

BS Computer Engineering 5 Year Assessment Plan

PROGRAM LEARNING OUTCOMES (PLOS)

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. (ILO 1)
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. (ILO 1 & 5)
3. An ability to communicate effectively with a range of audiences. (ILO 2)
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. (ILO 3, 4 & 5)
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. (ILO 3 & 4)
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. (ILO 1 & 2)
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies. (ILO 1, 2, & 4)

Assessment Plan:

Year 1: 2019-2020	
11. Which PLO(s) to assess	2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. (ILO 1 & 5)
12. Assessment activity	Exam Problems
13. Assessment instrument	Program rubric
14. Sample (courses/# of students)	ENGR 230 Electric Circuits
15. SLO from the course	Understand the operation of basic circuit elements - resistors, capacitors, inductors, operational amplifiers 2) Analyze and compute electrical quantities of voltage, current, and power in a circuit with DC and sinusoidal inputs 3) Utilize circuit analysis software and hardware to compute electrical quantities 4) Develop greater general knowledge of household electronic devices
16. Time (which semester(s))	Fall 2019
17. Responsible person(s)	Prof. Sumarsono
18. Ways of reporting (how, to who)	The results (quantitative and qualitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.

19. <i>Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board
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Year 2: 2020-2021

11. <i>Which PLO(s) to assess</i>	6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. (ILO 1 & 2)
12. <i>Assessment activity</i>	Final Project report and presentation
13. <i>Assessment instrument</i>	Program rubric
14. <i>Sample (courses/# of students)</i>	a-CMPE 321 Computer Architecture
15. <i>Time (which semester(s))</i>	a-Fall 2020
16. <i>Responsible person(s)</i>	a. Prof. Tandon
17. <i>Ways of reporting (how, to who)</i>	The results (quantitative and qualitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
18. <i>Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board

Year 3: 2021-2022

1. <i>Which PLO(s) to assess</i>	4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts. (ILO 3, 4 & 5)
2. <i>Assessment activity</i>	e-Final exam
3. <i>Assessment instrument</i>	Program rubric
4. <i>Sample (courses/# of students)</i>	e-CMPE 221 computer organization
5. <i>SLO from the course</i>	Apply Boolean algebra and logic gate concepts to implement control and data path components of a CPU architecture 2) Use digital logic simulation software for hardware implementations of a CPU architecture 3) Understand how simple programming constructs such as loops, conditionals, functions and arrays are implemented using assembly language instructions 4) Create functional programs for a digital computer using assembly language instructions

	5) Apply a broad understanding of CPU organization and operation to problems in computer science
6. <i>Time (which semester(s))</i>	e-Fall 2021;
7. <i>Responsible person(s)</i>	e-Prof. Tandon
8. <i>Ways of reporting (how, to who)</i>	The results will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
9. <i>Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board

Year 4: 2022-2023

11. <i>Which PLO(s) to assess</i>	5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. (ILO 3 & 4).
12. <i>Assessment activity</i>	Senior design report and presentation
13. <i>Assessment instrument</i>	c-Capstone project rubric
14. <i>Sample (courses/# of students)</i>	c-CMPE 493, Senior Project II
15. <i>SLO from the course</i>	Successfully complete a major capstone design project satisfying requirements of project clients. Disseminate project results through a technical journal article, mock U.S. patent application, and oral presentation in front of project clients. Experience working with project clients and team members. Understanding of the broad societal and ethical impacts of a project. Develop teamwork skills for project implementation and completion.
16. <i>Time (which semester(s))</i>	c-Spring 2023
17. <i>Responsible person(s)</i>	c-Prof. Tandon
18. <i>Ways of reporting (how, to who)</i>	The results (qualitative and quantitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
19. <i>Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board

Year 5: 2023-2024

11. <i>Which PLO(s) to assess</i>	3. An ability to communicate effectively with a range of audiences. (ILO 2)
12. <i>Assessment activity</i>	Senior design report and presentation
13. <i>Assessment instrument</i>	c-Capstone project rubric

<i>14. Sample (courses/# of students)</i>	c-CMPE 493, Senior Design II
<i>15. SLO from the course</i>	Successfully complete a major capstone design project satisfying requirements of project clients. Disseminate project results through a technical journal article, mock U.S. patent application, and oral presentation in front of project clients. Experience working with project clients and team members. Understanding of the broad societal and ethical impacts of a project. Develop teamwork skills for project implementation and completion.
<i>16. Time (which semester(s))</i>	c-Spring 2024
<i>17. Responsible person(s)</i>	c-Prof. Tandon
<i>18. Ways of reporting (how, to who)</i>	The results (quantitative and qualitative) will be reported by faculty to the department chair via completion of the course Faculty Self-Assessment form.
<i>19. Ways of closing the loop</i>	Interaction between chair, faculty and industrial advisory board