**ANNUAL DEGREE PROGRAM ASSESSMENT, PLANNING AND BUDGET REPORT**

2013-2014

Program Description

The Electronic & Computer Engineering Technology (ECET) program leads to an Associate in Science degree and provides students with the skills and knowledge required for entry level employment within high-technology industry as electronic / electro-optic technicians, renewable energy technicians, telecom technicians, and network system administrators. Students learn fundamental engineering concepts, computer programming, mathematics, and physics relevant to a wide variety of industries on Maui. Training, equipment, and supplies are provided for 3-D printing and circuit board fabrication. Software applications for circuit simulation, CAD, finite element analysis, and microprocessor control are utilized. The program requires written and verbal proficiencies and emphasizes laboratory competencies. Internship and job placement opportunities in a variety of engineering technology positions are provided.

1. Briefly respond in 100 words or less for each cautionary and/or unhealthy Quantitative Indicator (II):
	1. Demand Indicator: Data not available as of Nov. 3, 2014

* 1. Effectiveness Indicator: Data not available as of Nov. 3, 2014
	2. Efficiency Indicator: Data not available as of Nov. 3, 2014
1. Industry Validation (check all that apply)(IV-A):

Advisory Committee Meeting(s) \_X, How many? \_2 Did Advisory Committee discuss CASLO/PLO? Yes X\_ No\_\_

Coop Ed Placements X\_ Fund raising activities/events X\_ Service Learning No\_

Provide program services that support campus and/or community X\_ Outreach to public schools \_X

Partner with other colleges, states and/or countries X\_ Partner with businesses and organizations X\_

OtherX\_ Describe\_ Extramural funding from National Science Foundation and Private Donations

1. List PLOs (attach Program Map)(IV):

1. Analyze, design, and implement electro-optic systems, control systems, instrumentation systems, communication systems, computer systems, or power systems;

2. Apply project management techniques to electrical/electronic(s) and computer systems;

3. Utilize appropriate mathematics at the level of algebra and trigonometry to solve technical problems;

4. Demonstrate critical engineering technology skills and experiences such as: making existing technology operate, creating/selecting new technology, troubleshooting, calibrating, characterizing, and optimizing;

5. Demonstrate engineer's way of thinking, analyzing technology as systems;

6. Demonstrate engineer professional skills such as communication and managing projects;

 7. Demonstrate proficiency in the general education college core requirements: creativity, critical thinking, oral and written communication, information retrieval, and quantitative reasoning;

8. Demonstrate a respect for diversity and a knowledge of contemporary professional, societal and global issues; and

9. Commit to quality, timeliness, and continuous improvement.



1. Instrument used for assessment (check all that apply) (IV-B):

Work Sample X\_\_ Portfolio\_\_ Project X\_\_ Exam X\_\_ Writing Sample X\_\_

Other X\_\_ Please explain\_Oral presentation\_and demonstration\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which course or courses did you use to assess PLOs and CASLO (IV-C)?

ETRO 298, ETRO 112

1. List strengths and weaknesses found from PLO assessment analysis (IV-E):

The program is producing graduates that meet or exceed the PLO requirements. Problem and Project based learning should be implemented to synthesize all learning into one solid body of knowledge and skills that can be used to solve real world problems in a wide variety of discipline areas.

1. List CASLO assessment findings highlights (attach CASLO report) (IV-E):

See attached file.

