# Report on Program Review & Assessment

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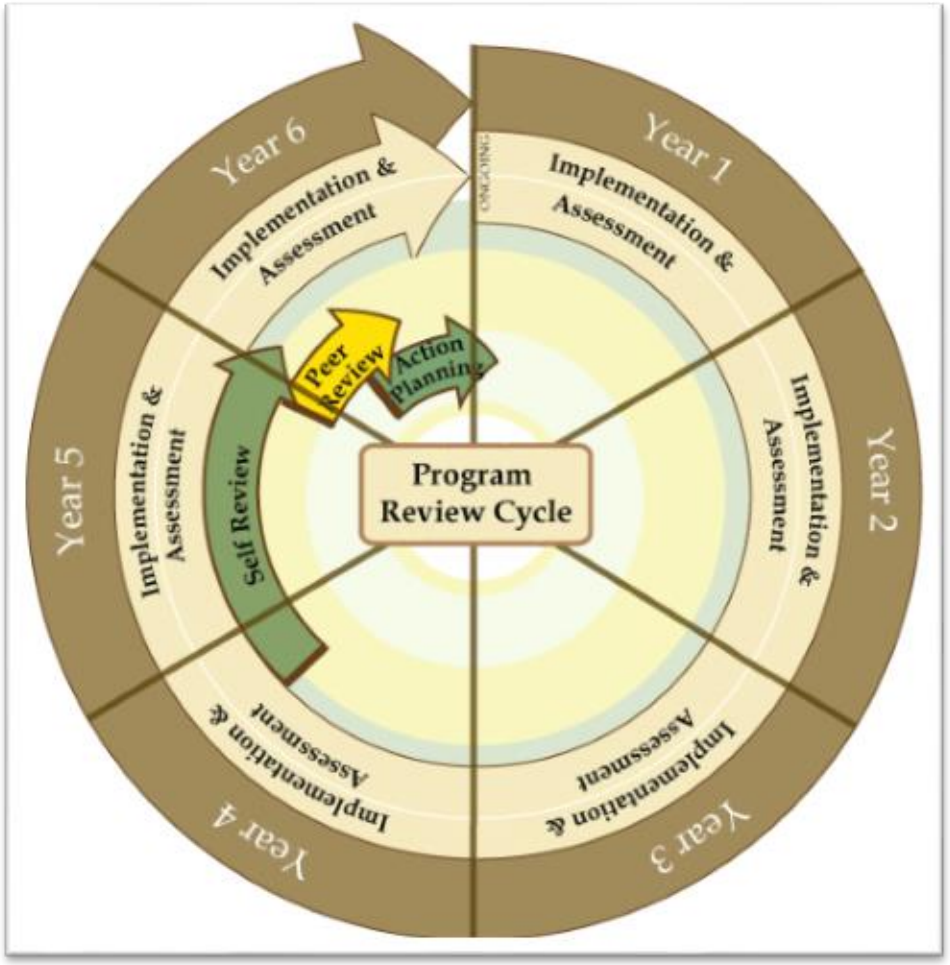
# Program Review Cycle

At Cal Poly, we practice a continuous cycle of review and assessment. For most programs it is a 6-year cycle; for some accredited programs it is a 5- or 7-year cycle.



# Summary for 2014-15 Academic Year

- CENG: All graduate and ABET accredited engineering programs within CENG
- CAED: Architectural Engineering (ABET accredited)
- CAFES: BioResource & Ag Engineering (ABET accredited)
- OCOB: Industrial Technology (ATMAE)

# PLO Assessment Trends

The following trends can be seen in Engineering program-level assessment

- Engineering assessment plans range from developing to highly developed (based on the WASC rubric).
- There is effective use of direct and indirect assessment methods across CENG programs.
- The Industry Advisory Boards and employer survey results indicated high levels of satisfaction and achievement tied to the 11 ABET-required learning outcomes being measured.

# Best Practices

The following examples showcase best practices within the programs.

# Architectural Engineering

- ARCE faculty created committees to review introductory, analysis, and design courses.
- The committees reexamined course objectives and course content and implemented changes in the mode of instruction in several courses to gain efficiencies.
- A number of other courses were added, modified or eliminated to achieve desired results.

# Biomedical Engineering

- Assessment findings revealed students needed more solid modeling experience and familiarity with topics in 3F Professionalism and Ethics.
- To close the loop, BMED faculty added a solid modeling class ME 228, now required for all students; and improved coverage of 3F Professionalism and Ethics with more deliberate emphasis in BMED 450.

