



ENGINEERING ACCREDITATION COMMISSION

## **Summary of Accreditation Actions**

2021–2022 Accreditation Cycle

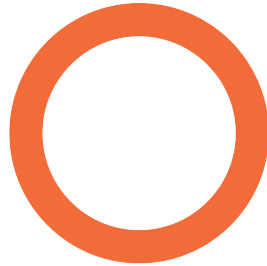
University of Wyoming  
Laramie, WY, United States

**Architectural Engineering (BS in Architectural Engineering)**  
**Chemical Engineering (BS in Chemical Engineering)**  
**Civil Engineering (BS in Civil Engineering)**  
**Computer Engineering (BS in Computer Engineering)**  
**Electrical Engineering (BS in Electrical Engineering)**  
**Energy Systems Engineering (BS in Energy Systems Engineering)**  
**Petroleum Engineering (BS in Petroleum Engineering)**

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.

### **Mechanical Engineering (BS in Mechanical Engineering)**

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

**UNIVERSITY OF WYOMING**

LARAMIE, WY, UNITED STATES

**FINAL STATEMENT OF ACCREDITATION**

2021-22 ACCREDITATION CYCLE

# UNIVERSITY OF WYOMING

Laramie, WY, United States

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ABET ENGINEERING ACCREDITATION COMMISSION

## FINAL STATEMENT

VISIT DATES: NOVEMBER 7-9, 2021

ACCREDITATION CYCLE CRITERIA: 2021-2022

## INTRODUCTION & DISCUSSION OF STATEMENT CONSTRUCT

The Engineering Accreditation Commission (EAC) of ABET has evaluated the Architectural Engineering (BS in Architectural Engineering), Chemical Engineering (BS in Chemical Engineering), Civil Engineering (BS in Civil Engineering), Computer Engineering (BS in Computer Engineering), Electrical Engineering (BS in Electrical Engineering), Energy Systems Engineering (BS in Energy Systems Engineering), Mechanical Engineering (BS in Mechanical Engineering), and Petroleum Engineering (BS in Petroleum Engineering) programs at University of Wyoming.

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 Chemical Engineering (BS in Chemical Engineering), Civil Engineering (BS in Civil Engineering), Computer Engineering (BS in Computer Engineering), Electrical Engineering (BS in Electrical Engineering), Energy Systems Engineering (BS in Energy Systems Engineering), and Mechanical Engineering (BS in Mechanical Engineering) programs.
- **Post-30-Day Due-Process Response** Information was received in the post-30-day due-process response period relative to the Civil Engineering (BS in Civil Engineering), Computer Engineering (BS in Computer Engineering), and Electrical Engineering (BS in Electrical Engineering) programs.

## INSTITUTIONAL SUMMARY

The University of Wyoming is a comprehensive land grant institution comprised of 11 schools and colleges. It serves approximately 11,480 students. The College of Engineering and Applied Science offers eight engineering programs and a Computer Science program at the bachelor's level. All of the engineering programs were evaluated during this review, and the Computer Science program was reviewed by the Computing Accreditation Commission of ABET. In fall 2021, the college had 1,358 undergraduate and 247 graduate students, 86 full-time faculty members, and 16 part-time faculty members. During the 2020-21 academic year, 282 undergraduate students and 66 graduate students from the College of Engineering and Applied Science received their degrees.

The following departments were reviewed and found to adequately support the engineering programs: mathematics, chemistry, physics, computing center, computer science, atmospheric science, library, humanities, social sciences, career services and admissions.

# **Architectural Engineering**

## **BS in Architectural Engineering Program**

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

### **INTRODUCTION**

The Architectural Engineering (BS in Architectural Engineering) program is administered by the Department of Civil and Architectural Engineering and Construction Management. The program was first accredited by the EAC in 1986. In fall 2021, 98 students were enrolled in the program, and the program produced 15 graduates in the 2020-21 academic year. There are 18 tenured or tenure-track faculty members, four non-tenure-track faculty members, and two adjunct faculty members associated with the program.

