ABET

ENGINEERING ACCREDITATION COMMISSION

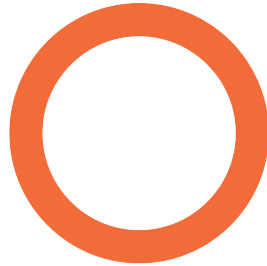## Summary of Accreditation Actions
2021–2022 Accreditation Cycle

California State University, East Bay
Hayward, CA, United States

Computer Engineering (B.S.)

Accredit to September 30, 2028. A request to ABET by January 31, 2027 will be required to initiate a reaccreditation evaluation visit. In preparation for the visit, a Self-Study Report must be submitted to ABET by July 1, 2027. The reaccreditation evaluation will be a comprehensive general review.

Industrial Engineering (B.S.)

Accredit to September 30, 2024. A request to ABET by January 31, 2023 will be required to initiate a reaccreditation report evaluation. A report describing the actions taken to correct shortcomings identified in the attached final statement must be submitted to ABET by July 1, 2023. The reaccreditation evaluation will focus on these shortcomings. Please note that a visit is not required.

ABET

ENGINEERING ACCREDITATION COMMISSION

CALIFORNIA STATE UNIVERSITY, EAST BAY

HAYWARD, CA, UNITED STATES

FINAL STATEMENT OF ACCREDITATION

2021-22 ACCREDITATION CYCLE

CALIFORNIA STATE UNIVERSITY, EAST BAY

Hayward, CA, United States

ABET ENGINEERING ACCREDITATION COMMISSION

FINAL STATEMENT
VISIT DATES: SEPTEMBER 19-21, 2021
ACCREDITATION CYCLE CRITERIA: 2021-2022

INTRODUCTION & DISCUSSION OF STATEMENT CONSTRUCT

The Engineering Accreditation Commission (EAC) of ABET has evaluated the Computer Engineering (B.S.), and Industrial Engineering (B.S.) programs at California State University, East Bay.

The statement that follows consists of two parts: the first addresses the institution and its overall educational unit, and the second addresses the individual programs.

A program's accreditation action is based upon the findings summarized in this statement. Actions depend on the program's range of compliance or non-compliance with the criteria. This range can be construed from the following terminology:

- **Deficiency** A deficiency indicates that a criterion, policy, or procedure is not satisfied. Therefore, the program is not in compliance with the criterion, policy, or procedure.

- **Weakness** A weakness indicates that a program lacks the strength of compliance with a criterion, policy, or procedure to ensure that the quality of the program will not be compromised. Therefore, remedial action is required to strengthen compliance with the criterion, policy, or procedure prior to the next review.

- **Concern** A concern indicates that a program currently satisfies a criterion, policy, or procedure; however, the potential exists for the situation to change such that the criterion, policy, or procedure may not be satisfied.

- **Observation** An observation is a comment or suggestion that does not relate directly to the current accreditation action but is offered to assist the institution in its continuing efforts to improve its programs.

INFORMATION RECEIVED AFTER THE REVIEW

- **Seven-Day Response** No information was received in the seven-day response period.

- **30-Day Due-Process Response** Information was received in the 30-day due-process response period relative to the Computer Engineering (B.S.) and Industrial Engineering (B.S.) programs.

- **Post-30-Day Due-Process Response** Information was received in the post-30-day due-process

response period relative to the Computer Engineering (B.S.) and Industrial Engineering (B.S.) programs.

INSTITUTIONAL SUMMARY

California State University, East Bay (CSEB) provides access to higher education for a diverse student body. More than 60 percent of the student body are the first in their families to go to college, and the university is recognized nationally for its diversity and impact on social mobility. The School of Engineering is in the College of Science and offer BS degrees in computer engineering, industrial engineering, and construction management. The School has 10 full-time and 15 part-time faculty members, 419 students, and produced 117 graduates in the 2020-21 academic year.

The following units were reviewed and found to provide adequate support to the engineering programs: physics, math, chemistry, and the library.

Computer Engineering

B.S. Program

Evaluated under EAC Program Criteria for
Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs

INTRODUCTION

The Computer Engineering (B.S.) program was established in 2013. At the time of the review, the program had 126 students and six faculty members including three supporting faculty members from the Computer Science program. The School of Engineering has one technician for the laboratories and one staff member providing advising support to faculty advisors. The program had 11 graduates in the 2020-21 academic year.

