

# University of Louisiana at Lafayette

## Detailed Assessment Report 2015-2016 Electrical and Computer Engineering BS

As of: 11/18/2016 09:57 AM CENTRAL

(Includes those Action Plans with Budget Amounts marked *One-Time, Recurring, No Request.*)

### Mission / Purpose

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Provide outstanding education to our students in the core principles and practice of electrical and computer engineering and instill in them professionalism, ethics, teamwork and leadership skills, and a keen sense of the global impact of technology.

Attain and maintain national eminence in scholarship and research in several areas in electrical and computer engineering.

### Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

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#### **SLO 1: Math and Science**

Ability to apply knowledge of math and science and engineering

#### Related Measures

##### **M 1: Student Outcome Surveys**

Students are surveyed in their major courses regarding their sense of attainment of goals. Courses in which students are surveyed are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Student course evaluations on learning gains made

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Met**

Target met.

##### **M 2: Embedded Exam Questions**

Questions are embedded in final exams for courses relevant to specific outcomes. Courses in which assessment takes place are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Performance (recital, exhibit, science project)

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Not Met**

This target is not well attended by faculty. Should be revised or dropped.

#### **Related Action Plans (by Established cycle, then alpha):**

**Remind faculty**

Remind faculty of use of and importance of embedded questions as part of assessment.

**Established in Cycle:** 2014-2015

**Implementation Status:** Planned

**Priority:** High

**Relationships (Measure | Outcome/Objective):**

**Measure:** Embedded Exam Questions | **Outcome/Objective:** Math and Science

**Implementation Description:** Discuss at faculty meeting

**Responsible Person/Group:** Department Head

**Additional Resources:** None

### **M 3: Exit Interviews**

Department head interviews graduating seniors with questions directly addressing specific outcomes.

Source of Evidence: Exit interviews with grads/program completers

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target:** Not Reported This Cycle

Not performed.

#### **Related Action Plans (by Established cycle, then alpha):**

##### **Meet with graduating seniors.**

As a new department head, I have not had the opportunity to interview any graduating seniors.

**Established in Cycle:** 2014-2015

**Implementation Status:** Planned

**Priority:** High

**Relationships (Measure | Outcome/Objective):**

**Measure:** Exit Interviews | **Outcome/Objective:** Math and Science

**Implementation Description:** Meet with graduating seniors.

**Projected Completion Date:** 09/2015

**Responsible Person/Group:** Department head

**Additional Resources:** None

### **M 4: Senior Design Project Assessment**

Senior design projects are assessed by outside professionals vis-a-vis attainment of specific outcomes.

Source of Evidence: Project, either individual or group

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target:** Met

Senior designs are reviewed and evaluated by a committee of practicing engineers.

### **SLO 2: Design and Conduct Experiments**

Ability to design and conduct experiments, as well as to analyze and interpret data

## Related Measures

### **M 1: Student Outcome Surveys**

Students are surveyed in their major courses regarding their sense of attainment of goals. Courses in which students are surveyed are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Student course evaluations on learning gains made

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Partially Met**

EECE 355 lab manual was rewritten completely. EECE 442, 453 still under review. EECE 451 lab manual partially done.

### **M 2: Embedded Exam Questions**

Questions are embedded in final exams for courses relevant to specific outcomes. Courses in which assessment take place are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Performance (recital, exhibit, science project)

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Partially Met**

EECE 355 laboratory manual revised; EECE 451 still under review. New labs including PLC's under development for EECE 442. No revisions in EECE 453

### **M 3: Exit Interviews**

Department head interviews graduating seniors with questions directly addressing specific outcomes.

Source of Evidence: Exit interviews with grads/program completers

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Partially Met**

EECE 355 laboratory completely revised. EECE 443, 453 still under review. EECE 451 partially revised.

### **M 4: Senior Design Project Assessment**

Senior design projects are assessed by outside professionals vis-a-vis attainment of specific outcomes.

Source of Evidence: Project, either individual or group

#### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

#### **Finding (2015-2016) - Target: Partially Met**

EECE 355 fully revised; EECE 442, 453 still under review. EECE 451 lab partially revised.

#### **Related Action Plans (by Established cycle, then alpha):**

### **Laboratory content**

Rewrite EECE 355 lab (fall 2015); review content of EECE 442; review content of EECE 451 laboratory

**Established in Cycle:** 2014-2015

**Implementation Status:** Planned

**Priority:** High

**Relationships (Measure | Outcome/Objective):**

**Measure:** Senior Design Project Assessment |

**Outcome/Objective:** Design and Conduct Experiments

**Implementation Description:** Rewrite EECE 355 lab fall 2015

**Responsible Person/Group:** EECE 355 lab instructor.

**Additional Resources:** None

### **SLO 3: Design a System, Component, or Process**

Ability to design a system, component, or process to meet desired needs

#### **Related Measures**

##### **M 1: Student Outcome Surveys**

Students are surveyed in their major courses regarding their sense of attainment of goals. Courses in which students are surveyed are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Student course evaluations on learning gains made

##### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

##### **Finding (2015-2016) - Target: Partially Met**

Numerical target met but some concern regarding lack of faculty participation in Senior Design. This results from limited number of faculty responsible for senior design and the number of student projects offered. Opening up senior design to additional faculty pioneered this assessment cycle.