# Electrical Engineering

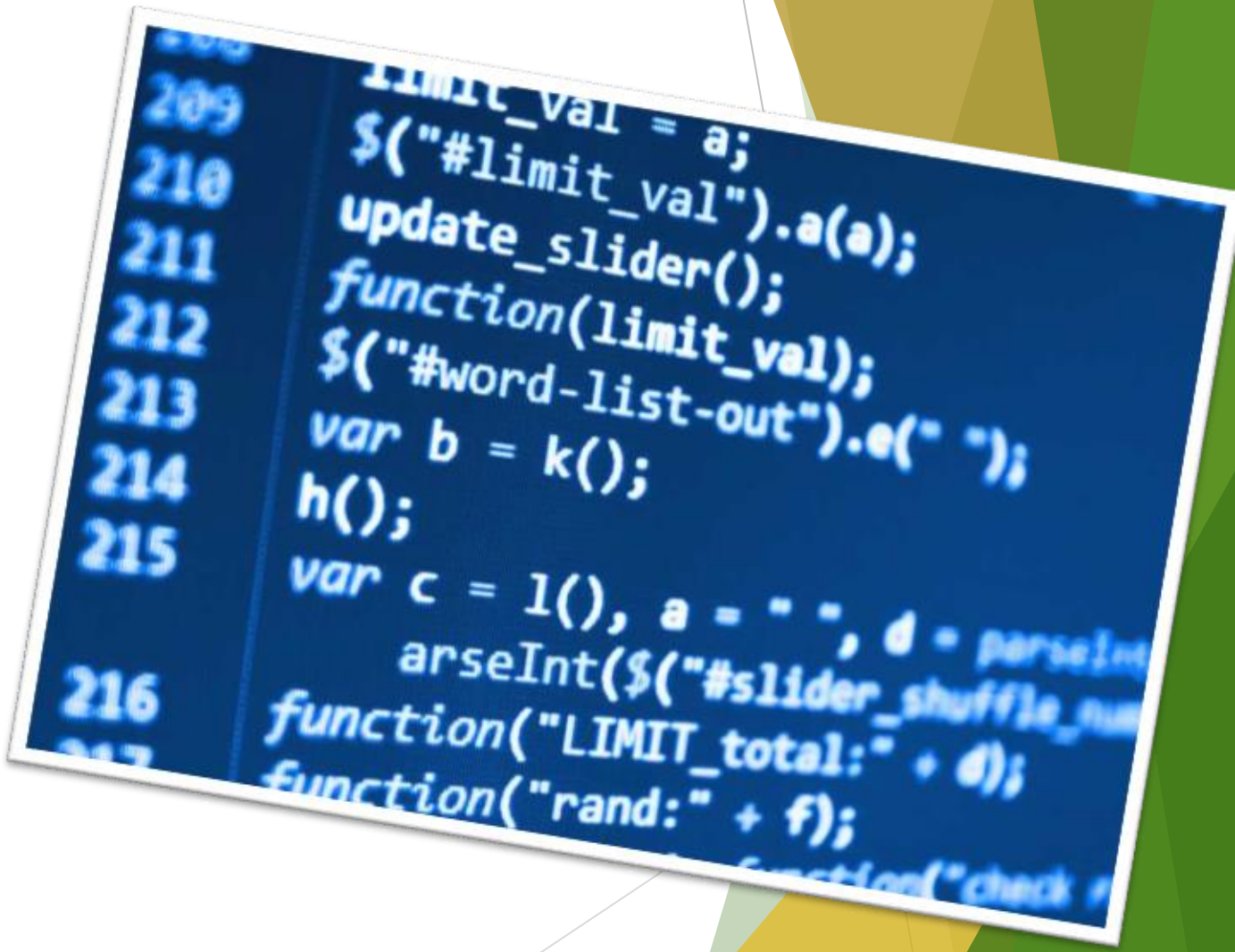
- The program was able to identify several issues for program improvement including the Senior Project design experience, student retention of information, and variability of faculty teaching effectiveness, and 3F Ethics and Professionalism improvement.

# Computer Engineering

- The addition of CPE 123 has shifted attitudes towards finding computing more creative and increased 2-yr persistence rates from 73% to 82%
- Another curricular improvement was to move a Discrete Structures course (CSC/CPE 141) to upper division for improved retention of the material.