**No deficiencies, weaknesses, or concerns were found.**

# Chemical Engineering

## BS in Chemical Engineering Program

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Evaluated under EAC Program Criteria for  
Chemical, Biochemical, Biomolecular and Similarly Named Engineering Programs

### INTRODUCTION

The Chemical Engineering (BS in Chemical Engineering) program received initial accreditation by the EAC in 1974 and is administered by the College of Engineering and Applied Sciences. The program has 10 tenured or tenure-track faculty members, two additional lecturers, one full-time professor of practice and one staff member. In fall 2021, 128 students were enrolled in the program, and the program produced 31 graduates in the 2020-21 academic year.

### PROGRAM STRENGTHS

1. The organization and implementation of the assessment and continuous improvement strategy detailed in the self-study report was exemplary. The program was able to identify inadequacies in the attainment of student outcomes quickly and then efficiently implemented successful strategies to enable student success. Their efforts exemplified the spirit of the accreditation process with regard to assessment and continuous improvement. This will assure that the program continues to show regular improvement in the future.
2. Recently, the program succeeded in modernizing the undergraduate laboratories to include a broad range of experiments relevant to current industry practice, as well as to develop a state-of-the-art process control laboratory with significant industry support. The students in the program are provided with an abundance of opportunities for laboratory research and internship opportunities so that a significant proportion of the students engage in these professional development opportunities. These opportunities will enhance graduates' preparations for professional careers.

### PROGRAM WEAKNESS

#### Criterion 8. Institutional Support

This criterion requires that institutional support and leadership be adequate to ensure the quality and continuity of the program. The recently disclosed plan to discontinue the Chemical Engineering program had a significant deleterious effect on the program faculty, staff, and students. Although the discontinuation plan was dropped, discussions during the visit indicate that the program, while supporting significantly higher student enrollments than several other programs within and outside the college, is provided with less support in terms of required teaching assignments, graduate assistantships, and staff support than other programs. This lack of support is impacting faculty workload and could negatively affect retention and hiring of faculty as well as the ability of the faculty to continue to support all the required courses,

mentorship initiatives and undergraduate research opportunities. Thus, the program lacks strength of compliance with this criterion.

### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation describing the program's intent to hire an additional faculty member to fill an open position in the department. This documentation also described authorized searches that are planned to hire replacements for faculty members who retire or resign. If efforts to fill these faculty positions are not successful, future compliance with this criterion could be jeopardized.

#### Status

The program weakness is now cited as a program concern.

## PROGRAM CONCERN

### Criterion 7. Facilities

This criterion requires that modern tools, equipment, computing resources, and laboratories appropriate to the program be systematically maintained and upgraded to enable students to attain the student outcomes and to support program needs. The program staff does not include a dedicated specialist for maintaining the laboratory equipment and assisting teaching faculty with equipment operation and safety. Recently, a purchase of new equipment was made to upgrade the laboratory experience, but the responsibility of getting the equipment up and running and establish standard operating procedures fell on the teaching faculty. Although equipment is currently adequate to support laboratory courses, the absence of a dedicated technician threatens the sustained functionality and safety of the laboratory and places undue burden on the teaching faculty. Thus, future compliance with this criterion may be jeopardized.

### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation indicating that the program has formally requested a full-time technician to support the laboratory and maintain safe conditions. The program also reports that it has obtained permission to utilize the staff electrician from the Department of Electrical and Computer Engineering for any electrical needs for its teaching laboratories. However, the information received does not include evidence that additional laboratory support has been provided.

#### Status

The program concern is unresolved.

# Civil Engineering

## BS in Civil Engineering Program

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

### INTRODUCTION

The Civil Engineering (BS in Civil Engineering) program is housed in the Department of Civil and Architectural Engineering and Construction Management. The program was first accredited by the EAC in 1941. In fall 2021, the program enrolled 165 undergraduates and is supported by 21 full-time faculty members and five part-time instructors. The program produced 52 graduates in the 2020-21 academic year.

### PROGRAM WEAKNESS

#### Criterion 4. Continuous Improvement

This criterion requires the program to regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. While there is ample evidence that assessment of student outcomes is occurring, it appears the program is partially and inconsistently evaluating the assessment of student outcome attainment. Documented evidence of evaluation was limited to informal observations. When the program does not fully evaluate and document the extent to which the student outcomes are being attained, opportunities for improvement of the program are restricted. This criterion further requires the program to systematically utilize the results of its assessment and evaluation processes as input for the continuous improvement of the program. Due to the lack of evaluation of assessment data, the program was unable to provide evidence of consistent and systematic implementation of continuous improvements to the program. Evidence of several of program improvements was provided, but these improvements were not the result of student outcomes assessment evaluation. Because the program does not fully evaluate and document the extent to which the student outcomes are being attained and does not appear to systematically utilize the results of its assessment and evaluation processes as input for the continuous improvement of the program, the program lacks strength of compliance with this criterion.

