



ENGINEERING ACCREDITATION COMMISSION

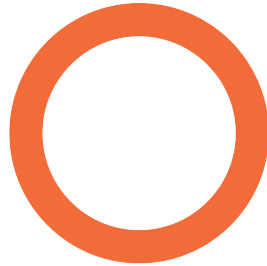
Summary of Accreditation Actions

2021–2022 Accreditation Cycle

Northern Arizona University
Flagstaff, AZ, United States

**Computer Engineering (BS)
Electrical Engineering (BSE)**

Accredit to September 30, 2026. A request to ABET by January 31, 2025 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, 2025. The reaccreditation evaluation will be a comprehensive general review.



ABET

ENGINEERING ACCREDITATION COMMISSION

NORTHERN ARIZONA UNIVERSITY

FLAGSTAFF, AZ, UNITED STATES

FINAL STATEMENT OF ACCREDITATION

2021-22 ACCREDITATION CYCLE

NORTHERN ARIZONA UNIVERSITY

Flagstaff, AZ, United States

ABET ENGINEERING ACCREDITATION COMMISSION

FINAL STATEMENT

Report Submitted: 1 July 2021

ACCREDITATION CYCLE CRITERIA: 2019-2020

INTRODUCTION & DISCUSSION OF STATEMENT CONSTRUCT

The Engineering Accreditation Commission (EAC) of ABET has evaluated the Computer Engineering (BS), and Electrical Engineering (BSE) programs at Northern Arizona University, relative to shortcomings remaining after the 2019-20 EAC review.

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

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

programs.

INSTITUTIONAL SUMMARY

Northern Arizona University is a public four-year research institution. The College of Engineering, Informatics, and Applied Sciences offers nine undergraduate degree programs, two of which were evaluated during this review. At the time of the previous review, the college enrolled 2,660 undergraduate students supported by approximately 90 full-time faculty members. The college produced 393 graduates from the undergraduate programs in the 2018-19 academic year.

Computer Engineering

BS Program

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

INTRODUCTION

The Computer Engineering (BS) program is housed in the School of Informatics, Computing, and Cyber Systems. At the time of the previous review, the program enrolled 78 students supported by 13 full-time faculty members. The program produced 11 graduates in the 2018-19 academic year.

PROGRAM WEAKNESS

Program Criteria

The previous review cited a lack of probability and statistics including applications appropriate to computer engineering in the courses required of all students. In its due-process response, the program documented that applied random theory content had been added in two courses, although, only one course was required of all students. A plan to add a required 300-level course to satisfy this criterion had not been implemented.

Progress Since Last Review

The interim report described changes in the content of three courses, EE 348, Signals and Systems; EE 364, Fundamentals of Electromagnetics; and EE 280, Introduction to Electronics Laboratory; to provide additional probability and statistics content in the curriculum. One course, EE 364, is an elective and might not be taken by all students. The documentation included the EE 348 syllabus, however, no evidence of student work verifying the incorporation of these changes was presented. Without adequate documentation of the inclusion of probability and statistics including applications appropriate to computer engineering, the program lacks strength of compliance with this criterion.

Status

The program weakness is unresolved.

30-Day Due-Process Response

The EAC acknowledges receipt of documentation providing details of the revised content of three courses with probability and statistics content that were offered in the spring 2022 term. The documentation included evidence of probability and statistics included in lectures, homework assignments/problem sets, quiz questions, laboratory assignments and exam questions. However,

no evidence of student work was provided.

Status

The program weakness is unresolved.

Post-30-Day Due-Process Response

The EAC acknowledges receipt of student work documenting the inclusion of probability and statistics with applications appropriate to computer engineering.

Status

The program weakness has been resolved.

PROGRAM CONCERN

Criterion 8. Institutional Support

The previous review cited inadequate support for student advising resulting from high turnover rates in the advising staff and a lack of curricular knowledge among the advisors. In its due-process response, the program reported changes that resulted in higher advisor retention rates and improved student satisfaction ratings. These changes included increased salaries for advisors, the establishment of an Advising Coordinator position, and better communication among advisors and the curriculum committee. However, due to the newness of these initiatives, sustainability of the changes had yet to be demonstrated.

Progress Since Last Review

The interim report provided details of additional initiatives put in place to ensure improved advisor awareness and participation in program communications, decision making, and curricular changes. These initiatives include weekly meetings between the advising team and the school's Associate Director, and the inclusion of the Advising Coordinator in bi-monthly Executive Team meetings. Data were presented showing the continued increase of student satisfaction with advising from the originally reported 4.42 to 4.82 in academic year 2020-21.

Status

The program concern has been resolved.

Electrical Engineering

BSE Program

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

INTRODUCTION

The Electrical Engineering (BSE) program is housed within the School of Informatics, Computing, and Cyber Systems. At the time of the previous review, the program enrolled 255 students supported by 16 full-time faculty members. The program produced 78 graduates in the 2018-19 academic year.

PROGRAM WEAKNESS

Program Criteria

The previous review cited a lack of probability and statistics including applications appropriate to electrical engineering in the courses required of all students. In its due-process response, the program documented that applied random theory content had been added in two courses, although, only one course was required of all students. A plan to add a required 300-level course to satisfy this criterion had not been implemented.

Progress Since Last Review

The interim report described changes in the content of three courses, EE 348, Signals and Systems; EE 364, Fundamentals of Electromagnetics; and EE 280, Introduction to Electronics Laboratory; to provide additional probability and statistics content in the curriculum. One course, EE 364, is an elective and might not be taken by all students. Documentation included the EE 348 syllabus, however, no evidence of student work verifying the incorporation of these changes was presented. Without adequate documentation of the inclusion of probability and statistics including applications appropriate to electrical engineering, the program lacks strength of compliance with this criterion.

Status

The program weakness is unresolved.

30-Day Due-Process Response

The EAC acknowledges receipt of documentation providing details of the revised content of three courses with probability and statistics content that were offered in the spring 2022 term. The documentation included evidence of probability and statistics included in lectures, homework

assignments/problem sets, quiz questions, laboratory assignments and exam questions. However, no evidence of student work was provided.

Status

The program weakness is unresolved.

Post-30-Day Due-Process Response

The EAC acknowledges receipt of student work documenting the inclusion of probability and statistics with applications appropriate to electrical engineering.

Status

The program weakness has been resolved.

PROGRAM CONCERNS

1. Criterion 7. Facilities

The previous review cited the occurrence of frequent equipment failures and the potential negative impact on laboratory experiences. The 30-day due-process response described a plan, to be implemented annually, for the repair and replacement of laboratory equipment. However, the program did not provide evidence that this plan had been successfully implemented.

Progress Since Last Review

The interim report provided evidence that the equipment repair and replacement plan and schedule had been followed for the past two years.

Status

The program concern has been resolved.

2. Criterion 8. Institutional Support

The previous review cited inadequate support for student advising resulting from high turnover rates in the advising staff and a lack of curricular knowledge among the advisors. In its due-process response, the program reported changes that resulted in higher advisor retention rates and improved student satisfaction ratings. These changes included increased salaries for advisors, the establishment of an Advising Coordinator position, and better communication among advisors and the curriculum committee. However, due to the newness of these initiatives, sustainability of the changes had yet to be demonstrated.

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