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

July 31, 2013

David B. Beasley

2903 Woodthrush Circle
Jonesboro, AR 72401

Dear Dean Beasley :

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 Arkansas State University 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).

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 2012-2013 Accreditation Policy and Procedure Manual (available at www.abet.org).

Please note that appeals are allowed only in the case of Not to Accredit 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).

Sincerely,

David B. Beasley, Chair

Engineering Accreditation Commission

Enclosure: Summary of Accreditation Action
Final Statement

cc: Tim Hudson, Chancellor
Ricky C. Clifft, Program Director
James R. Plasker, Visit Team Chair

ABET

Engineering Accreditation Commission

Summary of Accreditation Actions
for the
2012-2013 Accreditation Cycle

Arkansas State University
Jonesboro, AR

Civil Engineering (BSCE)

Electrical Engineering (BSEE)

Mechanical Engineering (BSME)

Accredit to September 30, 2017. A request to ABET by January 31, 2016 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, 2016. 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, 2010.

Engineering Accreditation Commission

Final Statement of Accreditation
to

Arkansas State University

Jonesboro, AR

2012-13 Accreditation Cycle

Assuring Quality • Stimulating Innovation

ABET
ENGINEERING ACCREDITATION COMMISSION

ARKANSAS STATE UNIVERSITY
Jonesboro, AR

FINAL STATEMENT
Visit Dates: September 16 - 18, 2012
Accreditation Cycle Criteria: 2012-2013

Introduction & Discussion of Statement Construct

The Engineering Accreditation Commission (EAC) of ABET has evaluated the civil, electrical, and mechanical engineering programs of Arkansas State University.

This statement is the final summary of the EAC evaluation at the institutional and engineering-program levels. It includes information received during due process and supplemental information received after the due-process period. The 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.

ASU is a state-supported, non-profit institution employing approximately 500 teaching faculty members and serving 13,900 students. The institution's mission is stated as follows: "Arkansas State University ***educates*** leaders, ***enhances*** intellectual growth, and ***enriches*** lives." ASU was founded in Jonesboro in 1909 by the Arkansas legislature as a regional agricultural training school. It began offering a two-year college program in 1918, then became First District Agricultural and Mechanical (A & M) College in 1925. A four-year degree program began in 1930, and A&M College became Arkansas State College in 1933. The Arkansas legislature elevated the college to university status and changed the name to Arkansas State University (ASU) in 1967. Today, the institution has more than 67,000 alumni. Five months before the accreditation visit, the university leadership was assumed by a new chancellor.

The College of Engineering is one of the 11 academic colleges within ASU. A general engineering program was first accredited at ASU by ABET in 1986. This review focused on the civil, electrical, and mechanical engineering programs for initial accreditation.

The following units were reviewed and found to adequately support the engineering programs: mathematics, chemistry, English/communications, biology, library, career services and registrar.

Institutional Strengths

1. An exceptionally high proportion of engineering faculty members are licensed professional engineers. In nearly every educational setting, students have the opportunity to interact with, and to be molded by, faculty holding this credential, thereby demonstrating to the students the importance of, and respect for, professional licensure. This is especially valuable to the ASU student body which is primarily oriented toward professional practice upon graduation.
2. The capstone senior design experiences of all three programs provide unique opportunities not typically found at other institutions in that many of the project teams are truly interdisciplinary (civil, mechanical, and electrical engineering), and most of the projects result in a fabricated and tested prototype of the design.

Civil Engineering
Program

Program Criteria for Civil and Similarly Named Engineering Programs

Introduction

The civil engineering program was created in 2008 from the existing general engineering program, and emphasizes the areas of geotechnical, structural, transportation, and water resources. The program has 115 students, five full-time faculty members, and three adjunct faculty members. The College of Engineering has three full-time support staff members and two technicians who provide support for the civil engineering program as well as other academic programs in the college. All program faculty members are licensed professional engineers with diverse areas of expertise. The program had six graduates during the previous academic year. The program has recently completed the process of hiring a new tenure-track faculty member in the transportation area who is expected to be on board by the end of 2012.

Program Strengths

1. The faculty consists entirely of committed teachers who give freely of their time and expertise to the students, both inside and outside of the classroom. Students emphasized that program faculty members are especially qualified in their area of expertise and are available to them throughout the day and through a variety of communication methods. The faculty and staff have strong supportive relationships, know each other well, and help each other succeed.