#### 30-Day Due-Process Response

The EAC acknowledges the receipt of documentation describing a detailed assessment and evaluation process in which each student outcome is assessed every two years. Assessment results from spring 2021 were presented for student outcomes (4) and (5). The assessment data for student outcome (5) consisted of student self-assessments of teamwork skills. Self-assessment by students, alone, is not sufficient to determine the extent to which the student outcome is being attained. Because the assessment and evaluation process was updated in fall 2021 with assessment of student outcomes on even academic years going forward, the assessment data provided was not collected using these new processes. Until implementation of the new processes



are complete, there is the potential that future compliance with this criterion could be jeopardized.

**Status**

The program weakness is now cited as a program concern.

**Post-30-Day Due-Process Response**

The EAC acknowledges receipt of information concerning assessment and evaluation results related to student outcome (3). No assessment information was provided for student outcome (5).

**Status**

The program concern is unresolved.

# Computer Engineering

## BS in Computer Engineering Program

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

### INTRODUCTION

The Computer Engineering (BS in Computer Engineering) program is administered by the Department of Electrical and Computer Engineering. The program offers a broad education with a special emphasis on incorporating digital devices and microprocessors into various products and systems. The program has been accredited by the EAC since 2002. In fall 2021, 63 full-time and seven part-time students were enrolled in the program and the program produced seven graduates in the 2020-21 academic year. The program has five full-time faculty members and is also supported by faculty members from the Electrical Engineering and Computer Science programs.

### PROGRAM WEAKNESSES

#### 1. Criterion 4. Continuous Improvement

This criterion requires the program to regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The faculty has established a set of performance indicators using direct measures for each outcome in the form of specific course assignments. However, in assessing student outcomes (1), (2), (3) and (5), the metrics utilized to determine whether the outcomes were met used data averaged over team members, where the team received a score on the basis of a rubric, and each team member was assigned that same score. Moreover, teams were often comprised of students from both the Electrical Engineering and the Computer Engineering programs, and students from both cohorts were scored identically. Averaging of multiple measures can mask the meaning of an assessment and result in targets that appear to be met, when in fact students may not be performing at the desired level on specific performance elements of an outcome. In addition, the assessment data from the Electrical Engineering and the Computer Engineering programs were not disaggregated. Unless the program regularly uses a process for assessment of the extent to which the outcomes are being attained that produces information allowing the program to determine the extent to which student outcomes are attained for students within the program, the program cannot be certain that decisions for continuous improvement are sound. Thus, the program lacks strength of compliance with this criterion.

#### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation indicating that the program no longer gives an aggregate score for the entire team. The program now gives separate scores for each individual

member of the team. These data are then disaggregated to distinguish the results for the students in the program. The information received did not include examples of student work with individual scoring or summary reports for the program.

#### **Status**

The program weakness is unresolved.

#### Post-30-Day Due-Process Response

The EAC acknowledges receipt of information including examples showing how the performance of individual students was evaluated. Several faculty judges rated each student on a 0 to 4 scale for student outcomes (1), (2), and (3). These results were used in assessment of the extent to which those student outcomes are attained. In addition, the performance of each student was assessed separately for student outcome (3) using grading of the executive summary portion of the Senior Design II (EE 4830) course project. A summary report was provided.

#### **Status**

The program weakness has been resolved.

## **2. Criterion 5. Curriculum**

This criterion requires that the curriculum include a culminating major engineering design experience that incorporates appropriate engineering standards and multiple constraints. Review of the spring 2021 final reports for EE 4830, Senior Design II, shows that of 19 projects only one included engineering standards in the design process. The remaining projects either determined that engineering standards were not relevant to them or misinterpreted "engineering standards" to mean "work of high standard" or "best practices" rather than technical specifications promulgated by standards-making bodies. Unless students are required to incorporate appropriate engineering standards in the design process, the students may not be prepared to enter the practice of engineering. Thus, the program lacks strength of compliance with this criterion.

#### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation demonstrating that students are now required to describe the engineering standards used in the design in the report and to list them in the bibliography. Examples of student work were provided demonstrating that appropriate engineering standards have been incorporated.

**Status**

The program weakness has been resolved.

**Post-30-Day Due-Process Response**

The EAC acknowledges receipt of documentation providing additional evidence that students are being required to incorporate appropriate engineering standards in the design process.

**Status**

The program weakness has been resolved.

**3. Criterion 8. Institutional Support**

This criterion requires that institutional support be adequate to ensure the quality and continuity of the program. Evidence indicated that there were budget concerns among the advisory board and faculty. In addition, in the summer of 2021 plans to discontinue the Computer Engineering program were announced. These plans were later dropped, but plans are being discussed for the Electrical and Computer Engineering Department and Computer Science Department to merge. Faculty morale has been negatively impacted by the budget issues, absence of a plan to hire replacements for departed faculty, and uncertainty about the viability and continuity of the program. Because it appears that there is not sufficient support provided to the program by the institution, strength of compliance with this criterion is lacking.

**30-Day Due-Process Response**

The EAC acknowledges receipt of documentation indicating that the program has been authorized to conduct a search for two new faculty members for teaching and student mentoring to start in August 2022. If efforts to fill these faculty positions are not successful, future compliance with this criterion could be jeopardized.

**Status**

The program weakness is now cited as a program concern.

**Post-30-Day Due-Process Response**

The program did not provide additional information related to this shortcoming after the 30-day due-process period.

**Status**

The program concern is unresolved.

# Electrical Engineering

## BS in Electrical Engineering Program

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

### INTRODUCTION

The Electrical Engineering (BS in Electrical Engineering) program is administered by the Department of Electrical and Computer Engineering (ECE) in the College of Engineering and Applied Science. It offers a broad fundamental electrical engineering education with opportunities to specialize in areas such as signal processing, control systems, energy, or computer networks. The program was first accredited by the EAC in 1941. The program also offers a bioengineering option, providing an opportunity to apply electrical engineering techniques in other areas, including environmental monitoring and biomedical instrumentation. In fall 2021, 84 full-time and 10 part-time students were enrolled in the program and the program produced 34 graduates in the 2020-21 academic year. The program has seven full-time faculty members and is also supported by faculty members from the Computer Engineering and Computer Science programs.

### PROGRAM WEAKNESSES

#### 1. Criterion 4. Continuous Improvement

This criterion requires the program to regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The faculty has established a set of performance indicators using direct measures for each outcome in the form of specific course assignments. However, in assessing student outcomes (1), (2), (3) and (5), the metrics utilized to determine whether the outcomes were met used data averaged over team members, where the team received a score on the basis of a rubric, and each team member was assigned that same score. Moreover, teams were often comprised of students from both the Electrical Engineering and the Computer Engineering programs, and students from both cohorts were scored identically. Averaging of multiple measures can mask the meaning of an assessment and result in targets that appear to be met, when in fact students may not be performing at the desired level on specific performance elements of an outcome. In addition, the assessment data from the Electrical Engineering and the Computer Engineering programs were not disaggregated. Unless the program regularly uses a process for assessment of the extent to which the outcomes are being attained that produces information allowing the program to determine the extent to which student outcomes are attained for students within the program, the program cannot be certain that decisions for continuous improvement are sound. Thus, the program lacks strength of compliance with this criterion.

### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation indicating that the program no longer gives an aggregate score for the entire team. The program now gives separate scores for each individual member of the team. These data are then disaggregated to distinguish the results for the students in the program. The information received did not include examples of student work with individual scoring or summary reports for the program.

#### Status

The program weakness is unresolved.

### Post-30-Day Due-Process Response

The EAC acknowledges receipt of information including examples showing how the performance of individual students was evaluated. Several faculty judges rated each student on a 0 to 4 scale for student outcomes (1), (2), and (3). These results were used in assessment of the extent to which those student outcomes are attained. In addition, the performance of each student was assessed separately for student outcome (3) using grading of the executive summary portion of the Senior Design II (EE 4830) course project. A summary report was provided.

#### Status

The program weakness has been resolved.

