

1. Assessment Plan - Four Column



PIE - Technology & Health: Electronics & Computer Technology Unit

Narrative Reporting Year

2017-18

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Internal Conditions, Trends, or Impacts : The Electronics Department continues to be asked to provide sections of our introductory electronics sequence of courses for inclusion in new certificate programs proposed by other departments and divisions. This participation possibly will expand in 2018-2019 to include collaborations with other colleges. Faculty in the Manufacturing/Industrial Design Engineering program are collaborating with colleagues at Pasadena City College on a joint Product Design initiative that will include electronic devices. Electronics department faculty may contribute circuit design and/or printed-circuit board fabrication expertise to the joint collaborative effort.

Notable Achievements for Theme A: To Advance Academic Excellence and Student Achievement:

Notable Achievements for Theme B: To Support Student Access and Success:

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2017-18

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Program Planning Dialog: Advisory meeting (March 2018)

Internal Conditions, Trends, or Impacts : Department advisory body strongly advocates for the addition of a short course in tool use, tool safety, and automotive fabrication techniques (including metal fabrication skills and basic welding).

Critical Decisions Made by Unit: We have begun working with the Continuing Education division to introduce a noncredit (VOC) course in "Field Service and Tool Use" that will be attached to their existing Advanced Manufacturing certificate program and that will be scheduled during intersessions. Students in Electronics Technology and other technical programs will be strongly encouraged to take the noncredit course to enhance their employment prospects. The first offering is scheduled for Winter 2019.

Notable Achievements for Theme D: To Foster an Atmosphere of Cooperation and Collaboration: This course will be offered through Continuing Education during intercession periods. As a VOC course, it will be made available at no charge to students. Advisors have stated quite clearly that students who complete such a course will have the additional, critical entry skills that will make them more desirable applicants than those completing the degree/certificate programs alone. Additionally, students completing the VOC Advanced Manufacturing certificate program will be made aware of the course offerings in the credit-based Electronics, Manufacturing, Industrial Design Engineering, and Welding programs and be encouraged to continue their coursework to degree/certificate completion there.

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Program Planning Dialog: Ongoing discussions with faculty at Cal Poly Pomona.

External Conditions, Trends, or Impacts: Cal Poly Pomona has stated that the Electronics Engineering Technology programs (now called "Electronic Systems Engineering Technology") will go off "impacted" status starting in 2018. This will encourage more transfers as well as inquiries as to how the Mt. SAC ELEC program articulates to Cal Poly's. In addition, Cal Poly will transition to a semester-based calendar beginning in Fall, 2018, and has renumbered and modified the content of many courses that have articulated with Mt. SAC ELEC courses for many years. These changes will require renegotiation of articulation agreements. There may be future impacts to the content of Mt. SAC courses depending on the nature of the revisions at Cal Poly.

Internal Conditions, Trends, or Impacts : Data for the past three years show that, by far, the largest number of students in the ELEC and CNET programs state that their ultimate educational goal is "obtain an associate degree and transfer to a 4-year institution" rather than to seek a certificate or AS degree for employment. As of May 2018, data for the 2016-17 year show that 202 students indicated AS/transfer as their educational goal, whereas the second largest category (undecided) was only 85 students.

Critical Decisions Made by Unit: We will continue to work closely with faculty at Cal Poly Pomona to preserve long-standing articulation arrangements between Mt. SAC's ELEC courses and equivalent first- and second-year course work in the Electronic Systems Engineering Technology BS degree program.

Notable Achievements for Theme A: To Advance Academic Excellence and Student Achievement: Although both ELEC and CNET have always been career/employment-focused programs, knowledge that many students indicate that their educational goals are to continue to 4-year institutions means that the department will emphasize even more strongly (particularly in fundamentals courses) the transfer options available to them, both at Cal Poly Pomona and elsewhere. This knowledge also serves to validate the department's focus on continuing to improve the academic components (writing, communication, critical thinking) of the program along with the focus on employment.

