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August 12, 2016

Mun Y. Choi
Provost & Executive Vice President
University of Connecticut
352 Mansfield Road, Unit 2086
Storrs, CT 06269-2086

Dear Dr. Choi :

I am pleased to transmit to you the findings of the Engineering Accreditation Commission (EAC) of ABET with respect to the evaluation conducted for University of Connecticut during 2015-2016. Each of ABET's Commissions is fully authorized to take the actions described in the accompanying letter under the policies of the ABET Board of Directors.

We are pleased that your institution has elected to participate in this accreditation process. This process, which is conducted by approximately 2,000 ABET volunteers from the professional community, is designed to advance and assure the quality of professional education. We look forward to our continuing shared efforts toward this common goal.

Sincerely,

Lawrence Jones
President

Enclosure: Commission letter and attachments



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August 12, 2016

Kazem Kazerounian
Dean, School of Engineering
University of Connecticut
261 Glenbrook Road, UBox 3237
Storrs, CT 06269-3237

Dear Dr. Kazerounian :

The Engineering Accreditation Commission (EAC) of ABET recently held its 2016 Summer Meeting to act on the program evaluations conducted during 2015-2016. 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 Connecticut 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 2015-2016 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 2015-2016 Accreditation Policy and Procedure Manual (available at www.abet.org).

ABET requires that each accredited program publicly state the program's educational objectives and student outcomes as well as publicly post annual student enrollment and graduation data as stated in Section II.A.6. of the Accreditation Policy and Procedure Manual (available at www.abet.org).

ABET will examine all newly accredited programs' websites within the next two weeks to ensure compliance.

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 2015-2016 Accreditation Policy and Procedure Manual (available at www.abet.org).

Sincerely,

A handwritten signature in black ink that reads "Sarah A. Rajala" followed by a horizontal flourish.

Sarah A. Rajala, Chair

Engineering Accreditation Commission

Enclosure: Summary of Accreditation Action
Final Statement

cc: Mun Y. Choi, Provost & Executive Vice President
Robert McCartney, Associate Professor
Aaron R Byerley, Report Team Chair



8/12/2016

Engineering Accreditation Commission
Summary of Accreditation Actions
for the
2015-2016 Accreditation Cycle

University of Connecticut
Storrs, CT

Biomedical Engineering (BSE)

Computer Engineering (BSE)

Electrical Engineering (BSE)

Management and Engineering for Manufacturing (BS)

Accredit to September 30, 2020. A request to ABET by January 31, 2019 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, 2019. The reaccreditation evaluation will be a comprehensive general review.



ABET

Engineering Accreditation Commission

Final Statement of Accreditation
to

University of Connecticut
Storrs, CT

2015-2016 Accreditation Cycle

**ABET
ENGINEERING ACCREDITATION COMMISSION**

**UNIVERSITY OF CONNECTICUT
Storrs, CT**

FINAL STATEMENT
Report submitted: July 1, 2015
Accreditation Cycle Criteria: 2013-2014

Introduction and Discussion of Statement Construct

The Engineering Accreditation Commission (EAC) of ABET has conducted an evaluation of the biomedical engineering, computer engineering, electrical engineering, and the management and engineering for manufacturing programs at the University of Connecticut relative to shortcomings remaining after the 2013 general EAC review.

This statement is the final summary of the EAC evaluation. This statement consists of two parts: the first part of the statement addresses the institution and its overall engineering educational unit; the second part addresses the individual engineering programs. Its format allows the reader to discern both the original report findings and any 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 Connecticut is a land, sea, and space grant university with a wide range of graduate and professional programs, as well as a comprehensive undergraduate program. At the time of the 2013 general review, the university enrolled approximately 30,000 students on six campuses. The School of Engineering is located on the Storrs campus and offers 12 accredited undergraduate programs including ten that are accredited by the Engineering Accreditation Commission. At the time of the 2013 general review, the school had a total enrollment of 2,109 undergraduate students, 729 graduate students, and 145 full-time, tenure-track faculty members.

Biomedical Engineering
BSE Program

Program Criteria for Bioengineering, Biomedical, and Similarly Named Engineering Programs

Introduction

The biomedical engineering BSE program is housed in the Department of Biomedical Engineering. At the time of the 2013 general review, the program had 376 undergraduates, three full-time and 22 jointly-appointed tenure-track faculty members, four non-tenure-track faculty members, and 31 affiliate faculty members who support the program. The program produced 69 graduates during the 2012-13 academic year.

Program Weakness

1. Criterion 4. Continuous Improvement *The previous review cited that in many cases, assessment measures did not document the attainment of the student outcomes but instead indicated that an outcome was being addressed in the curriculum. During due-process, documentation was provided that described revisions to the assessment rubrics to better address attainment of student outcomes and establishment of a cycle to regularly assess student outcome attainment using these rubrics. However, assessing and documenting student attainment of outcomes had not yet been undertaken.*

The interim report described implementation of a new multi-tier assessment process that incorporates continuous feedback to assure attainment of student outcomes. The report also described development and implementation of a new ABET course folder system that better captures the level of student achievement and facilitates constructive feedback to the instructor to support continuous improvement. In addition, the report provided information about the formation of new ABET subcommittees to support an independent peer-based assessment of student outcome achievement. These new processes and tools were fully implemented during the fall 2014 and spring 2015 semesters. Several improvements to course content and implementation resulting from these new processes were documented.

- The weakness is resolved.

Computer Engineering
BSE Program

Program Criteria for Electrical, Computer, and Similarly Named Engineering Programs

Introduction

The computer engineering BSE program is jointly administered by the Department of Computer Science and Engineering and the Department of Electrical and Computer Engineering. At the time of the 2013 general visit, the Computer Science and Engineering Department had 24 faculty members while the Electrical and Computer Engineering department had 25 faculty members. Total enrollment in computer engineering was 41 with four bachelor's degrees conferred in the 2011-12 academic year.

