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

August 06, 2013

Robert H. Davis  
Dean of Engineering  
University of Colorado at Boulder  
422 UCB, Engineering Center  
Boulder, CO 80309-0422

Dear Dr. Davis :

The Engineering Accreditation Commission (EAC) of ABET recently held its 2013 Summer Meeting to act on the program evaluations conducted during 2012-2013. 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 Boulder 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 2012-2013 Accreditation Policy and Procedure Manual (available at [www.abet.org](http://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](http://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 2012-2013 Accreditation Policy and Procedure Manual (available at [www.abet.org](http://www.abet.org)).

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Please note that appeals are allowed only in the case of Not to Accredited actions. Also, such appeals may be based only on the conditions stated in Section II.L. of the 2012-2013 Accreditation Policy and Procedure Manual (available at [www.abet.org](http://www.abet.org)).

Sincerely,

A handwritten signature in cursive script, reading "David B. Beasley".

David B. Beasley, Chair  
Engineering Accreditation Commission

Enclosure: Summary of Accreditation Action  
Final Statement

cc: Philip P. DiStefano, Chancellor  
Tim L Brower, Director, ME Partnership Program  
Raman M. Unnikrishnan, Visit Team Chair



8/6/2013

**ABET**  
**Engineering Accreditation Commission**  
**Summary of Accreditation Actions**  
**for the**  
**2012-2013 Accreditation Cycle**

**University of Colorado at Boulder**  
**Boulder, CO**

**Mechanical Engineering Partnership Program with Colorado Mesa University (BS ME)**

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.

This is a newly accredited program. Please note that this accreditation action extends retroactively from October 01, 2011.



Engineering Accreditation Commission

Final Statement of Accreditation  
to

University of Colorado at Boulder  
Boulder, CO

2012-13 Accreditation Cycle

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**ABET  
ENGINEERING ACCREDITATION COMMISSION**

**UNIVERSITY OF COLORADO AT BOULDER**

**Grand Junction, Colorado**

**FINAL STATEMENT**

**Visit Dates: September 30-October 2, 2012**

**Accreditation Cycle Criteria: 2012-2013**

**Introduction**

The Engineering Accreditation Commission (EAC) of ABET has evaluated the University of Colorado at Boulder's mechanical engineering partnership program with Colorado Mesa University for initial accreditation.

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 program. 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 College of Engineering and Applied Science at the University of Colorado Boulder (UC Boulder), a national research university, offers undergraduate degrees in 12 programs, nine of which are accredited by the EAC of ABET, and one of which is accredited by the CAC of ABET. Most of the programs are traditional with classes taught during the day to resident students, but the college also offers a modest number of courses through distance learning. The College has 180 full-time-equivalent tenured or tenure-track faculty members, and 46 full-time-equivalent non-tenure-track faculty members. There are 10 full-time and three part-time laboratory/technical staff members. There are 76 full-time and eight part-time office/administrative staff members. There are approximately 3,382 undergraduate students and approximately 1,605 graduate students. The mechanical engineering program has 25 tenured or tenure-track faculty members. The department awarded 126 BS degrees in the 2011-12 academic year.

Colorado Mesa University (CMU) is located in Grand Junction, Colorado, approximately 250 miles southwest of the main campus in Boulder. CMU was formerly known as Mesa State College. It has an enrollment of more than 8,130 students with one-eighth of the students coming from outside Colorado. Eighteen percent of the student body is from underrepresented groups. About a quarter of the student body is non-traditional in age, background, and work commitment. The university has a tradition of helping students complete degrees through remediation, convenient class times, advising, and personal attention. Teaching, rather than research, has been the centerpiece of the mission of CMU. CMU also maintains a community college role and mission including career and technical education programs.

The University of Colorado Boulder and Colorado Mesa University entered into a formal partnership in February 2008 to deliver a mechanical engineering program in its entirety in Grand Junction. According to this partnership, students take the first two years of study at CMU paying



CMU tuition and then matriculate into the UC Boulder's mechanical engineering program upon meeting certain admission criteria. The students pay UC Boulder tuition for the last two years and take engineering courses taught by UC Boulder faculty. The students continue to take general education courses from CMU.

