



Five-Year Review Planning Goals

5-Year Plan:

1. Summary of program changes: The first year of implementation of semester-based curriculum was successful. The most significant change is the transfer of a semester-based program. The aim of this change was not to delay any student's graduation.
2. Faculty: We have hired a tenure-track faculty position for a position that was left vacant the year before. Dr. Sumarano started in his Fall 2011 semester and comes to us with years of experience with 102 and 112 corporations.
3. Research: The computer engineering faculty are active in research and have been successful in publishing their work. Growth in research is a goal that the engineering faculty are aggressively pursuing.
4. Laboratory development: Engineering is being allocated space for faculty research and teaching in ScS 15. The space is being utilized for the development of an electronics laboratory and other computer engineering research space requirements. Two computer engineering faculty and a faculty from computer science work in this laboratory.
5. Equipment: Through our annual fundraising and departmental resources we are planning to upgrade the computer engineering laboratory ScS 37.
6. Growth: The computer engineering program is the fastest growing undergraduate program

Dr. Roger James Tan, Dean of the School of Engineering, supports his program.

The reform of the curriculum in response to semester offerings. The reform curriculum satisfies accreditation requirements and is in line with the needs of its constituents.

The number of students has increased from 1,000 to 15,000 in the fall of 2015. Three faculty serve the computer engineering program.

There are two full-time staff for the School of Engineering (Administrative Assistants) and one full-time visitor and a laboratory technician. There are also two part-time staff who are working for 20 hours a week.

The School of Engineering research laboratory is functional and equipped with resources of her research equipment. Dr. Roger James Tan, Dean of the School of Engineering, supports research in the area.

Computer engineering is an accreditation program. A part of the accreditation process is a systematic assessment and evaluation plan has been in place for four years. The details of assessment activities are given below.

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- &. , n a!ili y o apply engineering "esign o pro"uce solu ions ha mee specifie" nee"s wi h consi"era ion of pu!lic heal h< safe y< an" welfare< as well as glo!ak cul ural< social< environmen al<



B. &\$%) *

List the PLO(s) assessed. Provide a brief background of the history of assessing the PLO(s) (e.g. a first time part of other assessments etc.)

The program learning outcomes assessed for 2013-2014 are P*2s 3 and 5. The P*2s were assessed by using results from group projects or presentations across three classes. Since the BS in Computer Engineering is a new program that officially began in 2013, this year is part of the second 5-year cycle of assessment. The three classes were 1S3&1 Computer, Electronic 1 = P# 4. & Senior Design 1 = P# 4.3 Senior Labs one. While our 5-year assessment plan has eleven program learning outcomes, we elected to change them with the conversion of the semester system. The old learning outcomes with the new learning outcomes in red have been mapped out here:

Plan of P*2s:

P*2 1: , ability to apply (knowledge of mathematics, science, and) engineering. P*21

P*2 2: , ability to design and conduct experiments as well as to analyze an interpret data. P*28

P*2 3: , ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. P*2&

P*2 4: , ability to function on multidisciplinary teams. P*25

P*2 5: , ability to identify, formulate, and solve engineering problems. P*21

P*2 8: Understandings of professional and ethical responsibilities. P*24

P*2 7: , ability to communicate effectively. P*23

P*2 9: : recognize the need for, and an ability to engage in life-long learning. P*27

P*2 10: : Recognize the need for, and an ability to engage in life-long learning. P*27

P*2 11: : Knowledge of contemporary issues. P*2&

P*2 11: , ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. P*28

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The instruments used to assess P*2s were public presentations and group projects. Since professors use different grading scales, each question normalized to a rating scale 1-4 with 1 being the lowest score and 4 being the highest score. Questions focused on engineering as an analysis and design synthesis.

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Students in different classes were assessed based on specific course materials in the computer engineering discipline. The knowledge of the successful in these courses is cumulative where 1S3&1 material is practice level while 1 = P# 4. & an 1 = P# 4.3 are mastery level. Problems were chosen by the procuring professor of the exemplary of the material in each course.

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The courses used for assessments are all required courses in the computer engineering discipline. Successful completion of each question requires essential knowledge for completion of the degree program. The selection was done in consultation between the individual procuring professors, the assessment coordinator, and the department chair for computer engineering.

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Problems were collected by the responsible faculty assessment coordinator. Raw faculty scores were normalized across all sample problems on the 1-4 scale for correctness. One faculty score was utilized for faculty comparisons between introductory practice and mastery levels.

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1S3&1 through 1 = P# faculty
/ em: Implement an arithmetic logic unit with your partner.
, average score of 4@: &. .7 ?31 su!missions@
Score of 1: & Score of &: . Score of 3: ; Score of 4: 1&
Score of 3 or higher: 84.5E

1 = P# 4. &
/ em: Project presentation "F grade" by content organization and delivery.
, average score of 4@: 3.8 ?15 su!missions@
Score of 1: 1 Score of &: - Score of 3: 3 Score of 4: 11
Score of 3 or higher: .3.3E

1 = P# 4.3
/ em: Final group project "F grade" on integration of member "design" components.
, average score of 4@: 3.3 ?14 su!missions@
Score of 1: - Score of &: 1 Score of 3: ; Score of 4: 5
Score of 3 or higher: .&. . E

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?2@ Presen a ion con en missing a ma9or componen < leng h is shor < organi5a ion issues

?3@ Presen a ion organi5a ion has minor "iscon inui ies< con en misses only minor poin s< nee" o prac ice "elivery

?4@ Presen a ion organi5a ion is coheren < con en is comple ely specifie"< goo" "elivery

Ru!ric for P* 25 ?3&1 an" 4.3@:

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?2@ 1orrec ly specifie" &5E or more of all componen s an" connec ions in circui "esigns

?3@ 1orrec ly specifie" 5- E or more of all componen s an" connec ions in circui "esigns

?4@ 1orrec ly specifie" 75E or more of all componen s an" connec ions in circui "esigns

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Professors in computer engineering should convene to prepare the assessment questions for each class. , " " i onally < crea ing Gues ions ha es in ro " uc ory < prac ice < an " mas ery levels < shoul " ! e consi " ere " .) owever < he assessmen Gues ions shoul " ! e ! alance " in ha they can ! e solve " a he en " of a final eSam.

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The syllabi and assessment questions use for 1 , PR assessment and , : # T assessment should be co-created to minimize the impact of program assessment on the student learning experience.

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/012	. & \$	\$	104	<u>63</u>	<u>83</u>	<u>168</u>	0
/017	. & \$	\$	140	<u>108</u>	<u>104</u>	<u>111</u>	0

