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February 08, 2016

Paul Ballard
Dean, College of Education & Professional Studies
Central Washington University
400 East University Way
Ellensburg, WA 98926-7415

Dear Dean Ballard :

A Draft Statement presenting the findings of the recent evaluation by the Engineering Technology Accreditation Commission of ABET is enclosed. Your institution is invited to submit a written response to this Draft Statement within thirty days following the receipt of this letter. Institutions are encouraged to submit their formal responses to the ABET Draft Statement electronically. Your response is particularly important if you believe any of the facts or observations presented in the Draft Statement are in error. Further, if the Draft Statement indicates that a program is considered to have weaknesses or deficiencies, you are encouraged to document any corrective actions that have been taken to remedy these shortcomings.

Please return the enclosed Acknowledgement of Receipt of Draft Statement to ABET Headquarters as quickly as possible. This form should indicate whether or not you intend to submit a response to the enclosed Draft Statement within 30 days or a Post 30-Day Response by May 31st.

Please limit any response to matters covered by the Draft Statement and affecting the potential accreditation of a program. If you agree with the assessment of the visiting team and wish to provide no response, please indicate this on the enclosed Acknowledgement of Receipt of Draft Statement.

It should be noted that a weakness or deficiency is considered to have been corrected only if the corrective action has been made effective during the academic year of the evaluation and is supported by official documentation. Where action has been initiated to correct a problem but has not yet taken full effect or where only indications of good intent are given, the effectiveness of the corrective action cannot always be presumed; in such cases, evaluation by the Commission at the time of the next evaluation may be required.


Your institution's response to the Draft Statement will be carefully reviewed by the Commission, and accreditation decisions will be determined by the Commission during its Summer Meeting in July. You should expect to receive official notification of accreditation actions together with the Final Statement during the period from mid-August to mid-September.

Neither the presence nor absence of a stated, projected accreditation action in any program discussion commits the Commission to a particular final action. The official accreditation action for each program is taken by vote of the entire Commission at its Summer Meeting following consideration of the team's findings along with the institution's response to the Draft Statement.

The Commission considers all Draft Statements to be unofficial documents distributed only for review and comment. The enclosed Draft Statement does not represent the final official views of the Commission; therefore, it should be handled confidentially. Please limit release of this document in whole or in part only to persons involved in the preparation of your response to the Commission.

Instructions for distribution of your due process response and any additional post 30-day due process information received in time for proper consideration to the Draft Statements are enclosed. Please also refer to Section II.F.9. of the ABET Accreditation Policy and Procedure Manual.

Sincerely,



Wilson T. Gautreaux, Chair
Engineering Technology Accreditation Commission

Enclosure: Draft Statement
Acknowledgment of Receipt of Draft Statement
Instructions for Distribution of Response

cc: Ismail Fidan, Team Chair
Subal K. Sarkar, Editor
James Gaudino, President
Lad Holden, Department Chair



ABET

Engineering Technology Accreditation Commission

Draft Statement of Accreditation
to

Central Washington University
Ellensburg, WA

2015-2016 Accreditation Cycle

ABET

ENGINEERING TECHNOLOGY ACCREDITATION COMMISSION

DRAFT GENERAL REVIEW STATEMENT

on

CENTRAL WASHINGTON UNIVERSITY

Ellensburg, Washington

Dates of Visit:

November 8-10, 2015

The statement that follows consists of two parts: the first addresses the overall institution and its engineering technology operation, and the second addresses the individual engineering technology programs. Accreditation actions taken by ETAC of ABET will be based upon the findings summarized in this statement and will depend on the range of compliance or non-compliance with ABET criteria, policies, and procedures. The range can be construed from the following definitions for findings:

Strength: A program Strength is an exceptionally strong and effective practice or condition that stands above the norm and that has a positive effect on the program.

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 evaluation.

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 which does not relate directly to the accreditation action but is offered to assist the institution in its continuing efforts to improve its programs.

CENTRAL WASHINGTON UNIVERSITY

Ellensburg, Washington

INSTITUTIONAL FACTORS AFFECTING
THE ENGINEERING TECHNOLOGY UNIT

Introduction

The Engineering Technology Accreditation Commission (ETAC) of ABET has evaluated the following baccalaureate degree programs:

- Electronics Engineering Technology and
- Mechanical Engineering Technology

of Central Washington University. The programs were evaluated using the 2015-16 *Criteria for Accrediting Engineering Technology Programs* and the 2015-16 *Accreditation Policy and Procedure Manual*.

