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Applied Science Accreditation Commission
Computing Accreditation Commission
Engineering Accreditation Commission
Engineering Technology Accreditation Commission

August 17, 2012

Ramaswami Dandapani
Dean, College of Engineering and Applied Science
University of Colorado at Colorado Springs
1420 Austin Bluffs Parkway
Colorado Springs, CO 80918

Dear Dr. Dandapani :

The Engineering Accreditation Commission (EAC) of ABET recently held its 2012 Summer Meeting to act on the program evaluations conducted during 2011-2012. Each evaluation was summarized in a report to the Commission and was considered by the full Commission before a vote was taken on the accreditation action. The results of the evaluation for University of Colorado at Colorado Springs are included in the enclosed Summary of Accreditation Actions. The Final Statement to your institution that discusses the findings on which each action was based is also enclosed.


The policy of ABET is to grant accreditation for a limited number of years, not to exceed six, in all cases. The period of accreditation is not an indication of program quality. Any restriction of the period of accreditation is based upon conditions indicating that compliance with the applicable accreditation criteria must be strengthened. Continuation of accreditation beyond the time specified requires a reevaluation of the program at the request of the institution as noted in the accreditation action. ABET policy prohibits public disclosure of the period for which a program is accredited. For further guidance concerning the public release of accreditation information, please refer to Section II.A. of the 2011-2012 Accreditation Policy and Procedure Manual (available at www.abet.org).

A list of accredited programs is published annually by ABET. Information about ABET accredited programs at your institution will be listed in the forthcoming ABET Accreditation Yearbook and on the ABET web site (www.abet.org).

It is the obligation of the officer responsible for ABET accredited programs at your institution to notify ABET of any significant changes in program title, personnel, curriculum, or other factors which could affect the accreditation status of a program during the period of accreditation stated in Section II.H. of the 2011-2012 Accreditation Policy and Procedure Manual (available at www.abet.org).

Please note that appeals are allowed only in the case of Not to Accredite actions. Also, such appeals may be based only on the conditions stated in Section II.L. of the 2011-2012 Accreditation Policy and Procedure Manual (available at www.abet.org).

Sincerely,

A handwritten signature in black ink that reads "Susan E. Conry". The signature is written in a cursive style with a period at the end.

Susan E. Conry, Chair
Engineering Accreditation Commission

Enclosure: Summary of Accreditation Action
Final Statement

cc: Pamela Shockley-Zalabak, Chancellor
Stephanie Mora, Executive Assistant to the Dean
Daisie Boettner, Visit Team Chair

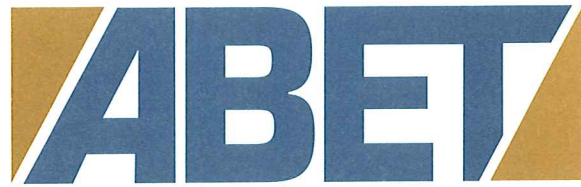


ABET
Engineering Accreditation Commission
Summary of Accreditation Actions
for the
2011-2012 Accreditation Cycle

**University of Colorado at Colorado Springs
Colorado Springs, CO**

Computer Engineering (BS)
Electrical Engineering (BS)
Mechanical Engineering (BS)

Accredit to September 30, 2018. A request to ABET by January 31, 2017 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 01, 2017. The reaccreditation evaluation will be a comprehensive general review.



Engineering Accreditation Commission

Final Statement of Accreditation
to

University of Colorado at Colorado Springs
Colorado Springs, Colorado

2011-12 Accreditation Cycle

Leadership and Quality Assurance in Applied Science, Computing, Engineering, and Technology Education

**ABET
ENGINEERING ACCREDITATION COMMISSION**

**UNIVERSITY OF COLORADO AT COLORADO SPRINGS
Colorado Springs, CO**

FINAL STATEMENT
Visit Dates: October 9-11, 2011
Accreditation Cycle Criteria: 2010-2011

Introduction & Discussion of Statement Construct

The Engineering Accreditation Commission (EAC) of ABET has evaluated the computer, electrical, and mechanical engineering programs of the University of Colorado at Colorado Springs.