During the site visit to the CMU campus in Grand Junction, the following units were reviewed and found to adequately support the current needs of the mechanical engineering program: mathematics, physics, library, career services, registrar, and admissions. Institutional support from CMU was found to be appropriate and adequate for the continuing success of the partnership program. The UC Boulder campus was also visited to gauge institutional commitment and support to the program offered at Grand Junction. It was determined that UC Boulder provides appropriate support for the partnership program.

#### Institutional Strengths

1. The collaboration between CMU and UC Boulder to develop and support the mechanical engineering partnership program extends engineering education to an underserved region and increases educational opportunities for underrepresented students.
2. Superb administrative support for managing the partnership program exists across administrative levels at the UC Boulder campus. This enthusiastic commitment contributes to the long term viability of the collaboration. Also, the program in Grand Junction benefits significantly by having access to the high quality assessment expertise resident in the main campus.

**Mechanical Engineering Partnership with Colorado Mesa University  
Program**

Program Criteria for Mechanical and Similarly Named Engineering Programs

Introduction

The mechanical engineering partnership with Colorado Mesa University program enables students to earn a bachelor of science in mechanical engineering from UC Boulder while in residence on the Colorado Mesa University (CMU) campus in Grand Junction. The first two years of classes, including six lower-level engineering courses, are offered by CMU and taught by CMU faculty. Upper-level mechanical engineering classes are offered by UC Boulder on the CMU campus and are taught by UC Boulder faculty who are in residence in Grand Junction. Supplemental upper-division elective courses are offered by CMU faculty. The program graduated its first class of nine students in May, 2012.

Program Strengths

1. The program offers a sound engineering educational opportunity with small classes and individual student attention for an under-served region. It is a model for partnership programs that can be replicated beyond Colorado.
2. The Industrial Advisory Council is actively engaged in many activities not directly associated with the academic program including fund raising, recruitment of underserved populations, and program development. For example, the council is strongly supporting the extension of the partnership by developing a program in civil engineering.

Program Concerns

1. Criterion 4. Continuous Improvement This criterion requires that the program must 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 assessment processes for many outcomes use rubrics to evaluate student attainment. The results of these evaluations are then averaged to produce a single number that may mask detail evident in individual assessment measures. This evaluation methodology may, therefore, yield



misleading results for attainment of student outcomes, thus potentially compromising future compliance with this criterion.

- Due-process response: The EAC acknowledges receipt of a revised assessment process built around previously-developed rubrics. The program demonstrated the effectiveness of this new assessment process using existing assessment data.
- The concern is resolved.

2. Criterion 8. Institutional Support This criterion requires that institutional support and leadership must be adequate to ensure the quality and continuity of the program. Enrollment growth associated with the new mechanical engineering partnership program has increased teaching demands within critical support departments. At the time of the visit one departmental-level administrator from a key support department chaired two departments while teaching 11 credit hours (three classes) in the fall semester. A second departmental-level administrator from another critical support program chaired three departments and also carried significant teaching responsibilities. The mathematics department is slated to hire a new faculty member; however, this individual will address the remediation needs of incoming students and is not expected to teach courses vital for engineering students. While the support departments are able to meet the needs of the current students in mechanical engineering, as the program grows the leadership of the support departments and the availability of critical courses may not be sufficient in the future. Therefore, the quality and continuity of the mechanical engineering program may be compromised.

- Due-process response: The EAC acknowledges receipt of documentation that excessive teaching loads assigned to department chairs are optional and taken voluntarily. The program indicated that future overload assignments will be made with caution and in collaboration with higher administrative levels.
- The concern remains unresolved.

3. Program Criteria Program criteria for mechanical engineering programs states that the curriculum must require students to apply principles of engineering, basic science, and mathematics (including multivariate calculus and differential equations); to model, analyze,

design, and realize physical systems, components or processes; and prepare students to work professionally in both thermal and mechanical systems areas. The thermal systems component of the criterion relies on just one design project to prepare the students for work in thermal systems. While this design experience currently satisfies the criterion, this may not be the case if a different instructor decides not to conduct this project in future years.

- Due-process response: The EAC acknowledges documentation of changes in curricular content. Specifically, three content additions addressing design and realization of thermal systems have been made and examples of related course materials provided.
- The concern is resolved.