



WEBER STATE
UNIVERSITY

Weber State University
Five Year Program Review

Name of program under review: Electronics Engineering Technology

April 22, 2015

Name of reviewers:

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Purpose of Program Review

The primary purpose of program review at WSU is to improve academic programs. An academic program may consist of an entire department which houses several majors, or an academic program may be a component of a department.

Program reviews are not conducted to expressly identify individual programs for discontinuance. Reviews will result in an identification of program strengths, weaknesses, and recommendations for change. The program faculty, responsible academic dean, and provost will respond in writing to these recommendations as part of a program-improvement plan.

Responsibilities of Program Review Committee

The program review committee is charged with the following responsibilities:

1. Review of the content of the program to ensure that it is consistent with high standards and practices within the discipline.
2. Review resources (faculty, facilities and selected budgets, such as travel budgets) to ensure that they are consistent with supporting a quality program.
3. Identify strengths and weaknesses of the program.
4. Note any concerns or recommendations about the rates of recruitment of new students, placement of graduates and sensitivity to community and professional needs.
5. Review sufficiency of the evidence of student learning.

Self-study Format and Standards

The most critical element of program review is the self-study that is prepared by the program faculty. The self-study document is both a description and an analysis of important aspects of an academic program. Once this document has been completed, it is reviewed and approved by the responsible Academic Dean prior to its dissemination. The self-study is approximately 25-30 pages in length, exclusive of appendices, and should follow the format described below. An executive summary of the self-study is also prepared by the Program Faculty. This summary document is 3-5 pages in length, exclusive of the appendices and includes brief information about the program under review.

Executive Summary

- Mission Statement
- Curriculum - types of degrees, number of courses, admissions process
- Student learning outcomes and assessment
- Academic Advising
- Faculty
- Program Support
- Relationships with the External Community
- Student, Faculty, Contract/Adjunct Faculty and Staff statistical summaries (Data supplied by the Office of Institutional Research)
- Information of review team members (name - current position - place of employment - contact information)

Program Evaluation Worksheet

FOR USE BY PROGRAM REVIEW TEAM MEMBERS

This form is to be used by each team member to record program data and information during the team visit. The following quality ratings are suggested:

- S** Strength; especially effective practice or condition
- A** Adequate; meets expected standards
- C** Concern; action could be needed in the future
- W** Weakness; action needed
- X** Did not evaluate – indicate why the area was not evaluated.

At the conclusion of the visit, leave the original of this form with the team chair, who will use it to prepare the draft statement for the institution.

STANDARD A MISSION STATEMENT

Evaluate how effectively the mission statement articulates the following elements.

	Element	Rating	Comments and/or Recommendations for Change
a.	The expected outcomes of the program need to be clearly defined.	S	Mission statement defines their current programmatic outcomes well.
b.	A process by which these accomplishments are determined and periodically assessed based upon the constituencies served by the program.	S	
c.	A clearly defined educational program, including a curriculum that enables graduates to achieve the mission.	S	
d.	The program mission statement must be appropriate to and support the mission statements of both the college housing the program and the university.	C	Concerns and Recommendations: It seems there is a significant amount of doubt amongst the faculty about the program direction. This can be seen in their discussion about potential interaction with non-Weber programs, the Electronics Engineering program, and issues with facilities and funding. We recommend that the faculty and college administration have a discussion

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			of long-term goals and evaluate whether the current mission statement fits that vision.
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Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

STANDARD B – CURRICULUM

Evaluate the effectiveness of the curriculum based on the following elements.

	Element	Rating	Comments and/or Recommendations for Change
a.	The program should demonstrate that the curriculum for each degree and for any general education/service courses offered by the program is the result of thoughtful curriculum planning and review processes.	S	There exists a well thought out curriculum that is received positively by the students and meets the standards of the mission statement.
b.	The curriculum should be consistent with the program's mission.	C	Concerns and Recommendations: There exists some friction between the BS EET program and some of the required support courses. The faculty should look at ways to integrate the more difficult support courses earlier on in the curriculum.

c.	The program should be able to demonstrate that there is an appropriate allocation of resources for curriculum delivery that is consistent with the mission of the program, the number of graduates, and the number of major/minor and general education SCHs produced.	S	
d.	Courses to support the major/minor/general education/service programs are offered on a regular basis to ensure students are able to complete graduation requirements in a timely manner.	C	Concerns and Recommendations: There has been some comments made regarding successful degree completion, and perhaps a step path-way to acquire the A.A.S. EET first should be considered.