2. Students are highly engaged in both the classroom and in the American Society of Civil Engineers student chapter. The student chapter competition teams are routinely recognized for their success, both regionally and nationally, and the chapter members are expanding their community service and professional development activities.

Program Weakness

1. Criterion 1. Students Criterion 1 requires that student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. In addition, students must be advised regarding curriculum and career matters. This criterion further states that the program must have and enforce procedures to

ensure and document that students who graduate meet all graduation requirements. While evidence indicated that some students requested and received approval for variances to specified course pre- and/or co-requisites per the program's written policy, evidence also indicated that other students have taken courses out of the prescribed order without approved waivers of the specified pre- and/or co-requisites. In addition, students expressed a need for improvements to existing advising processes. Without strengthened advising procedures and consistent enforcement of curricular requirements, the program cannot fully foster student success in meeting student outcomes. Thus strength of compliance with Criterion 1 is lacking to assure that students are satisfying the program's published curricular requirements.

- Due-process response: The EAC acknowledges documentation that the Registrar's Office has identified and corrected errors in the co- and pre-requisites for the program as included in the institution's BANNER system database. The EAC also acknowledges receipt of a proposal to update and streamline pre- and co-requisites across the civil engineering curriculum, to be validated by the Dean's Office, specifically to address curriculum enforcement issues. Finally, an advising workshop is planned for program faculty members.

- The weakness remains unresolved.

- Supplemental information: The EAC acknowledges supplemental documentation of final action by the University Curriculum Committee approving implementation of the proposed co- and pre-requisites along with documentation that key civil engineering program faculty members completed the engineering student advising workshop on December 4, 2012.

- The weakness is resolved.

Program Observations

1. The program has experience sustained growth for several years and is anticipated to grow even more. While the capacity of current facilities is sufficient to accommodate moderate enrollment growth, the program is encouraged to monitor the rate of enrollment growth and related facilities requirements, especially classrooms and faculty offices. In addition, the

faculty would benefit from modern and contiguous offices that would allow their current group dynamics to continue to flourish and expand.

2. Students are currently allowed to take co-requisite laboratory courses in semesters subsequent to the lecture section of the same course. Requiring students to take co-requisite laboratories in the same semester as the lecture would provide for an optimal integrated learning experience.

Electrical Engineering
Program

Program Criteria for Electrical, Computer and Similarly Named Engineering Programs

Introduction

The electrical engineering program was created in 2008 from the existing general engineering program; the first degree was awarded by the program in December 2008. The program has 87 students, four full-time faculty members, and one adjunct faculty member. The College of Engineering has three full-time support staff members and two technicians who provide support for the electrical engineering program as well as other academic programs in the college. All full-time electrical engineering faculty members are licensed professional engineers with diverse areas of expertise. The program had five graduates during the previous academic year. The program has recently completed the process of hiring a new tenure track faculty member who is expected to be on board by January 2013.

Program Strengths

1. The program has an outstanding faculty committed to delivering a high quality undergraduate program. Interviews with students confirm that the faculty members are genuinely interested in providing the best learning experience for their students.

2. The program emphasizes professional development and lifelong learning to students through the mandatory Fundamentals of Engineering examination requirement and excellent opportunities to participate in Institute of Electrical and Electronics Engineers activities.

Program Weaknesses

1. Criterion 1. Students Criterion 1 requires that student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. In addition, students must be advised regarding curriculum and career matters. This criterion further states that the program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements. While evidence indicated that some students requested and received approval for variances to specified course pre- and/or co-requisites per the program's written policy, evidence also

indicated that other students have taken courses out of the prescribed order without approved waivers of the specified pre- and/or co-requisites. In addition, students expressed a need for improvements to existing advising processes. Without strengthened advising procedures and consistent enforcement of curricular requirements, the program cannot fully foster student success in meeting student outcomes. Thus strength of compliance with Criterion 1 is lacking to assure that students are satisfying the program's published curricular requirements.

- Due-process response: The EAC acknowledges documentation that the Registrar's Office has identified and corrected errors in the co- and pre-requisites for the program as included in the institution's BANNER system database. The EAC also acknowledges receipt of a proposal to update and streamline pre- and co-requisites across the electrical engineering curriculum, to be validated by the Dean's Office, specifically to address curriculum enforcement issues. Finally, an advising workshop is planned for program faculty members.

- The weakness remains unresolved.

- Supplemental Information: The EAC acknowledges supplemental documentation of final action by the University Curriculum Committee approving implementation of the proposed co- and pre-requisites along with documentation that key electrical engineering program faculty members completed the engineering student advising workshop on December 4, 2012.