This statement is the final summary of the EAC evaluation at the institutional and engineering-program levels. It includes information received during due process. This statement consists of two parts: the first addresses the institution and its overall engineering educational unit, and the second addresses the individual engineering programs. It is constructed in a format that allows the reader to discern both the original visit findings and subsequent progress made during due process.

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.

The University of Colorado at Colorado Springs is a state-supported institution established in 1965. The university offers undergraduate and graduate degrees through six colleges and schools. The College of Engineering and Applied Science has three engineering departments, Computer Science, Electrical and Computer Engineering, and Mechanical and Aerospace Engineering. The college offers three programs currently accredited by the EAC of ABET: computer engineering, electrical engineering, and mechanical engineering. Other offerings include a program in computer science (accredited by the CAC of ABET) and a degree in innovation. The College of Engineering and Applied Science has 653 undergraduate students, 242 graduate students, and 30.5 full-time faculty members that include tenure-track faculty members and instructors supplemented by up to 12 adjunct faculty members.

The following units were reviewed and found to adequately support the engineering programs: mathematics, physics, chemistry, library, admissions, registrar, student success center, and information technology.

Institutional Strengths

1. The University of Colorado at Colorado Springs serves a growing and diverse student population of traditional and non-traditional students. The administration, faculty, and staff have developed and maintain a learning community environment dedicated to student development and education. Such an environment promotes quality of the educational experience for all students.
2. The Student Support for Success program run by five staff members in the College of Engineering and Applied Science provides a holistic approach to student support. Services include freshman welcome, retention activities, undergraduate research experiences, student

FINAL STATEMENT**UNIVERSITY OF COLORADO
AT COLORADO SPRINGS**

clubs, internships, help center, and engineering job fair. These easily accessible and well-coordinated support activities improve the potential for student success in the engineering programs.

**Computer Engineering
Program**Introduction

The computer engineering program is housed in the Electrical and Computer Engineering Department. There are six computer engineering faculty members, three from the Electrical and Computer Engineering Department and three from the Computer Science Department. The computer engineering program was established in 1999. The program had 34 students at the time of the visit, and graduated five students in 2010-2011.

Program Concern

1. Criterion 7. Facilities This criterion requires that modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systematically maintained and upgraded to enable students to attain student outcomes and to support program needs. Some measuring equipment such as some of the oscilloscopes and function generators in the circuits and electronics laboratory (room 229), which is used by several courses, does not function and is in need of maintenance and/or calibration. The laboratory technician was on medical leave and has returned temporarily on a part-time basis. The department has advertised to hire a replacement technician. At present the laboratories are adequate to support the program. However, if a full-time laboratory technician is not hired, future compliance with this criterion may be jeopardized.
 - Due-process response: The EAC acknowledges receipt of documentation that Agilent Technologies has donated 20 new oscilloscopes with signal generators to support the circuits and electronics laboratory in room ENG 229. The EAC also acknowledges receipt of documentation that a full-time laboratory technician has been hired to support the Department of Electrical and Computer Engineering (ECE) effective January 2, 2012. This laboratory technician is in charge of maintenance and upgrade of all ECE laboratories and ordering components for all student projects.
 - The concern is resolved.

**Electrical Engineering
Program**

Introduction

The electrical engineering program is housed in the Electrical and Computer Engineering Department. The program had 96 students and seven full-time faculty members at the time of the visit. It graduated 12 students in 2010-2011.

Program Strength

1. The program has a strong relationship with local industry, which provides internships for students and research opportunities for faculty and graduate students. These activities enhance student exposure to both engineering practice and engineering research.
2. The program offers a technically rigorous education with required courses in electronics, communications, digital systems, and electromagnetics.