Central Washington University is a comprehensive public university located in the rural town of Ellensburg, offering a variety of baccalaureate degree programs, primarily in liberal arts, education, business, and science. It is one of six state-supported institutions offering baccalaureate and graduate degrees. The Commission on Colleges of the Northwest Association of Schools and Colleges reaffirmed accreditation of this institution in the fall of 2014. Approximately 13,000 students attend Central Washington University at the Ellensburg main campus and seven off-campus degree centers. The electronics engineering technology program and the mechanical engineering technology program each lead to the Bachelor of Science degree. The electronics engineering technology program and the mechanical engineering technology program were

initially accredited by ETAC of ABET in 1988 and 1997, respectively, and both have held continuous accreditation since that time. Both programs have been submitted for reaccreditation evaluation.

DRAFT TO INSTITUTION

PROGRAM EVALUATION

ELECTRONICS ENGINEERING TECHNOLOGY

Baccalaureate Degree

Introduction

The electronics engineering technology (EET) program was started in 1982, and initially accredited by ABET in 1988. The program added a computer engineering technology and an electronic systems specialization in 2001. In 2012 the program was restructured so that students were required to complete two of three sequences (computer science sequence, instrumentation sequence, and power sequence) that provided depth in computer engineering technology, instrumentation, or power systems that complemented the breadth of the program core. A distant EET program was offered at the Central Washington University-Pierce County center starting with courses in the late 1980s. This program was initially accredited by ABET in 1994 and was moved to the Central Washington University-Des Moines Center in 2006. The program at the Des Moines Center stopped accepting students in 2009, and a phase-out process is in place to ensure students currently enrolled in the program at the Des Moines Center can complete their degrees. A letter received by ABET from the President of Central Washington University states that the Des Moines campus will cease offering EET courses at the end of 2015-2016 academic year. The program educational objectives are that its graduates:

- will be prepared for careers or educational opportunities of their choice;
- will be able to communicate with their desired constituencies;
- will be able to continue acquiring skills and expertise in their areas of interest;
- will participate in professional community organizations; and

- will be able to use information from a variety of media and constituencies to develop practical methods and procedures to solve professional challenges.

The Program Criteria for Electrical/Electronic(s) Engineering Technology and Similarly Named Programs as published in the 2015-16 *Criteria for Accrediting Engineering Technology Programs* also were used to evaluate this program. Findings related to ABET criteria or policies and procedures are described below.

Program Weaknesses

1. Criteria: Criterion 2, Program Educational Objectives states, “There must be a documented, systematically utilized, and effective process, involving program constituencies, for the periodic review of these program educational objectives that ensures they remain consistent with the institutional mission, the program’s constituents’ needs, and these criteria.” The program has provided handwritten notes from the industry advisory committee (IAC) and departmental faculty meetings as evidence of review. However, these notes do not indicate an in-depth review of program educational objectives. Review by other program constituencies was not evident. No documented evidence was found in the IAC meeting minutes and from other campus interviews of constituencies to confirm that the PEOs were systematically and periodically reviewed to ensure that they were consistent with the institutional mission, the program’s constituents’ needs, and ABET criteria. Without a documented, systematically utilized and effective process for gathering information from all of its constituents, the program PEOs may become inconsistent with the Central Washington University’s mission, the program constituents’ needs and ABET criteria. Therefore, the program must demonstrate that it has a documented, systematically utilized, and effective process, involving all program constituencies, for the periodic review of program

educational objectives that ensures they remain consistent with the institutional mission, the programs constituents' needs, and ABET criteria.

2. Criteria: Criterion 3, Student Outcomes states, "There must be a documented and effective process for the periodic review and revision of these student outcomes." No documented evidence was found in IAC meeting minutes, campus interviews and display materials to demonstrate that student outcomes were periodically reviewed to ensure that they were consistent with program educational objectives, the institutional mission, the programs constituents' needs, and ABET criteria. Brief handwritten notes of IAC and departmental faculty meeting minutes provided during the campus visit do not provide sufficient documentation of the periodic review and revision of student outcomes. Without a documented and effective process to periodically review and revise student outcomes the outcomes may lack currency and may not reflect the needs of program constituencies. Therefore, the program must demonstrate that it has a documented and effective process for the periodic review and revision of student outcomes.

3. Criteria: Criterion 4, Continuous Improvement states, "The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program." Anecdotal evidence indicate that student outcomes are assessed from coursework. However, the student outcome assessment and evaluation process is not properly documented. Additionally, there was no evidence that the assessment and evaluation data have been utilized as input for program improvement. The lack of rubric and goals for attainment threshold makes it difficult to determine the shortcomings and therefore, the need for corrective action and improvement.. The program must demonstrate that:

(1) it assesses student outcomes and evaluates the extent to which student outcomes are attained, and (2) that the results of these evaluations is systematically utilized as input for the continuous improvement of the program.