Rating: *S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)*

STANDARD C STUDENT LEARNING OUTCOMES AND ASSESSMENT

Evaluate the extent to which the program has clearly defined outcomes.

	Element	Rating	Comments and/or Recommendations for Change
a.	Learning outcomes should describe the expected knowledge, skills, and behaviors that students will have achieved at the time of graduation (overarching program goals).	S	The stated learning outcomes are driven by ABET accreditation and appear to align well with those requirements. We view this as an advantage for the graduates from the EET program.

b. Learning outcomes must support the goals of the program and the constituencies served.	C	Concerns and Recommendations: Many of the learning outcomes do not have defined measures and metrics. Additionally, many of the outcomes do not have a course or series of courses where the concepts are introduced. A related issue was brought up in 2009 during the previous ABET accreditation and has not significantly improved. We recognize that there have been significant facility, faculty, budgetary and program dividing issues that have arisen since the last review. However, a concerted effort needs to be made to determine where outcomes are introduced (outcomes 5-11) and the tools and metrics for evaluating those outcomes (outcomes 7-11).
c. Learning outcomes should be directly linked to the program's curriculum. An explicit curriculum grid illustrating this alignment, as well as the depth to which each course addresses each outcome, is publicly available.	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.

Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

Evaluate the effectiveness of the assessment process based on the following elements.

	Element	Rating	Comments and/or Recommendations for Change
a.	The program has a developed set of measures for assessment that are clearly defined and appropriately applied.	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.

b. Each learning outcome is assessed with <i>at least one direct measure</i> of learning; thresholds for acceptable performance are defined (for each measure) and published.	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.
c. Demonstrate that evidence of learning is being gathered on a regular basis across the program, that the evidence is aggregated, and reported at the aggregate.	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.
d. Demonstrate that these measures are being used in a systematic manner on a regular basis and are reviewed against department-established thresholds, i.e., are the program faculty meeting regularly to discuss the evidence?	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.
e. Demonstrate that the assessment of the program mission and student outcomes is being used to improve and further develop the program. Is the evidence acted upon? Is it clear what drives program change?	C	Concerns and Recommendations: There appears to be evidence that the department has not fully established and addressed issues with outcomes assessments, internally and externally (ABET). It is recommended that this is given a higher priority.

Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

STANDARD D ACADEMIC ADVISING

Evaluate the following related to the advising process.

	Element	Rating	Comments and/or Recommendations for Change
a.	The program has a clearly defined strategy for advising their major/minor, or BIS students that is continually assessed for its effectiveness.	S	
b.	Students receive appropriate assistance in planning their individual programs of study.	S	Students report that there is sufficient help navigating the program of study. Indeed, there is evidence is additional advising directed toward pre-professional development that should be commended.
c.	Students receive needed assistance in making career decisions and in seeking placement, whether in employment or graduate school.	S	

Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

STANDARD E – FACULTY

Evaluate the extent to which the faculty demonstrates the following characteristics.

	Element	Rating	Comments and/or Recommendations for Change
a.	Faculty size, composition, qualifications, and professional development activities must result from a planning process which is consistent with the program's mission.	S	All faculty are fully qualified to teach in the EET program as well as teach in other programs in COAST. There exists diversity in both demographic and EET specialty. This diversity is sufficient to cover the required material in the program of study
b.	The program maintains a core of full-time faculty sufficient to provide stability and ongoing quality improvement for the degree programs offered.	C	Concerns and Recommendations: EET faculty have enormously high teaching loads. It was not clear to us that there is appropriate compensation for the significant amount of overload carried. This seems to be amplified by the cross-over between the EE and EET programs. There are severe concerns about having time to accomplish the additional academic requirements for tenure and promotion in light of the heavy teaching loads without “moonlighting”. Outcomes Assessments need to be addressed.
c.	Contract/adjunct faculty who provide instruction to students (day/evening, off/on campus) are academically and professionally qualified.	S	

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d.	The program should demonstrate efforts to achieve demographic diversity in its faculty.	S	
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Rating: *S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)*