Program Weakness

1. Criterion 4. Continuous Improvement *The previous review cited reliance on the senior exit survey, which could have yielded misleading assessment data, as the only motivation for program improvements that were made in the six years prior to the visit. Furthermore, the previous review cited a lack of systematic documentation of assessment practices that could result in an incomplete application of the program's own process. As a result, the program might have missed significant improvement opportunities. During due-process, the program described a new system of direct and indirect measures for measuring the extent to which student outcomes are attained along with a procedure for analyzing the assessment data, documenting the results, and discussing these results with program constituents. However, the program had not yet demonstrated full implementation of the new processes nor had it documented continuous improvement that was informed by the evaluation of the assessment data.*

The program provided documentation including a description of a newly-adopted assessment reporting schedule, meeting minutes and reports documenting the assessment and evaluation

of student outcomes, and descriptions of numerous actions taken based upon the new processes that are designed to improve the curriculum and pedagogy of the program.

- The weakness is resolved.

Electrical Engineering
BSE Program

Program Criteria for Electrical, Computer, and Similarly Named Engineering Programs

Introduction

The electrical engineering BSE program is administered by the Department of Electrical and Computer Engineering. At the time of the 2013 general visit, the program had 178 undergraduate students, 25 faculty members, a technician, and two administrative staff members. The program had 27 graduates during the 2011-12 academic year.

Program Weakness

1. Criterion 4. Continuous Improvement *The previous review cited that documentation of a systematic review and utilization of input from assessment instruments was limited. Artifacts such as assessment reports, minutes of assessment evaluation meetings, and documents describing the evaluation of assessment instrument effectiveness were unavailable. During due-process, the program described a new system of direct and indirect measures for measuring the extent to which student outcomes are attained along with a procedure for analyzing the assessment data, documenting the results, and discussing these results with program constituents. However, the program had not yet demonstrated full implementation of the new processes nor had it documented continuous improvement that was informed by the evaluation of the assessment data.*

The program provided documentation including a description of its newly-adopted assessment reporting schedule, meeting minutes and reports documenting the assessment and evaluation of student outcomes, and descriptions of numerous actions taken based assessment results to improve the curriculum and pedagogy of the program.

- The weakness is resolved.

Management and Engineering for Manufacturing
BS Program

Program Criteria for Engineering Management and Similarly Named Engineering Programs
Program Criteria for Manufacturing and Similarly Named Engineering Programs

Introduction

The management and engineering for manufacturing BS program had at the time of the previous 2013 general review 62 students enrolled with 11 graduates in 2013 and approximately 10.5 graduates per year on average for the previous five years. The program had eight total faculty members (3.5 FTE) of whom six were tenured and two were in-residence. Six of these faculty members had engineering doctorates and none were licensed professional engineers. The program was supported by 1.5 office staff. Technical staff and three laboratories that were used in teaching the undergraduate curriculum were shared with other programs. |

Program Weaknesses

1. Criterion 5. Curriculum *The previous review cited that the majority of major design projects did not provide significant breadth of design practice. Many projects included a focus on analytical investigations or compilation of experimental results or were of such simplicity that they did not rise to the level expected of a major design experience. In due process, the program described revisions to the design report format and the course syllabus to more fully clarify design expectations, but the revised syllabus and sample design project reports were not provided.*

The interim report included a sample rubric that was designed to assure student compliance with the requirement to follow the design process, use appropriate engineering standards, and incorporate multiple constraints. The program provided three design reports and accompanying posters that demonstrated the successful implementation of the rubric and the heightened emphasis on providing students with a culminating, major design experience. The program also provided minutes from the industrial advisory board and program faculty meetings where it was decided that the program will move from a single major design course

to a two-part, two-semester course starting in the fall of 2015. Updated syllabi for these courses were provided.

- The weakness is resolved.

2. Criterion 6. Faculty *The previous review cited that the majority of the program's faculty members had expertise in narrow subsets of skills and were thus not fully qualified to effectively deliver the full breadth of a manufacturing engineering program. As a result, the full scope of manufacturing engineering curricular areas was not adequately covered by the faculty. While the program provided documentation in due process indicating that a number of faculty members had been subsequently been hired, the documentation did not clearly demonstrate that the program faculty had sufficient expertise to cover all manufacturing curricular areas.*

The interim report provided a number of curriculum vitae of faculty who contribute to the program. Fourteen of these faculty members were not presented at the time of the previous 2013 general review. Six tenure-track faculty members have been assigned to contribute significant teaching and service time to the program. Several of these faculty members will deliver specialized modules in advanced manufacturing in a recently updated course, MEM 4225 Advanced Products and Processes. These faculty members have manufacturing expertise in the areas of chemical, biomolecular, biomedical, and electrical engineering.

- The weakness is resolved.

3. Criterion 9. Program Criteria *The previous review cited the lack of evidence that students are receiving adequate exposure to a sufficiently broad variety of manufacturing processes and to the area of process design. In due process, the program provided descriptions of expanded student laboratory experience in the manufacture of parts, but no evidence was provided demonstrating that students were receiving laboratory exposure and experience related to the design and operation of manufacturing processes.*

The interim report included updates and syllabi for six courses containing program content in the area of manufacturing process design. The MEM 3221 Introduction to Products and

Processes course had previously been taught by a business professor but the responsibility for this course has now been permanently transferred back to the engineering faculty. In conjunction with this transition, the course now includes a team project based on experiential learning with an external-partner manufacturing company where the students study the company's production processes and propose detailed manufacturing solutions.

- The weakness is resolved.