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>B.S. in Engineering Physics</td>
<td>Oral Communication</td>
<td>Oral Communication -Communicate effectively in speech and with visual means -Collaborate effectively with others to design a system, component, or process to meet desired needs</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>B.A. in Engineering and Society</td>
<td>Oral Communication</td>
<td>Oral Communication -Communicate effectively in speech and with visual means -Collaborate effectively with others to design a system, component, or process to meet desired needs</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>(1) Have formal learning outcomes been developed? Yes</td>
<td>Quantitative Reasoning</td>
<td>Quantitative Reasoning -Display an understanding of the underlying principles of, and an ability to apply knowledge of, mathematics, science and engineering to electrical engineering problems. -Analyze and interpret data</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>(6) Date of the last Academic Senate Review? May 2010</td>
<td>Information Literacy</td>
<td>Information Literacy -Use the techniques, skills, and modern engineering tools necessary for engineering practice, including familiarity with computer programming and information technology</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Critical Thinking</td>
<td>Critical Thinking -Identify, formulate and solve engineering problems -Design and conduct experiments -Have the broad education necessary to understand the impact of engineering solutions in a global and societal context</td>
<td>-Capstone Project Design Course</td>
<td>-The capstone project design course instructors, and TAs when applicable, work closely with students throughout the design process and provide direction and feedback to students on an ongoing basis</td>
<td>-To evaluate the structure and effectiveness of course requirements and to make improvements to ensure more effective instruction and learning results</td>
</tr>
</tbody>
</table>
All other items not color coded

- Understand and practice professional and ethical responsibility
- Have an understanding of electrical engineering safety issues
- Recognize the need for, and the ability to engage in, lifelong learning
- Have a knowledge of contemporary issues as they relate to engineering

Senior Surveys: Questions are developed based upon objectives and outcomes to determine how graduating seniors feel these were addressed/met

Alumni Surveys: Alumni are polled to obtain feedback regarding how the objectives and outcomes prepared them for work in the field

Industry Surveys: Formal and informal feedback is obtained from industry to determine how department graduates perform in the field

Grade Distribution Data: Beyond simple GPA, grade distributions in lower division and breadth courses provide information on how students are progressing in the program and indicate areas of concern

Current Student Feedback: Obtained through Course and Professor Evaluations (CAPE) and internal department course surveys

Undergraduate Affairs Committee: Evaluates all inputs and processes to endure that data collection is accurately identifying achievement of outcomes and objectives, and whether the objectives themselves remain reflective of what the department should be delivering to students and other constituents

Course Directors: Key lower division and breadth courses are assigned to a specific course director (sub-committee of Undergraduate Affairs) who meets regularly with instructors to determine whether courses are meeting objectives and outcomes

Curriculum Committee: Subcommittee of Undergraduate Affairs which examines course content to ensure program objectives and outcomes are being addressed across the curriculum

ABET review

Industrial Advisory Board: Comprised of University affiliates throughout industry, the Board meets yearly to evaluate all data collected and make recommendations for improvements and future program directions

Student Honor Society: The department works closely with undergraduate student honor society (Eta Kappa Nu) to obtain their input and interpretation of survey data

The Department adjusts requirements and specifics of the objectives based upon feedback from all constituents

Individual instructors utilize feedback to make specific adjustments in their courses to ensure more effective learning results

Findings are used to promote more effective pedagogical approaches and to determine areas in which students may need additional instruction

Curriculum/program changes are made based upon inputs

Where are the learning outcomes published?
Please provide your department/program website address.

http://www.ece.ucsd.edu/undergraduate/abet-wasc-accreditation

UC San Diego General Catalog:
http://ucsd.edu/catalog/curric/ECE-ug.html

ABET documentation/reports

Mission statements posted throughout department