



 **SUNY CANTON**

Electrical Engineering Tech. (A.A.S.)
Canino School of Engineering Technology
Fall 2015 Assessment Report



Curriculum Coordinator: Robert Jennings

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What was assessed? Student Outcomes (SO) list:

- SO # 1 Written/Oral/Visual Presentation
- SO # 2 Computer Aided Design
- SO # 3 Principles & Appl. of AC and DC Power Circuit Analysis
- SO # 4 Principles & Appl. of Digital and Analog Electronics
- SO # 5 PLC Principles & Applications
- SO # 6 Effective Teamwork Skills*
- SO # 7 Ability to use Test Equipment*
- SO # 8 Printed Circuit Board Design, Fab. and Testing
- SO # 9 Professional and Ethical Responsibilities

❖ * = Not assessed for Fall 2015

How Course SOs' Were Measured

- Student work assessed:
 - Homework questions
 - Solutions of exam questions
 - Lab Reports
 - Oral presentations/ Research papers
- Measurement strategy:
 - Rubrics used for oral presentations, research papers, and lab reports
 - Percent of students who scored above a target value on exam and homework questions
- Sample size:
 - All Students (10 Sophomores and 20 Freshmen)

Where Were the Student Outcomes Assessed?

- SO # 1 Written/Oral/visual Presentation
 - ELEC101, ELEC109, ELEC213, ELEC215
- SO # 2 Computer Aided Design
 - ELEC 109, ELEC 213, SOET 116
- SO # 3 Principles & Appl. of AC and DC Power Circuit Analysis
 - ELEC 101, Elec 215
- SO # 4 Principles & Appl. of Digital and Analog Electronics
 - ELEC213, ELEC231
- SO # 5 PLC Principles & Applications
 - ELEC 141

Where Were the Outcomes Assessed? (Con't)

- SO # 6 Effective Teamwork Skills
 - ELEC 203 -- (Not taught in Fall 2015)
- SO # 7 Ability to use Test Equipment
 - ELEC 129 – (Not taught in Fall 2015)
- SO # 8 Printed Circuit Board Design, Fabrication and Testing
 - ELEC 161
- SO # 9 Professional and Ethical Responsibilities
 - SOET 377

Actual Assessment Measurement Data for Each Program Student Outcomes (SO) for Fall 2015

<u>Program Student Outcome</u>	<u>Number of Measures</u>	<u>Percent Meeting Target *</u>
SO #1 Written --- Presentation	11	81
SO #2 Computer Aided Design	5	80
SO #3 Prin.--- AC & DC Power	7	86
SO #4 Prin.--- Dig. & Analog Elect.	5	80
SO #5 PLC Principles and App.	1	100
SO #6 Effective Team Work Skills **	0	Not Applicable (N/A)
SO #7 Able to use Test Equipment**	0	N/A
SO #8 Printed Circuit Board Design	2	100
SO #9 Professional & Ethical Respon.	2	100

* See attached document for details

** Courses not taught Fall 2015 semester

Assessment Results/ Evaluation of Course Outcomes not Met/Recommendations for improvement:

ELEC 101 – Electric Circuits I -Outcome: Perform Circuit Calculations with Resistors in Parallel and Series Parallel

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Measure: Perform Circuit Calculations with Resistors in Parallel and Series Parallel --- Direct - Exam

Details/Description: Students will solve circuit problems on the test that involves resistors in parallel, and series-parallel.

Target: 60% of students are expected to score 60% or higher on the test.

Implementation Plan (timeline): Every fall semester when the course is taught.

Instructor: Dr. Stephen Frempong CRN: 10001

Findings for Perform Circuit Calculations with Resistors in Parallel and Series Parallel

Summary of Findings: 52% of students scored 60% or higher on the test.

Performance indicators:

(1) 80% of students had question #1 wrong on the test. This question is a series-parallel dc circuit, and students were asked to calculate unknown resistance where Kirchhoff's voltage law was needed to solve the problem.

(2) 70% of students received either partial credit or had question #3 wrong. This question was a series-parallel dc circuit where students were asked to calculate current, total resistance, and voltage at specific point in the circuit.

Results: Target Achievement: Not Met

Recommendations : Students will be encouraged to use the Engineering tutoring lab when a assignment is given and help is needed. Faculty will spend more time to go over problems that students show difficulty, but more problem solving practice will help improve student performance when the course is taught again next time.

ELEC 109 – Electric Circuits I Lab-Outcome: Prepare a Report for Experiment Performed (Page 2 of 3)

- Details/Description: Report will include:
 - - Title page
 - - Introduction
 - - Procedure
 - - Results and Discussion
 - - Conclusion
 - - Appendix / References
- Target: 20% of the students will receive above 80% for the report.
- 60% of the students will receive above 65% for the report.
- Implementation Plan (timeline): Fall 2015
- Instructor: Raamitha Pillay CRN: 10090 & 10213
- Findings for Experiment Report
- Summary of Findings: 10% of the students handed in reports as expected.
- **Results: Target Achievement: Not Met**
- Recommendations : Report writing directions will be redesigned. Each week students will be given very specific and detailed directions on one section of the report and be required to submit that section only along with the lab manual data and questions. At midterm students will be required to complete a full report with all sections included. For the second half of the semester the same procedure will be adopted with only one part submitted per week and one complete report submitted at the end of the semester.
- Reflections/Notes : Students have very poor writing and MS Word skills. Most students don't seem to have experience writing lab reports. The specific and detailed descriptions will try to address this issue.

ELEC 231 – Electronic Circuits-Outcome: Field-Effect Transistor Amplifiers

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Measure: Field-Effect Transistor Amplifiers Direct - Exam

Details/Description: Students will analyze and perform calculations on FET amplifiers on a test.

Target: 60% of students are expected to score 60% or higher on the test.

Implementation Plan (timeline): Every fall semester when the course is taught.

Instructor: Dr. Stephen Frempong CRN: 10846

Findings for Field-Effect Transistor Amplifiers Outcome:

Summary of Findings: 47% of students that took the test scored 60% or higher.

Performance indicators:

50% of students either missed question #1 common gate-FET amplifier, or received partial credit.

50% of students either missed question #2 class (AB) amplifier, or received partial credit.

30% of students either missed question #4 E-MOSFET amplifier, or received partial credit.

Results: Target Achievement: Not Met

Recommendations : More assignments for students on FET amplifiers will help improve performance.

What resources were used or have been requested to assist in supporting the recommendations for improving the courses?

None at this time