## 2. Criterion 5. Curriculum

This criterion requires that the curriculum include a culminating major engineering design experience that incorporates appropriate engineering standards. Review of the spring 2021 final reports for EE 4830, Senior Design II, shows that of 19 projects only one included engineering standards in the design process. The remaining projects either determined that engineering standards were not relevant to them or misinterpreted "engineering standards" to mean "work of high standard" or "best practices" rather than technical specifications promulgated by standards-making bodies. Unless students are required to incorporate appropriate engineering standards in the design process, students may not be prepared to enter the practice of engineering. Thus, the program lacks strength of compliance with this criterion.

### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation demonstrating that students are now required to describe the engineering standards used in the design in the report and to list them in the bibliography. Examples of student work were provided demonstrating that appropriate

engineering standards have been incorporated.

**Status**

The program weakness has been resolved.

**Post-30-Day Due-Process Response**

The EAC acknowledges receipt of documentation providing additional evidence that students are being required to incorporate appropriate engineering standards in the design process.

**Status**

The program weakness has been resolved.

**3. Criterion 8. Institutional Support**

This criterion requires that institutional support and leadership be adequate to ensure the quality and continuity of the program. Evidence indicated that there were budget concerns among the advisory board and faculty. In addition, in the summer of 2021 plans to discontinue the Electrical Engineering program were announced. These plans were later dropped, but plans are being discussed for the Electrical and Computer Engineering Department and Computer Science Department to merge. This discussion appears to have had a direct and negative impact on faculty morale due to the uncertainty of the viability and continuity of the program. It was also observed that the faculty size has decreased, with no evidence of intention to replace the faculty serving this program. This has impacted the ability to offer some courses, such as the bioengineering courses. Because it appears that there is not sufficient support provided to the program by the institution, strength of compliance with this criterion is lacking.

**30-Day Due-Process Response**

The EAC acknowledges receipt of documentation indicating that the program has been authorized to conduct a search for two new faculty members for teaching and student mentoring to start in August 2022. If efforts to fill these faculty positions are not successful, future compliance with this criterion could be jeopardized.

**Status**

The program weakness is now cited as a program concern.



### Post-30-Day Due-Process Response

The program did not provide additional information related to this shortcoming after the 30-day due-process period.

### Status

The program concern is unresolved.

# Energy Systems Engineering

## BS in Energy Systems Engineering Program

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There were no applicable EAC program criteria.

### INTRODUCTION

The Energy Systems Engineering (BS in Energy Systems Engineering) program has been offered by the Department of Mechanical Engineering in the College of Engineering and Applied Science since fall 2009. In fall 2021, the program enrolled 33 students and was supported by 10 tenured or tenure-track faculty members, two non-tenure track full-time faculty members, one adjunct faculty member, and two professional staff members. The program produced six 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. It further states that there must be a documented, systematically utilized, and effective process involving program constituencies, for the periodic review of the educational objectives that ensures they remain consistent with the program's constituents' needs. As part of approving the proposed three new program educational objectives, the program had only one round of email communication with alumni, some of whom are also employers of the program's graduates, in March 2021. The only other documented discussion of program educational objectives was in 2016 through emails within the department in response to a previously cited shortcoming relative to this criterion. Thus, implementation of the process for periodic review of program educational objectives is incomplete. Without a documented, systematically utilized, and effective process to review the program educational objectives the program cannot ensure that the program educational objectives remain consistent with the needs of all its various constituents. Thus, strength of compliance with this criterion is lacking.

#### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation indicating that the program has developed and implemented a new process for periodic review of its program educational objectives. A special meeting of the Engineering Advisory Board was held on January 11, 2022 to discuss and vote on new proposed program educational objectives. Minutes of this meeting were provided. A plan for periodic review of program educational objectives with the board, at least once every two years during regular annual meetings was discussed and agreed upon. A date for the next

regular meeting of the board was proposed for September 16-17, 2022.

**Status**

The program weakness has been resolved.

**2. Criterion 5. Curriculum**

The criterion requires that the curriculum include a culminating major engineering design experience that incorporates appropriate engineering standards and multiple constraints. The program's culminating design experience is provided by two courses, ESE 4060, Systems Design I, and ESE 4070, Systems Design II. A review of student work from these courses revealed that while use of some engineering standards was evident in their designs, they did not document incorporation of engineering standards into the design process, such as by providing a rationale for the appropriateness of a particular engineering standard. Because there is insufficient consideration of engineering standards within the design projects, strength of compliance with this criterion is lacking.