- The weakness is resolved.

2. Program Criteria Program criteria for electrical engineering programs require the curriculum to include appropriate applications of probability and statistics. While the program has demonstrated that graduates are exposed to some concepts of probability and statistics, evaluation of the supporting materials and subsequent discussions with program instructors and administrators confirm that the program does not include adequate and appropriate coverage of the applications of probability and statistics to electrical engineering. Thus the program lacks strength of compliance with this program criteria requirement.

- Due Process Response: The EAC acknowledges documentation that inclusion of appropriate applications of probability and statistics has been strengthened in the electrical engineering curriculum. Specifically, it is acknowledged that a new experiment has been added to ENGR2421 Electric Circuits 1 Laboratory. Further, by monitoring more closely the syllabi for ENGR2401, Applied Engineering Statistics, and ENGR4413, Engineering Problem Solving, the program has developed a process to ensure strength of compliance in the future.

- The weakness is resolved.

Mechanical Engineering
Program

Program Criteria for Mechanical and Similarly Named Engineering Programs

Introduction

The mechanical engineering program was created in 2008 from the existing general engineering program; the first degree was awarded by the program in December 2008. The program has 100 students, six full-time faculty members and one support faculty member from civil engineering. The College of Engineering has three full-time support staff members and two technicians who provide support for the mechanical engineering program as well as other academic programs in the college. Approximately half of the full-time faculty members are licensed professional engineers with diverse areas of expertise. The program had 15 graduates during the previous academic year.

Program Strengths

1. The program faculty is very dedicated to teaching, student learning, and graduate success. The faculty members take pride in the service they provide to their students. All faculty members are accessible to their students, and there is good interaction between the faculty and students.

2. Students spoke highly of the program, its requirements, the hands-on experience they receive in laboratories, and the sequence of design courses.

Program Weakness

1. Criterion 1. Students Criterion 1 requires that student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. In addition, students must be advised regarding curriculum and career matters. This criterion further states that the program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements. While evidence indicated that some students requested and received approval for variances to specified course pre- and/or co-requisites per the program's written policy, evidence also indicated that other students have taken courses out of the prescribed order without approved waivers of the specified pre- and/or co-requisites. In addition, students expressed a need for

improvements to existing advising processes. Without strengthened advising procedures and consistent enforcement of curricular requirements, the program cannot fully foster student success in meeting student outcomes. Thus strength of compliance with Criterion 1 is lacking to assure that students are satisfying the program's published curricular requirements.

- Due-process response: The EAC acknowledges documentation that the Registrar's Office has identified and corrected errors in the co- and pre-requisites for the program as included in the institution's BANNER system database. The EAC also acknowledges receipt of a proposal to update and streamline pre- and co-requisites across the mechanical engineering curriculum, to be validated by the Dean's Office, specifically to address curriculum enforcement issues. Finally, an advising workshop is planned for program faculty members.

- The weakness remains unresolved.

- Supplemental Information: The EAC acknowledges supplemental documentation of final action by the University Curriculum Committee approving implementation of the proposed co- and pre-requisites along with documentation that key mechanical engineering program faculty members completed the engineering student advising workshop on December 4, 2012.

- The weakness is resolved.

Program Concern

1. Criterion 5. Curriculum Criterion 5 requires the faculty to ensure that the program curriculum devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution. The program requires its students to select three mechanical engineering electives, including two containing significant design components. One of the design electives, ME4593, HVAC Systems, requires students to design thermal components prior to completing adequate prerequisites. As a result, a significant portion of ME4593 is devoted to making up the prerequisite knowledge, therefore limiting the learning outcomes in the course and jeopardizing future compliance with this criterion.

- Due Process Response: The EAC acknowledges documentation that the prerequisites for ME4593, HVAC Systems, have been proposed for modification, and will include ME4553, Heat Transfer, thereby providing students with adequate preparation for ME4593.

- The concern remains unresolved.

- Supplemental Information: The EAC acknowledges supplemental documentation of final action by the University Curriculum Committee modifying the prerequisites for ME4593, HVAC Systems, to include ME4553, Heat Transfer.

- The concern is resolved.

Program Observation

1. Students expressed concern over the lack of information on course offerings scheduled for future semesters. The students indicated that the lack of advance schedules limited their ability to plan for degree completion. Additionally, this may increase the need for waivers related to course pre- and/or co-requisites. Information on course offerings for future semesters would be helpful to students in planning their programs of study.