1. Action Plan (III) and Next Steps (IV-G):
	1. PLO – Continue grant proposal writing and submissions
	2. CASLO – Continue working with CASLO group to improve student learning
	3. Program improvement - Continue grant proposal writing and submissions
2. Chart of resource needs (IV)

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| --- | --- | --- |
| Budget request | Amount | Justification for how this will improves learning |
| Computers | 32,000 | New technology is required to run latest versions of modeling and simulation software. |
| Lab Tech | 50,000 | Lab can be open outside of class time. Students can accomplish larger more complicated projects. New technology such as surface mount components can be incorporated into lab exercises. |
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* Roman numerals indicate related category for system input



ECET--Information Literacy CASLO Report

Survey: UHMC CASLO Assessment--Info rma tio n Litera cy

1. Please select the UHMC program for this assessment activity.

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| --- | --- | --- |
|  |  |  |
| Count | Res pons e |
| **6** | Electronics & Computer Eng. Tech |
|  |

Yes 33.3%

No 66.7 %

**2. After reviewing the Faculty Report on CASLO Evidence, the correlating course outline, and the Information Literacy rubric, please indicate your response to the following statements: The "minimally passing" evidence demonstrates student achievement of the Information Literacy CASLO at a level of skill appropriate for the degree.**

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| --- | --- | --- |
|  |  |  |
| Value | Count Percent % |
| Yes 2 33.3% |
| No 4 66.7% |
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|  |  |  |
| --- | --- | --- |
|  |  |  |
| Statis tics |
| Total Responses | 6 |
|  |

No 33.3%

Yes 66.7 %

**3. After reviewing the Faculty Report on CASLO Evidence, the correlating course outline, and the Information Literacy rubric, please indicate your response to the following statements:The evidence presented in this assessment activity shows that students in the program generally develop and demonstrate the information literacy skills that they will need as graduates of the program.**

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| --- | --- | --- |
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| Value | Count Percent % |
| Yes 4 66.7% |
| No 2 33.3% |
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| --- | --- | --- |
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| Statis tics |
| Total Responses | 6 |
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4. CASLO assessment methods (tests, projects, assignments, capstones, portfolios) should prompt students to demonstrate exit-level skills that are relevant to the needs of graduates of the program. What suggestions do you have for improving the test, assignment, or project used for this assessment activity?

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| Count | Res pons e |
| **1** | Required minimum source citation. |
| **1** | The CASLO should be demonstrated in English 100. |
| **1** | Require bibliographic references for all research projects. Build information literacy constructs into the assignment by way of scaffolding or practice assignments. Possibly work with an English 100 faculty to create a research assignment that satisfies subject- specific as well as general education outcomes. |
| **1** | Have students do an annotated bibliography before the assignment is turned in. Also, you could require students to turn their bibliography (or annotated bibliography) into a library rep or TLC tutor to be signed off on. This will cut down the work on the course instructor and also utilize the expertise of others on campus. |
| **1** | As discussed in the meeting requiring at least 3 sources for the project. These sources should be identified and evaluated by the instructor early- on in the project. A background research piece can be written early on in the project and revised later. |
| **1** | Assignments that present students with problems to solve through research encourages students to analyze the depth and breadth of information needed to create a solution. Include assignments that require students to think critically about a problem that uses research to explore solutions or varied approaches. Include clear research requirements for instructions for assignments that require research, including documentation style and number/types of sources. Consider bringing the librarians into the class for a session on smart search strategies and/or evaluating sources (CRAAP test). Workplace writing is delivered in summary/paraphrase. This challenging skill develops with practice.Perhaps include requirement for using summary instead of quoting in the assignment instructions. Best practice: Include CASLO skills in 200 level ECET courses so that students apply skills at the “exit- level.” This shows readiness for the workplace and upper division. Consider a scaffolding approach that builds smaller assignments into a project so that students get check- ins along the way. For example, require students to provide a short evaluation of the quality of a few |

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|  |  | key sources, so that they demonstrate the ability to scrutinize information in the Engineering field in a way that approximates entry- level workforce expectations. |  |
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5. UHMC programs strive to design curriculum and learning experiences that result in graduates who are prepared to pursue academic, career, and personal goals. What suggestion do you have for improving curriculum, instruction, or student services to better develop the information literacy skills needed of

graduates from the program?