4. Criteria: Criterion 5, Curriculum states, “Baccalaureate degree programs must provide a capstone or integrating experience that develops student competencies in applying both technical and non-technical skills in solving problems.” The program has a policy of permitting students to substitute cooperative education in place of the capstone course sequence EET 478 –Senior Project I and EET 479 – Senior Project II. Student transcripts provided by the program indicate that a number of 2015 EET graduates received diplomas with EET 490 Cooperative Education that was substituted for the capstone sequence. However, no evidence was provided to demonstrate that the cooperative education experience provides the capstone or integrating experience. Program graduates who do not receive a capstone experience may not have acquired the competence to be able to integrate technical and non-technical skills for problem solving. The EET program must demonstrate that it has a capstone or integrating experience for all students that develops student competencies in applying both technical and non-technical skills in solving problems.

5. Criteria: Criterion 6, Faculty states, “Collectively, the faculty must have the breadth and depth to cover all curricular areas of the program. The faculty serving in the program must be of sufficient number to maintain continuity, stability, oversight, student interaction, and advising. The faculty must have sufficient responsibility and authority to improve the program through definition and revision of program educational objectives and student outcomes as well as through the implementation of a program of study that fosters the attainment of student outcomes. The competence of faculty members must be demonstrated by such factors as education, professional credentials and certifications, professional experience, ongoing professional development,

contributions to the discipline, teaching effectiveness, and communication skills.” As a result of the current departure of one EET faculty member and the retirement of another EET faculty member, the program may lose faculty depth and breadth and not have any dedicated full-time faculty member. Some faculty members have not taken advantage of the funds provided by the program, college and university for ongoing professional development. Without continuous professional development, faculty may lose competence and currency, and may not be able to enable graduates to attain program educational objectives. It is required that faculty serving the program have sufficient number of faculty to maintain continuity, stability, oversight, student monitoring and advising. Program faculty must engage in meaningful professional development to improve skill sets in their related field of technical expertise. The faculty must also have the responsibility and authority to improve the program through the definition and revision of program educational objectives and student outcomes as well as implementation of program of study that fosters attainment of student outcomes.

6. Criteria: Program Criteria for Electrical/Electronic(s) Engineering Technology and Similarly Named Programs states, “...the depth and breadth of expertise demonstrated by baccalaureate graduates must be appropriate to support the goals of the program. The outcomes expected of graduates of baccalaureate degree programs must demonstrate achievement of program-specific outcomes. Documented evidence of individual class assessments were provided. However, there was no evidence that a consistent, documented process was applied to determine the level of program specific outcome attainment, and that the results of the evaluated data were used to for program improvement. If the attainment of program specific outcomes is not determined, the shortcomings cannot be identified, and therefore program improvement cannot be made. The EET program must demonstrate that the program regularly assesses Program Criteria

and evaluates the extent that student outcomes are appropriate to meet the needs of the program constituencies. The results of these evaluations must systematically be utilized as input for the continuous improvement process.

DRAFT TO INSTITUTION

PROGRAM EVALUATION

MECHANICAL ENGINEERING TECHNOLOGY

Baccalaureate Degree

Introduction

The mechanical engineering technology (MET) program covers a broad range of subject areas with strong laboratory emphasis. Program was an outgrowth of the mechanical technology and manufacturing programs. In 1989, the Washington Higher Education Coordination Board approved a program title change. MET program enrollment has been growing in recent years with approximately 130 declared MET majors in 2015 and 22 graduates in 2014. The program educational objectives are:

- Upon entering the workforce, MET graduates will perform effectively, within their chosen work environments;
- MET alumni will evolve their related skills; and
- MET alumni will support the greater community by participating in appropriate activities such as community support opportunities (e.g. political committee appointments) and discipline organizations (e.g. ASME).

The Program Criteria for Mechanical Engineering Technology and Similarly Named Programs as published in the 2015-16 *Criteria for Accrediting Engineering Technology Programs* also were used to evaluate this program. Findings related to ABET criteria or policies and procedures are described below.

Program Weaknesses

1. Criteria: Criterion 2, Program Educational Objectives states, “There must be a documented, systematically utilized, and effective process, involving program constituencies, for the periodic review of these program educational objectives that ensures they remain consistent with the institutional mission, the program’s constituents’ needs, and these criteria.” The program has provided handwritten notes from the industry advisory committee (IAC) and departmental faculty meetings as evidence of review of PEOs. However, these notes do not indicate an in-depth review of program educational objectives. Review by other program constituencies was not evident. No documented evidence was found in the IAC meeting minutes and from other campus interviews of constituencies to confirm that the PEOs were systematically and periodically reviewed to ensure that they were consistent with the institutional mission, the program’s constituents’ needs, and ABET criteria. Without a documented, systematically utilized and effective process for gathering information from all of its constituents, the program PEOs may become inconsistent with the Central Washington University’s mission, the program constituents’ needs and ABET criteria. Therefore, the program must demonstrate that it has a documented, systematically utilized, and effective process, involving all program constituencies, for the periodic review of program educational objectives that ensures they remain consistent with the institutional mission, the programs constituents’ needs, and ABET criteria.