##### **M 2: Embedded Exam Questions**

Questions are embedded in final exams for courses relevant to specific outcomes. Courses in which assessment take place are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Performance (recital, exhibit, science project)

##### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

##### **Finding (2015-2016) - Target: Partially Met**

Design not easily quantified on exam. Measure/method of evaluation should be reviewed.

##### **M 3: Exit Interviews**

Department head interviews graduating seniors with questions directly addressing specific outcomes.

Source of Evidence: Exit interviews with grads/program completers

##### **Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Partially Met**

Senior design is being broadened to include more faculty.

**M 4: Senior Design Project Assessment**

Senior design projects are assessed by outside professionals vis-a-vis attainment of specific outcomes.

Source of Evidence: Project, either individual or group

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Partially Met**

Senior designs are evaluated and assessed by a committee of practicing engineers.

**SLO 4: Solve Engineering Problems**

An ability to identify, formulate, and solve engineering problems

**Related Measures**

**M 1: Student Outcome Surveys**

Students are surveyed in their major courses regarding their sense of attainment of goals. Courses in which students are surveyed are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Student course evaluations on learning gains made

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Not Met**

Assessment not measured this cycle.

**M 2: Embedded Exam Questions**

Questions are embedded in final exams for courses relevant to specific outcomes. Courses in which assessment take place are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Performance (recital, exhibit, science project)

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Partially Met**

Not well quantified in test questions. Evaluation best made during oral presentation of projects.

**M 3: Exit Interviews**

Department head interviews graduating seniors with questions directly addressing specific outcomes.

Source of Evidence: Exit interviews with grads/program completers

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Not Met**  
Not performed.

#### **M 4: Senior Design Project Assessment**

Senior design projects are assessed by outside professionals vis-a-vis attainment of specific outcomes.

Source of Evidence: Project, either individual or group

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Met**

Senior designs are evaluated and assessed by a committee of practicing engineers.

#### **SLO 5: Communicate Effectively**

Ability to communicate effectively

##### **Related Measures**

#### **M 1: Student Outcome Surveys**

Students are surveyed in their major courses regarding their sense of attainment of goals. Courses in which students are surveyed are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Student course evaluations on learning gains made

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Met**

Target met.

#### **M 2: Embedded Exam Questions**

Questions are embedded in final exams for courses relevant to specific outcomes. Courses in which assessment take place are: EECE 140, 335, 353, 355, 423, 435, 442, 443, and 460.

Source of Evidence: Performance (recital, exhibit, science project)

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Met**

Senior students are required to participate in EECE 423. Students practice public speaking in toast masters format in this course. Students required to take EECE 365 - Technical Writing which requires oral and written exercises. All labs require written reports.

#### **M 3: Exit Interviews**

Department head interviews graduating seniors with questions directly addressing specific outcomes.

Source of Evidence: Exit interviews with grads/program completers

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Not Met**

Not performed

**Related Action Plans (by Established cycle, then alpha):**

**Review of required communication elective.**

General education committee has reviewed content of ENGL 365, the required communications elective. ENGL 365 now has oral and written components.

**Established in Cycle:** 2014-2015

**Implementation Status:** Planned

**Priority:** High

**Relationships (Measure | Outcome/Objective):**

**Measure:** Exit Interviews | **Outcome/Objective:**  
Communicate Effectively

**Implementation Description:** Fall, 2015 semester

**Responsible Person/Group:** English Department

**Additional Resources:** None

**M 4: Senior Design Project Assessment**

Senior design projects are assessed by outside professionals vis-a-vis attainment of specific outcomes.

Source of Evidence: Project, either individual or group

**Target:**

The faculty committee will give an average rating of 60% or higher for this outcome, based on this measure.

**Finding (2015-2016) - Target: Met**

Oral presentations of senior design projects are required.

## **Analysis Questions and Analysis Answers**

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**How were assessment results shared and evaluated within the unit?**

Most results shared by email. Some discussed during faculty meetings.

**Identify which action plans [created in prior cycle(s)] were implemented in this current cycle. For each of these implemented plans, were there any measurable or perceivable effects? How, if at all, did the findings appear to be affected by the implemented action plan?**

The measurements for success in achieving the objectives are still being used and are valid.

**What has the unit learned from the current assessment cycle? What is working well, and what is working less well in achieving desired outcomes?**

While our curriculum is consistent with other electrical engineering departments in the United States, the content of our courses is dated. The department has an excellent opportunity to define its future and revive its curriculum with the retirement of two long time faculty and permission to hire an additional full time instructor. We anticipate three new hires in 2017.