

Engineering Science Program Canino School of Engineering Technology Fall 2016 Assessment Report



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Program mission:

Provide students with preparation in engineering fundamentals to enable them to enroll in baccalaureate degree in engineering or engineering technology with junior status, and successfully complete their baccalaureate degree.

Program outcomes (PO):

- 1- 60% of admitted students will graduate w/AS degree
- 2-85% of graduates will enroll in BS/BT Eng. Programs
- 3- 90% of transfer graduates will affirm that their preparation in Eng. Sci. has been adequate.



Program Student Learning Outcomes (PSLO)list:

- PSLO 1 Professional Competence prerequisites
 - Students are expected to have solid foundation in Math & Science in order to continue successfully for their Bachelor' degree in any engineering fields.
- PSLO 2 Professional Competence
 - Students are expected to have understanding and knowledge of common engineering courses.
- PSLO 3 Communication Skills
 - Students are expected to develop communication skills
- PSLO 4 Critical Thinking
 - Students are expected to develop <u>critical</u> and <u>analytical</u> thinking skills



Courses mapped to PSLOs

• PSLO 1 - Professional Competence prerequisites

CHEM 150	CHEM 155	MATH 161*S	PHYS 135
MATH 162*S	MATH 263*S	PHYS 131 *f	PHYS 136
PHYS 133	ENGS 205	PHYS 137 *f	

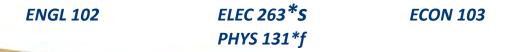
• PSLO 2 - Professional Competence

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ENGS 101*f ENGS 102*sf ENGS 201*f ENGS 202
ENGS 203 ENGS 205*f ELEC 263*s
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• PSLO 3 – Develop Communication Skills

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ENGL 102 ENGS 101*sf ENGS 102*sf
CHEM 150 CHEM 155 PHYS I, II, III
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PSLO 4 – Critical Thinking



How was the assessment accomplished?

- Student work:
 - Exams & quizzes
 - Oral presentations
 - Research papers
 - Lab reports
- Measurement strategy:
 - rubrics used for oral presentations, research papers
 - % of questions answered correctly on exams, and quizzes.
- Sample size:
 - All students/class (??)

PSOs' evaluation report based on F & S 2016 course assessments:

PSLO 1 – Professional Competence Prerequisites

* # of measures not met met target unspecified%
28 0% 14% 86%

PSLO 2 – Professional Competence

* # of measures not met met target unspecified%
26 15% 66% 19%

PSLO 3 – Develop Communication Skills

* # of measures not met met target unspecified%
8 0% 50% 50%

PSLO 4 – Critical Thinking

* # of measures not met met target unspecified%

1 0% 100% 0%



Actual assessment data

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• 2013: n=13;
                 1 BS \rightarrow BT, 1 BT, 10 BS, 1 wk \rightarrow RIT
  PO1=13/13
                 PO2 = 100%
                                   PO3 = met
• 2014: n=9;
                 7 BS, 1 BS \rightarrow BT, 1 BT
  PO1=9/6?
                 PO2 = 100%
                                   PO3 = met
• 2015: n=8;
                 6 BS, 2 BT,
  PO1=8/8
                 PO2 = 100%
                                   PO3 = ?
• 2016: n=8;
                 5 BS, 2 BT,
  PO1=7/8
                 PO2 = 100%
                                   PO3 = ?
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Comments from CU and graduates

Short comes:

1. Electrical

2. Chemical

3. Mechanical

4. Computer

5. Environmental

AC circuits & Digital/Logic

Organic Chem I

Thermo in place of PHY III

Digital/Logic & prog.

Biology I in place of PHY III



How the program plans to fix the issues (close the loop)

- Eliminated PHYS III as a required course
- Made ENGS 203 a program elective course
- Developed & added ENGS 264 (AC/DC lab.)
- Added 6 program electives to the program:

1. BIOL 150

2. CHEM 301

3. MECH 342

4. MKTX 215/216

5. CITA 180

6. CHEM 302

Effective: Fall 2017



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

My time

What changes would you make to the Assessment Process?

Program Assessment:

Evaluate the final product (graduates)

Keep in touch with them (a few years)

Collect feedback from them

PSLOs are or are not met

