SUNY CANTON

Electrical Construction and Maintenance Program
School of Engineering Technology
Fall 2015 Assessment Report

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What was assessed? Student learning outcomes list:

- *SLO 1 - Install wiring systems and equipment in buildings*
  - *Students will be able to install wiring systems and equipment in residential buildings*
- *SLO 2 - Connect electrical devices in accordance with the NEC (National Electrical Code)*
  - *Students will be able to follow the National Electrical Code for residential electrical applications*

Where were outcomes assessed?

- *SLO 1 - Installation*

  ELEC 171 (Fall) *ELEC 173 (Fall)*

- *SLO 2 – National Electrical Code Compliance*

  ELEC 171 (Fall) *ELEC 173 (Fall)*

How was the assessment accomplished?

- Student work assessed:
  - Lab quizzes
  - Calculations tests
  - Wire sizing tests
  - AC Generation Service Entrance test
  - Peer Assessment Survey
  - Final projects

- Measurement strategy:
  - % of questions answered correctly on calculations exams, quizzes, and other tests.
  - Sample size:
    - All students (27 majors and 1 non-major)

SLO 1 – Installation Assessment Results

SLO 1 - Install wiring systems and equipment in buildings.									
	Measures	**Not Met**		**Met**		**Exceeded**			
	N	**N**	**%**	**N**	**%**	**N**	**%**		
All Courses	**13**	**1**	**8%**	**0**	**0%**	**12**	**92%**		
ELEC 171	5	1	20%	0	0%	4	80%		
ELEC 173	8	0	0%	0	0%	8	100%		

SLO 2 – National Electrical Code Assessment Results

SLO 2 - Connect electrical devices in accordance with the NEC (National Electrical Code).									
	Measures	Not Met		Met		Exceeded			
	N	N	%	N	%	N	%		
All Courses	3	0	0%	0	0%	3	100%		
ELEC 171	3	0	0%	0	0%	3	100%		

Assessment results: What have the data told us?

- SLO 1 – Install wiring systems
  - Students struggled the most on:
    - Drawing line and cable diagrams (ELEC 171 lab component)
- SLO 2 – National Electrical Code
  - Students struggled the most on:
    - Interpreting the language of the code book (ELEC 173)
- Across SLOs, students struggle with both oral and written communication (e.g., explaining the current flow in the circuit for troubleshooting purposes – they seem to understand the concepts, but they have challenges with communication.

Data-driven decisions: How the department has or plans to “close the loop” based on these results.

- To improve student learning on the AC Generation Service Entrance Test
  - Assign new homework assignment for students to take digital pictures of electrical service entrances
  - Use projector (needed) to visually demonstrate components
  - Student will present the pictures (to also increase communication skills) with a list of all components as well as to identify any code violations, if any.

Data-driven decisions: How the department has or plans to “close the loop” based on these results.

- To improve student learning on understanding the electrical code language
  - Replace current code textbook with illustrated code books to assist in the understanding of written concepts.

Data-driven decisions: How the department has or plans to “close the loop” based on these results.

- To improve student learning in explaining the current flow
  - Use projector (needed) to show students Youtube videos of circuit current flow in lab.

What resources were used or have been requested to close the loop?

- **Projector for in-lab presentations**
- Classrooms all have projection capabilities, but the labs do not. In order to illustrate drawings to assist in student comprehension in how circuits work, a projector is needed in Nevaldine South 139.
- Would improve performance in SLO 1 (e.g : struggles with drawing line and cable diagrams and understanding current flow in a circuit through animated demonstrations from youtube.com)
    - Epson EX3212 (approximately $800)