Element	Rating	Comments and/or Recommendations for Change
e. The program should have appropriate procedures for the orientation of new contract/adjunct faculty.	S	
f. Processes are in place to determine appropriate teaching assignments and service workloads, to guide and mentor contract/adjunct faculty, and to provide adequate support for activities which implement the program's mission.	C	<p>Concerns and Recommendations: EET faculty have enormously high teaching loads. It was not clear to us that there is appropriate compensation for the significant amount of overload carried. This seems to be amplified by the cross-over between the EE and EET programs. There are severe concerns about having time to accomplish the additional academic requirements for tenure and promotion in light of the heavy teaching loads without “moonlighting”.</p> <p>There is a need to add more full-time faculty to this program. Particularly there is a need to a full-time faculty member with an expertise in power and motors (EET 2120).</p>
g. Teaching is systematically monitored to assess its effectiveness, and revised periodically to reflect new objectives and to incorporate improvements based on appropriate assessment methods. For both contract and adjunct faculty, there is evidence of: □ Effective creation and delivery of instruction. <ul style="list-style-type: none"> • Ongoing evaluation and improvement of instruction. • Innovation in instructional processes. 	S	

h. A formal, periodic review process exists for all faculty, and the results of the reviews are available.	S	The program maintains adequate means for hiring, monitoring and reviewing faculty members.
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Rating: *S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)*

STANDARD F - PROGRAM SUPPORT

Evaluate the nature and adequacy of the program support based on the following elements.

	Element	Rating	Comments and/or Recommendations for Change
a.	The number and capabilities of the support staff are adequate to meet the mission and objectives of the program.	S	There are adequate staff and administrative support for program activities. Generally, the equipment is older, but in adequate condition to support the program needs.
b.	Administrative support is present in assisting in the selection and development of support staff.	S	
c.	The facilities, equipment, and library support needs are adequate to meet the mission and goals of the program.	C	Concerns and Recommendations: Adequate facilities are a concern. It was noted that there are lab locations where having the number of students in class, with the associated equipment and activities could present a safety hazard to the students, faculty and facility. It is arguable that the fire marshal would find some conditions acceptable.

		<p>There are computers that are inadequate to meet the needs for laboratory activities. This may be due to a combination of equipment age and university IT requirements. Work should be done to ensure that a student does not need to “wait 15 minutes for the computer to boot” to accomplish their work.</p> <p>Additionally, there are shared facilities between the EET and EE programs. Despite the shared nature of some labs, there does not appear to be evidence of shared governance over these labs, particularly with respect to costs of maintenance.</p>
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Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

STANDARD G - RELATIONSHIPS WITH EXTERNAL COMMUNITIES

Evaluate the relationships according to the following elements.

	Element	Rating	Comments and/or Recommendations for Change
a.	If there are formal relationships between the program and external communities of interest they should be clearly defined.	S	The program maintains an Industrial Advisory Committee (IAC).

b. Such relationships should have a clearly defined role and evidence of their contribution to the program (curriculum, equipment, faculty, budget, etc.) should be demonstrated.	S	
c. If the program has an external advisory committee, it should meet regularly and minutes of the meetings be made available.	C	<p>Concerns and Recommendations:</p> <p>The IAC only meets annually and there is a question whether anything productive comes from the annual meeting. Faculty expressed a desire to have more productive relationships on a more frequent basis with their industry partners. We encourage development of additional meetings with partners.</p>

Rating: *S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)*

STANDARD H - PROGRAM SUMMARY

Evaluate the effectiveness of the program to implement recommendations and make changes based on previous reviews.

	Element	Rating	Comments and/or Recommendations for Change
a.	The program must show how it has implemented any recommendations from the previous review and what effect these changes had on the program. If any recommendations were not implemented the program should explain why they were not put into place.	W	It is not clear from the self-study what the recommendation were made in the previous WSU program review. We have stated above that the program has moved backwards in terms of the recommendation from the 2009 ABET review. Since all the disruptions, there is motion in the right direction but there are significant blocks to accomplishing those tasks quickly.

Rating: S = Strength, A = Adequate, C = Concern, W = Weakness, X = did not evaluate (please indicate why)

Please include any other notes you feel are relevant to your review of the program:

In summary, it appears that is a mix result of strengths and weaknesses. One major strength is that the program is offering a viable Program that supports industry and has for many years. The EET program provides a need for a “hands-on” engineering program, combined with the options to earn an AAS and BSEET degree. The department faculty appear to be of appropriate background and education to support the mission statement of the program. A major weakness that should be addressed is the accreditation issues with ABET, and the status of college-wide outcomes (faculty-loads are related). In addition, there appears to be a need to determine the working relationship with the EET and EE programs, and to resolve any internal issues to further support and strengthen the two areas.