



Jan 2014

# Welcome to the SDSU ASEE Best Practices in Engineering Education Series

Today's Topic:

Developing rubrics that assess specific ABET  
Student Outcomes

- Byron Garry

- Help yourself to pizza / drinks



Jan 2014

Accreditation:

These criteria are the same for ABET -EAC, -CAC, -ASAC, -ETAC

### ABET Criterion 3 **Student Outcomes**

The program must have documented student outcomes that prepare graduates to attain the program educational objectives. There must be a documented and effective process for the periodic review and revision of these student outcomes



Jan 2014

## ABET Criterion 3 Student Outcomes (EAC)

- a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
- b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
- c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
- d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
- e. an ability to function effectively as a member or leader on a technical team;
- f. an ability to identify, analyze, and solve broadly-defined engineering technology problems;
- g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- h. an understanding of the need for and an ability to engage in self-directed continuing professional development;
- i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
- j. a knowledge of the impact of engineering technology solutions in a societal and global context; and
- k. a commitment to quality, timeliness, and continuous improvement.



# Definitions used in Accreditation Criteria

Jan 2014

**Student outcomes** describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviors that students acquire as they progress through the program.

**Assessment** is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes.

**Effective assessment uses relevant direct, indirect, quantitative and qualitative measures** as appropriate to the outcome being measured. Appropriate sampling methods may be used as part of an assessment process.

**Evaluation** is one or more processes for interpreting the data and evidence accumulated through assessment processes. Evaluation determines the extent to which student outcomes are being attained. Evaluation results in decisions and actions regarding program improvement.



Jan 2014

# Gloria Rogers' presentation



Jan 2014

## ABET Criterion 4 Continuous Improvement

Are there standards for the use of rubrics in your department?

- ABE
- CEE
- COM
- EE/CS
- Math & Statistics
- ME

# Resources

## **AAC&U**

[http://www.aacu.org/value/rubrics/documents/All\\_Rubrics\\_001.pdf](http://www.aacu.org/value/rubrics/documents/All_Rubrics_001.pdf)

## **Irubric**

<http://www.rcampus.com/indexrubric.cfm>

## **University of Wisconsin Stout**

<http://www.uwstout.edu/soe/profdev/rubrics.cfm>

## ***Practical Assessment, Research & Evaluation***

<http://pareonline.net/getvn.asp?v=2&n=2>

<http://pareonline.net/getvn.asp?v=7&n=3>



Jan 2014

Next Best Practices session: Tuesday, Apr 1

Transforming Undergraduate Education in Engineering (TUEE). Phase I: Synthesizing and Integrating Industry Perspectives

Volunteers to present a portion of the session on these or other topics?