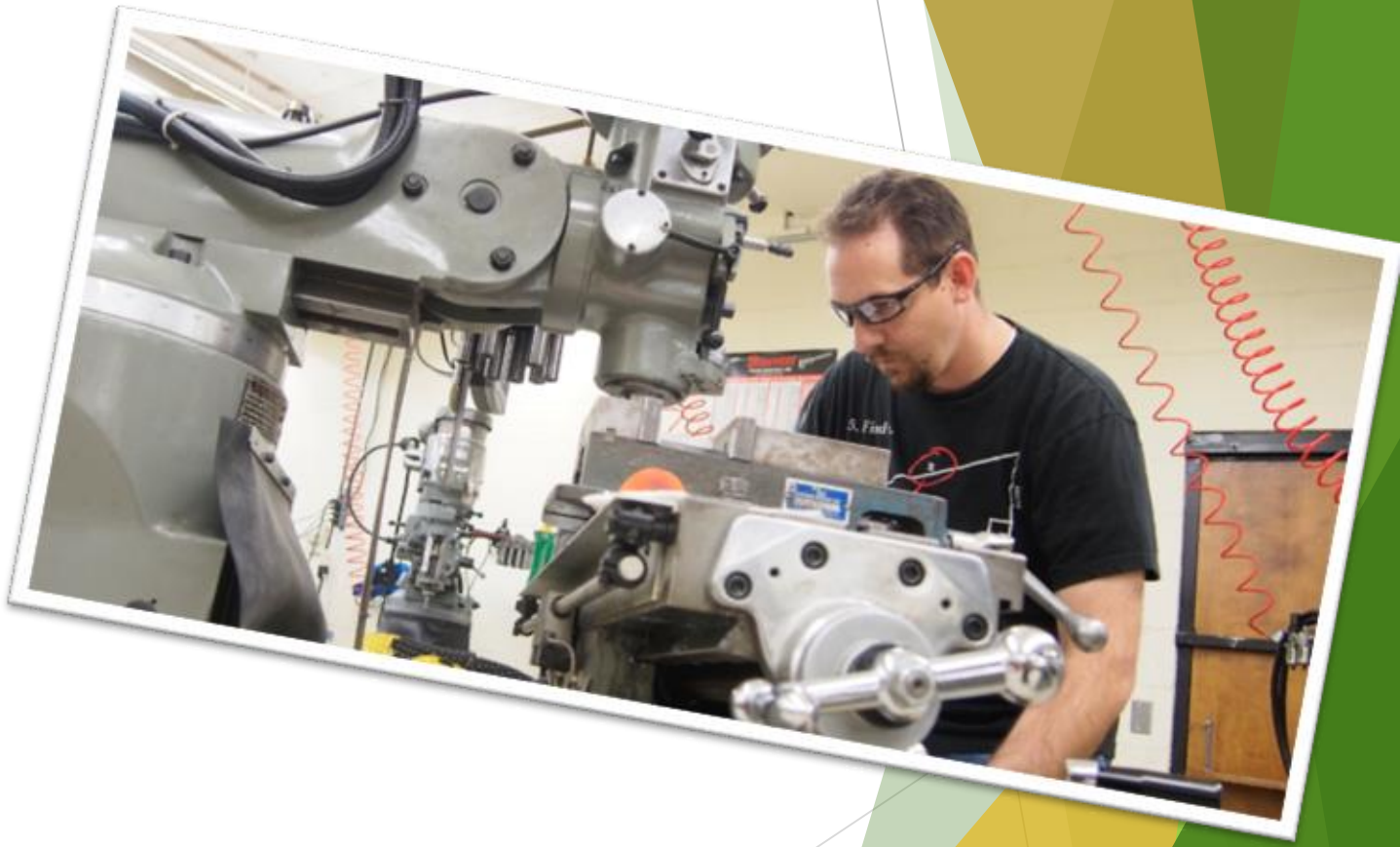
# Computer Science & Software Engineering

- Assessment results revealed improvements were focused on the ability to design and conduct experiments and analyze and interpret data. To address this issue, a CSC 349 Final Project with rubric was introduced.



# Industrial and Manufacturing Engineering

- Employer Surveys indicate the MfgE program is very highly valued by employers.
- Assessment findings identified ethics, manufacturing engineering programming skills, and large-scale enterprise IT/IS concepts as areas for targeted improvement.



# Materials Engineering

- The MATE program targeted 4 program learning outcomes by assessing the Capstone Senior Project, which consists of an oral presentation, a written report and a poster presentation at a college-wide exposition.
- Findings indicated that all of the PLOs being measured were being achieved at the expected level.

# BioResource & Agricultural Engineering

- Based on lower FE Exam scores, BRAE faculty identified several ways to help students prepare for the exam and pass rates have improved dramatically to 66%.

# Program Review Goals

- Continue to use feedback from the review process into the planning process for the department.

- Goal: integrate outcomes/findings of program reviews into the campus planning and budgeting processes, e.g., through negotiating formal action plans with mutually agreed-upon commitments.

# Questions or Comments?