2. Criteria: Criterion 3, Student Outcomes states, “There must be a documented and effective process for the periodic review and revision of these student outcomes.” No documented evidence was found in IAC meeting minutes, campus interviews and display materials to demonstrate that student outcomes were periodically reviewed to ensure that they were consistent with program educational objectives, the institutional mission, the programs constituents’ needs, and ABET

criteria. Brief handwritten notes of IAC and departmental faculty meeting minutes provided during the campus visit do not provide sufficient documentation of the periodic review and revision of student outcomes. Without a documented and effective process to periodically review and revise student outcomes, the outcomes may lack currency and may not reflect the needs of program constituencies. Therefore, the program must demonstrate that it has a documented and effective process for the periodic review and revision of student outcomes.

3. Criteria: Criterion 4, Continuous Improvement states, “The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program.” The Self-Study Report and display materials showed that student outcome assessment metrics include alumni surveys for all outcomes, the FE examination results for outcomes b, c, d and f, and senior project evaluations for outcomes a, c, d, i, j, and k. The display materials and faculty interviews indicated that there was no evaluation of senior-project outcomes attainment. FE examination results were available for only a small number of students. The lack of a rubric and goal for an attainment threshold for student outcomes makes it difficult to evaluate the attainment results and to determine shortcomings, and therefore, the need for corrective actions. The program must demonstrate that: (1) the program uses appropriate and documented processes to assess student outcomes and evaluate the extent to which outcomes are attained; and (2) that the results of these evaluations are systematically utilized as input for the continuous improvement of the program.

4. Criteria: Program Criteria for Mechanical Engineering Technology and Similarly Named Programs state, “The mechanical engineering technology discipline encompasses the areas (and

principles) of materials, applied mechanics, computer-aided drafting/design, manufacturing, experimental techniques/procedure, analysis of engineering data, machine/mechanical design/analysis, conventional or alternative energy system design/analysis, power generation, fluid power, thermal/fluid system design/analysis, plant operation, maintenance, technical sales, instrumentation/control systems, and heating, ventilation, and air conditioning (HVAC), among others. As such, programs outcomes, based on specific program objectives, may have a narrower focus with greater depth, selecting fewer areas, or a broader spectrum approach with less depth, drawing from multiple areas. However, all programs must demonstrate an applied basis in engineering mechanics/sciences.” Display materials and interviews with faculty indicated that there is no documented and effective process for determining program criteria outcome attainment. The lack of specific evaluation processes for program criteria specific outcomes attainment makes it difficult to determine the need for corrective action and continuous improvement of program specific areas. Therefore, the program must demonstrate that the program regularly assesses program specific criteria and evaluates the extent to which they are met, and that the results of these evaluations are systematically utilized as input for the continuous improvement.

Program Concern

1. Criteria: Criterion 6, Faculty states, “The competence of faculty members must be demonstrated by such factors as education, professional credentials and certifications, professional experience, ongoing professional development, contributions to the discipline, teaching effectiveness, and communication skills.” Although funding is provided for professional development and the majority of faculty make excellent use of the resources provided, some faculty members have not taken advantage of the funds provided by the program, college and

university for ongoing professional development. If faculty do not maintain their technical currency and teaching effectiveness by professional development efforts, program quality may decline eventually. Without continuous professional development, faculty may lose competence and currency, and may not be able to enable graduates to attain program educational objectives. This finding remains a Concern until all program faculty engage in meaningful professional development to improve skill sets in their related field of technical expertise.



ACKNOWLEDGEMENT OF RECEIPT OF DRAFT STATEMENT

The draft statement of findings has been received for the evaluation conducted recently by the:

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

It is our intent:

- to submit a Due-Process Response within 30 days
- not* to submit a Due-Process Response*

It is our intent:

- to submit a Post 30-day Due Process Response by May 31st*
- not* to submit a Post 30-day Due Process Response

Print name: _____ Title: _____

Signature: _____ Date: _____

Institution Name: _____

Please submit this form electronically to ETAC@ABET.org only

**Please submit Responses to the Draft Statement to all contacts on the
Distribution List**

**** In the absence of a Due Process Response, a Post Due Process Response will
not be accepted.***

ABET

Engineering Technology Accreditation Commission

Instructions
for
Distribution of Response to Draft Statement

Please provide one copy of your due process response and any post due process additional information, if applicable, to each of the following addressees:

Team Chair

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