PROGRAM WEAKNESS

Criterion 2. Program Educational Objectives

This criterion requires the program to have published program educational objectives that are consistent with the mission of the institution, the needs of the program's various constituencies, and the engineering accreditation criteria. Program educational objectives are defined as broad statements that describe what graduates are expected to attain within a few years after graduation. Three of the four educational objectives listed by the program contain language describing what students are expected to know or be able to do at the time of graduation. Without appropriate program educational objectives, the program may miss opportunities to prepare students to meet the needs of the program's constituencies. Thus, strength of compliance with this criterion is lacking.

30-Day Due-Process Response

The EAC acknowledges receipt of new program educational objectives (PEOs). The program's process for ensuring the PEOs meet the needs of the constituencies includes a yearly presentation to the Industrial Advisory Board (IAB) and a survey of employers and alumni every other year. Although a survey was conducted, only four responses were obtained and whether or not these responses represented all of their constituencies (alumni, prospective employers, faculty, and students) is not clear. The yearly meeting of the IAB has not yet taken place. As the new PEOs have not yet been approved, strength of compliance with this criterion is still lacking.

Status

The program weakness is unresolved.

Post-30-Day Due-Process Response

The EAC acknowledges receipt of evidence that the constituents provided feedback on the new PEOs and that the new PEOs were approved by the Industrial Advisory Board.

Status

The program weakness has been resolved.

Industrial Engineering
B.S. Program

Evaluated under EAC Program Criteria for
Industrial and Similarly Named Engineering Programs

INTRODUCTION

The Industrial Engineering (B.S.) program was established in fall 2000. At the time of the review, the program had 73 students, four faculty members, two adjunct faculty members, and one lab technician. The program produced 14 graduates in the 2020-21 academic year.

PROGRAM WEAKNESSES

1. **Criterion 2. Program Educational Objectives**

   This criterion requires the program to have published program educational objectives that are consistent with the mission of the institution, the needs of the program's various constituencies, and the engineering accreditation criteria. Program educational objectives are defined as broad statements that describe what graduates are expected to attain within a few years after graduation. Three of the four educational objectives listed by the program contain language describing what students are expected to know or be able to do at the time of graduation. Without appropriate program educational objectives, the program may miss opportunities to prepare students to meet the needs of the program's constituencies. Thus, strength of compliance with this criterion is lacking.

   ### 30-Day Due-Process Response

   The EAC acknowledges receipt of new program educational objectives (PEOs). The program's process for ensuring the PEOs meet the needs of the constituencies includes a yearly presentation to the Industrial Advisory Board (IAB) and a survey of employers and alumni every other year. Although a survey was conducted, only four responses were obtained and whether or not these responses represented all of their constituencies (alumni, prospective employers, faculty, and students) is not clear. The yearly meeting of the IAB has not yet taken place. As the new PEOs have not yet been approved, strength of compliance with this criterion is still lacking.

   Status

   The program weakness is unresolved.

Post-30-Day Due-Process Response

The EAC acknowledges receipt of evidence that the constituents provided feedback on the new PEOs and that the new PEOs were approved by the Industrial Advisory Board.

Status

The program weakness has been resolved.

2. ### Criterion 5. Curriculum

This criterion requires a culminating major engineering design experience that incorporates appropriate engineering standards and multiple constraints. The program could not demonstrate that engineering standards and constraints were addressed in all projects. By not considering engineering standards and constraints in the major design experience, students may not be adequately prepared for engineering practice. Thus, strength of compliance with this criterion is lacking.

30-Day Due-Process Response

The program submitted plans to have instructors complete a revised Senior Project Evaluation form during week 13 of the semester. This form has been revised to explicitly evaluate application of constraints and standards. Furthermore, the instructors will evaluate and report the nature of the constraints for each project. As these plans have not yet been implemented, strength of compliance with this criterion is still lacking.

Status

The program weakness is unresolved.

Post-30-Day Due-Process Response

The EAC acknowledges receipt of the completed form that evaluates application of constraints and standards. Three design reports were submitted for review. Each of the three reports clearly indicate the constraints that were applied; however, the use of professional standards was not clear. For example, one report stated that ""...OSHA does not constrain unassisted lifting limits,...". However, the report did not specify the appropriate OSHA regulation, did not list OSHA in the reference section, and did not cite any other published standard. None of the other reports cited any standards. Additionally, the design instructor indicated that students were instructed to identify "standard industrial engineering methods and tools" in lieu of standards. These methods and tools are identified in the IISE Body of Knowledge. No reference to the IISE

Body of Knowledge was contained in any of the design reports or references, so it is not clear if students understood that they were meeting the profession's suggested requirements. Without incorporating the standards into the major design experience, students may not be prepared to enter the profession. Therefore, strength of compliance with this criterion is still lacking.

Status

The program weakness is unresolved. In preparation for the next review, the EAC expects evidence that the culminating major engineering design experience incorporates appropriate engineering standards.