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| Count | Res pons e |
| **1** | Question: Does the library have sufficient resources for engineering students. Does the library support the need for breadth? What databases are needed to support ECET. Can the library provide an instructional module specifically designed for ECET students. Consider working with the library to develop a handout, presentation, or learning module that develops the specific skill students will use for the assignment. Information literacy skills develop through consistent practice. They should be integrated into a significant number of courses throughout the curriculum. Students get basics of “smart search” strategies in ENG 100, but this needs substantial reinforcement in subsequent courses. |
| **1** | Work with a librarian to develop an information literacy support program for ECET and Engineering Technology programs. |
| **1** | In all of the samples provided (excellent and sufficient) I see evidence of a rhetoric- based approach to utilizing sourcesin writing. Sources are quoted directly rather than synthesized. In scientific writing this practice is considered plagiarism. Isee the possible options here as: 1) Developing a technical writing course for students in Science, Math, and Technology 2) Incorporation of technical writing content into ENG100. At the very least it should be emphasized that quoting of sources is only good practice when you are taking issue with a viewpoint made by an author or using their authority to make a subjective argument. 3) Include an exercise in ENG100 that discusses plagiarism and use direct quoting as one of the examples. Students will likely not identify it as such providing a discussion point. |
| **1** | There should be two freshman- level English courses. One like the present ENG 100 and then another, "2nd- semester freshman" course that focuses on research and/or technical writing. Perhaps too, the WI course options for students should be better streamlined for students in specific degree programs. I think that some English teachers in ENG 100 shy away from spending enough time on the research component necessary for research- minded critical thinking skills that will be needed in other courses and upon graduation. Creative writing may be more fun to teach and create a more engaging class, but unless students are pursuing a creative degree, those skills, while valuable for students' individual life and passions, are not necessarily helping students meet their educational and professional goals. |
| **1** | Information literacy should be taught and evaluated by the general education class requirements for an AS degree. |
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6. CASLO Assessment activities are designed to help programs align curriculum and instruction with the

needs of students. How can this assessment practice be improved?

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| Count | Res pons e |
| **1** | I am satisfied with the assessment activities. |
| **1** | Involve other faculty and get the burden off of the program coordinator. |
| **1** | Program Coordinators need select the correct course. Perhaps we need to make it more clear that exit level skills of certain CASLO's may be demonstrated in ANY course in the Program Map. It does not have to be a discipline course. |
| **1** | Have all instructors providing assessment documents also provide original assignment handouts/instructions. |
| **1** | Jeremy was very helpful in establishing a focus of well- prepared students! In future CASLO meeting, invite a student. |
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7. Please share any other comments or suggestions that may be helpful in improving the information literacy skills of students in this program.

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| Count | Res pons e |
| **1** | Have all instructors providing assessment documents also provide original assignment handouts/instructions. |
| **1** | We really need to encourage folks to read the evidence BEFORE the meeting. We waste so much time when they don't. Also, these comments are the same for the Eng Tech program. These suggestions would be helpful in both places. |

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| **1** | Is the level of writing and information literacy required to pass English 100 at a high enough level for an AS degree? For example, I am a student and take English 100 in my last semester of the AS degree. Am I required to demonstrate meeting the CASLO in this class at this point in my degree? If my English 100 evidence were high enough in my last semester of classes, why would it not be high enough in my first semester? It should be the same class. Should the college require students to save work from English 100 in order to provide evidence of the student meeting the CASLO at the time of graduation? The program coordinator could file the portfolio as evidence. Is the level of writing required to pass English 100 not a high enough standard to show evidence of CASLO requirements AS graduation? Why does English 100 meet the AS requirement for General Education if this class does not provide evidence of meeting the CASLO? Are General Education classes required after English 100 that will give students the opportunity to learn and demonstrate the CASLO? Where are they supposed to gain higher proficiency in the CASLO if no subsequent classes are required, and English 100 does not meet the CASLO? Do other general education class requirements for the AS degree provide evidence of meeting any other CASLO? Can’t we use products from these classes to prove the graduate meets the CASLOs? If we cannot, why do we require these classes for AS degree graduation? |
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