Program Concern

1. Criterion 7. Facilities This criterion requires that modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systematically maintained and upgraded to enable students to attain student outcomes and to support program needs. Some measuring equipment such as some of the oscilloscopes and function generators in the circuits and electronics laboratory (room 229), which is used by several courses, does not function and is in need of maintenance and/or calibration. The laboratory technician was on medical leave and has returned temporarily on a part-time basis. The department has advertised to hire a replacement technician. At present the laboratories are adequate to support the program. However, if a full-time laboratory technician is not hired, future compliance with this criterion may be jeopardized.
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FINAL STATEMENT**UNIVERSITY OF COLORADO
AT COLORADO SPRINGS**

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- The concern is resolved.

**Mechanical Engineering
Program**Introduction

The mechanical engineering program has an enrollment of 277 students. The program has 11 full-time faculty members that include three professors, four associate professors, two assistant professors, and two instructors. One of these faculty members serves as the Associate Vice Chancellor for Research and Innovation. All of the full-time faculty members have Ph.D. degrees. In addition, the program has at least 10 part-time faculty members and an adequate number of support staff to meet the needs of the program.

Program Strength

1. The faculty has a noteworthy desire to see students succeed. The high level of faculty interaction with students, the rigor of the program, and the challenging undergraduate research opportunities available to students provide a rich learning environment that promotes student success.

Program Weakness

1. Criterion 4. Continuous Improvement Criterion 4 requires that the program regularly use appropriate, documented processes for assessing and evaluating the extent to which both the program educational objectives and the student outcomes are being attained. The results of these evaluations must be systematically used as input for the continuous improvement of the program. The program educational objectives are being assessed, but there is no evidence of a process for evaluation of the assessment data to determine the extent to which the objectives are being attained and provide input for continuous improvement of the program. The program also has a plan in place to assess its courses, has mapped the student outcomes to the courses, has assessment data related to those courses, regularly convenes faculty members to discuss their assessment of the courses, and makes changes based on their discussions. However, the data are evaluated by course instead of by student outcome, and there are no clearly defined acceptable levels of attainment for the student outcomes. Hence, the program cannot unambiguously determine the degree to which each student outcome has

been attained. Although the course assessment data are evaluated and used to improve the program, attainment of student outcomes is not assessed and hence cannot be used for program improvement. Thus, strength of compliance with the criterion is lacking.

- Due-process response: The EAC acknowledges receipt of documentation that indicates an Evaluation Committee has been formed to identify an individual or group to oversee the evaluation process for data collected on program educational objectives and student outcomes. The documentation describes future actions to be taken with respect to evaluation of program educational objectives: compile assessment data, assign quantitative metrics, evaluate extent to which program educational objectives are being met, and implement any required program adjustments as a result of evaluation. The institution provided no evidence in its documentation of any these actions taken to date. The documentation further describes changes in the program's semester assessment program to include an explicit review of the quantitative degree of achievement of each student outcome in addition to the current course-level assessment. To date, no results from the evaluation of student outcomes have been provided.
- Supplemental information: The EAC acknowledges receipt of additional documentation that the program has clearly defined a decoupled process for formal evaluation of assessment data for its program educational objectives and its student outcomes. As part of this process the program converted its evaluation metric from a red-yellow-green designation to a numerical value using a scale of 1-5 with results less than 3.0 designated as an indicator for corrective action. The program provided evidence of the degree to which program educational objectives were achieved based on evaluation of previously collected assessment data. These results were considered in the most recent improvements implemented by the program. Additionally, the process for evaluation of assessment data for program educational objectives and subsequent determination of any required program changes based on this evaluation has been further strengthened by the introduction of a formal annual faculty meeting dedicated to this purpose. The program consolidated student outcomes assessment data it collected from assessment of student work during previous semesters and applied the evaluation metrics to determine the

FINAL STATEMENT

UNIVERSITY OF COLORADO AT COLORADO SPRINGS

degree to which each student outcome was attained. The program made several improvements to the program based on results from this evaluation process.

- The weakness is resolved.