**30-Day Due-Process Response**

The EAC acknowledges receipt of documentation demonstrating that the program's culminating design courses (ESE 4060 and 4070) already have engineering standards as a topic of instruction, and this topic was added to the list of required topics for the course. In addition, the program has modified the Course Learning Objectives (CLOs) that will ensure monitoring for compliance. A CLO was added to ESE 4060 requiring that students incorporate engineering standards and provide a rationale for their appropriateness. A CLO for ESE 4070 was modified to require students to plan for verifying compliance of the project with appropriate engineering standards.

**Status**

The program weakness has been resolved.

# Mechanical Engineering

## BS in Mechanical Engineering Program

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

### INTRODUCTION

The Mechanical Engineering (BS in Mechanical Engineering) program is administered by the Department of Mechanical Engineering. It began as a mechanical arts program in the 1880s and was first accredited by the EAC in 1941. In fall 2021, the program enrolled 301 students. The program has 11 full-time faculty members and one part-time faculty member, as well as two full-time staff employees who provide support for program activities. The program produced 56 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. It further states that there must be a documented, systematically utilized, and effective process involving program constituencies, for the periodic review of the educational objectives that ensures they remain consistent with the program's constituents' needs. As part of approving the proposed three new program educational objectives, the program had only one round of email communication with alumni, some of whom are also employers of the program's graduates, in March 2021. The only other documented discussion of program educational objectives was in 2016 through emails within the department, in response to a previously cited shortcoming relative to this criterion. Thus, implementation of the process for periodic review of program educational objectives is incomplete. Without a documented, systematically utilized, and effective process to review the program educational objectives the program cannot ensure that the program educational objectives remain consistent with the needs of all its various constituents. Thus, strength of compliance with this criterion is lacking.

#### 30-Day Due-Process Response

The EAC acknowledges receipt of documentation indicating that the program has developed and implemented a new process for periodic review of its program educational objectives. A special meeting of the Engineering Advisory Board was held on January 11, 2022 to discuss and vote on new proposed program educational objectives. Minutes of this meeting were provided. A plan for periodic review of program educational objectives with the board, at least once every two years during regular annual meetings was discussed and agreed upon. A date for the next

regular meeting of the board was proposed for September 16-17, 2022.

**Status**

The program weakness has been resolved.

**2. Criterion 4. Continuous Improvement**

This criterion requires that the program regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. It further states that the results of these evaluations must be systematically utilized as input for the program's continuous improvement actions. Currently the program has assessment and evaluation processes which are appropriate. However, documentation of these processes is not organized and the processes do not appear to be systematically utilized in spite of decisions and action items being executed based on assessment data. When evidence that the processes were being regularly used was requested, only decisions and changes which could be remembered were mentioned verbally without any supporting documentation. Consequently critical information needed for continuous improvement tracking was lost. For these reasons, strength of compliance with this criterion is lacking.

**30-Day Due-Process Response**

The EAC acknowledges receipt of documentation indicating that the program has developed an improved and better organized process for assessment and evaluation of student outcome attainment. An annual calendar of assessment activities was created to ensure regular performance of the required steps. An internal website was created to keep track of assessment and evaluation results and changes to the courses and programs. The information received did not include evidence that the new process has been implemented.

**Status**

The program weakness is unresolved. In preparation for the next review, the EAC anticipates receipt of documentation providing evidence that the program regularly uses appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained and systematically uses the results of the evaluations as input for the continuous improvement of the program.

# **Petroleum Engineering**

## **BS in Petroleum Engineering Program**

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

### **INTRODUCTION**

The Petroleum Engineering (BS in Petroleum Engineering) program is administered by the Department of Petroleum Engineering. The program was first accredited by the EAC in 2007. The program offers four options: the BS/MS Quick Start program, the International Engineering option, the Engineering Honors Program, and technical elective emphases. In fall 2021, the program enrolled 108 full-time students and 15 part-time students and was supported by 12 full-time faculty members. The program produced 30 graduates in the 2020-21 academic year.

**No deficiencies, weaknesses, or concerns were found.**