**2014-2015 Annual Program Assessment Report**

Please submit report to your department chair or program coordinator, the Associate Dean of your College, and to [james.solomon@csun.edu](mailto:james.solomon@csun.edu), director of assessment and program review, by September 30, 2015. You may, but are not required to, submit a separate report for each program, including graduate degree programs, which conducted assessment activities, or you may combine programs in a single report. Please identify your department/program in the file name for your report.

**College: Engineering and Computer Science**

**Department: Mechanical Engineering**

**Program: Bachelor of Science**

**Assessment liaison: J. Michael Kabo, PhD**

1. **Please check off whichever is applicable:**

**A. \_\_\_\_\_\_\_\_ Measured student work.**

**B. \_\_\_\_\_\_\_\_ Analyzed results of measurement.**

**C. \_\_\_\_\_\_\_\_ Applied results of analysis to program review/curriculum/review/revision.**

**D. \_\_\_\_X\_\_\_\_ Development of long term assessment plan**

1. **Overview of Annual Assessment Project(s).** On a separate sheet,provide a brief overview of this year’s assessment activities, including:

* an explanation for why your department chose the assessment activities (measurement, analysis, and/or application) that it enacted
* if your department implemented assessment **option A**, identify which program SLOs were assessed (please identify the SLOs in full), in which classes and/or contexts, what assessment instruments were used and the methodology employed, the resulting scores, and the relation between this year’s measure of student work and that of past years: (include as an appendix any and all relevant materials that you wish to include)
* if your department implemented assessment **option B**, identify what conclusions were drawn from the analysis of measured results, what changes to the program were planned in response, and the relation between this year’s analyses and past and future assessment activities
* if your department implemented **option C**, identify the program modifications that were adopted, and the relation between program modifications and past and future assessment activities
* in what way(s) your assessment activities may reflect the university’s commitment to diversity in all its dimensions but especially with respect to underrepresented groups
* any other assessment-related information you wish to include, including SLO revision (especially to ensure continuing alignment between program course offerings and both program and university student learning outcomes), and/or the creation and modification of new assessment instruments

**3. Preview of planned assessment activities for next year.** Include a brief description and explanation of how next year’s assessment will contribute to a

continuous program of ongoing assessment.

Sections 2, 3

During the past year the faculty in the ME department have evaluated the re-mapping of ABET outcomes A – K for the required courses in our program. Additional outcomes considered during the prior review are no longer necessary and have been eliminated from our evaluation and assessment processes.

A trial run was successfully completed las t year working with the campus IT group to create a single MOODLE site with all students in our program populating the enrollments in the different program courses. Also during the past year the documented evidence from our prior ABET review was used to create quiz modules within MOODLE for each course. Lead faculty have been identified to map specific embedded questions to individual outcomes and combine outcome questions into a 30 minute quiz to be administered to the students toward the end of the Fall semester. The MOODLE site will go live during Fall 2015 once it has been populated with students enrolled in the respective courses.

The overall plan consists of three phases:

1. Mega MOODLE site programmed with quizzes representing all classes in the BSME program (Labs either excluded or rolled into lecture content. These will be administered to all students in all classes every semester. Currently the question database consists of 500+ questions collected from the materials prepared for the most recent ABET review (homework, quizzes, exams). 49 Sections in 13 courses are represented. Lab courses are not specifically targeted.
2. Electronic Assessment System (EAS) – CSUN’s home grown assessment system available to the campus. Its strengths include the ability to have a team of faculty evaluate written documents according to a set of prepared rubrics and perform a statistical analysis.
3. Elective courses in the ME department – plan to be developed to assess these courses. Complicated by the fact that not all students take the same electives and both UG and Grad students take the same course.
4. Moodle site
   1. Source material – ABET review files containing quizzes, exams, homework. Relevant questions have been coded into MOODLE. Over 500 quiz questions have been added to date.
   2. There was a wide variety in the quality and number of questions available for the different courses resulting in poor sampling. Some courses will need to have additional content added.
   3. The assessment quizzes will be available during last two weeks of the Fall semester
   4. Mandatory for all students in classes covered
   5. Need to incentivize students in classes to take quiz with additional points, %grade category
   6. Treat as credit/no credit with full credit awarded for completion
   7. Open book/open notes
   8. 30 minutes in duration
   9. Should be intense – set up so that top students achieve 80% correct.

Faculty involvement

The assessment coordinator will work with Hamid to assign individual faculty members to be responsible for each class

Tasks to be done by lead faculty for each assigned class:

1. Review questions currently available
2. Add supplemental questions as appropriate (MK can program if instructor is unfamiliar with MOODLE)
3. Map questions to outcomes for each course. Most questions will apply to one outcome but multiple outcomes may apply to a single question
4. Rename each question to be used in the quiz. Replace initial x with outcome letter. If multiple outcomes apply replace x with a-c, b-g-f, etc.
5. Check point value. T/F, multiple choice, matching = 1 point; calculated questions 1-5 points depending on complexity. 1point = 1 minute to complete.
6. Complete by 9/15
7. EAS
8. Reports have been requested from each senior design project for the last two semesters. So far the database is incomplete but a sufficient number of files are available to develop the assessment process.
9. Senior design courses map to all a-k outcomes.
10. Some documents have been loaded into EAS; some sections are blocked because of technical problems.
11. Will need to establish faculty evaluation committee.
    1. Faculty committee to consist of 3 members – junior faculty encouraged to participate
    2. Develop rubrics to establish guidelines for evaluation of each outcome. EAS has several rubrics already built in
    3. Develop protocol for evaluations
    4. Perform evaluations independently
    5. Generate summary statistics in EAS

Current problems with EAS: Current technical problems prevent assigning instructors of record. Unable to upload associated files. Support staff assigned to be “working” on this project constantly in flux. Bettina has been working on this for more than 4 years without adequate support. Campus needs to commit to support of this project with more than lip service.

1. Elective courses

Initial plan is to incorporate into MOODLE s quizzes similar to required courses. These are more complicated from an assessment standpoint since students consists of both UG and Grad students and not all electives are taken by all UG students. Fall 2016 would be targeted for implementation.