Notable Achievements for Theme D: To Foster an Atmosphere of Cooperation and Collaboration: In April 2018, the Electronics & Computer Technology department hosted an hour-long meeting with the Counseling department to provide Counseling faculty with updated information on department programs and transfer/articulation opportunities. Because of the many new(er) Counseling faculty members now at Mt. SAC, this meeting made Counselors aware of many transfer/articulation opportunities available to students and also made them aware of the department's web-based resources for student advising.

<i>Unit Goals</i>	<i>Resources Needed</i>	<i>Where We Make an Impact: Closing the Loop on Goals and Plans</i>
<p>Facilities Issues - Funds requested having to do with the upkeep and on-going maintenance of the classroom facilities.</p> <p>Status: Active</p> <p>Goal Year(s): 2017-18</p> <p>Date Goal Entered (Optional): 09/01/2016</p>	<p>Full Funding Requested - Computer Lab Remodel</p> <p>Lead: Jim Uranga</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>Facilities issues are ongoing: though both rooms 312 and 314 are fully functional, they still require electrical and telecommunications upgrades to bring up to campus standards. Additionally, a 3-phase, 208-V circuit must be installed adjacent to room 314 to allow for installation and use of the department's fume extraction system. A third white board needs to be installed in rooms 403 and 412. Overhead lights in the lab and classrooms routinely burn out and are not replaced. Although reported through Schooldude, one ballast replacement took over five months to complete, and another hallway light was burned out for over a year before being replaced despite being reported multiple times. (05/18/2018)</p> <hr/> <p>Reporting Year: 2017-18</p> <p>% Completed: 25</p>

<i>Unit Goals</i>	<i>Resources Needed</i>	<i>Where We Make an Impact: Closing the Loop on Goals and Plans</i>
	<p>Full Funding Requested - White boards--rooms 403, 410, 412</p> <p>Lead: Hymer</p> <p>Planning Unit Priority: High</p>	<p>2016-17: Facilities needs continue in the following areas: third white board installed in rooms 403 and 405; upgrades to power and data-communications capability; and routine attention paid to maintenance issues, most significantly replacement of fluorescent lamps and ballasts. 2017-18: Maintenance issues continue. Light ballasts routinely take weeks if not months to replace. Also, power and data communications capabilities need to be addressed in rooms 312 and 314. (07/05/2017)</p> <p>Reporting Year: 2017-18</p> <p>% Completed: 25</p> <p>Room 410 has a third white board. Rooms 403 and 412 each need a third white board installed on either side of the existing ones to allow for additional white board space to be available when the projection screen is in use. (05/18/2018)</p>
	<p>Full Funding Requested - Secure self-locks or an electronically actuated key system (with surveillance) is desperately needed. The security of several hundred thousand dollars' worth of equipment depends on this. Lock access is still an issue, as is the inability of faculty or staff to access the building during off hours.</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 25</p> <p>Classroom and equipment room locks have been returned to the self-locking variety; however, the department advocates for the installation of a CCTV system to maintain surveillance in the hallways whenever the equipment room (room 406) is unattended. There was an attempted break-in several years ago (pry marks on the Dutch door were apparent). Also, having a keypad (or card-swipe) based locking system installed would eliminate the need for high-security keys, and access codes can be changed more readily than with a key-based system. (05/18/2018)</p>
	<p>Full Funding Requested - Need 3-phase (208-V) circuit for our existing fume extraction system.</p> <p>Soldering lab remodel room 314/fume extraction system</p> <p>Describe Plans & Activities</p> <p>Supported: Soldering lab remodel room 314/fume extraction system</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>Need for this resource continues. Installation of the department-owned fume extraction system (which is fully self-contained, requiring no external venting) would eliminate the need for noisy, portable fans at each student workstation, thus improving the learning environment. (05/18/2018)</p> <p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>Need identified. (08/19/2017)</p>

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<p>Personnel support - Need for qualified lab assistants continues. Also critically needed is an individual with subject-matter expertise to provide additional support for ELEC 74 (Microcontroller Systems), based on student feedback regarding bottlenecks created as the result of competition for instructor's attention.</p> <p>Status: Active</p> <p>Goal Year(s): 2016-17, 2017-18</p> <p>Date Goal Entered (Optional): 09/01/2016</p>	<p>Full Funding Requested - In-class assistants</p> <p>Lead: Hymer</p> <p>Planning Unit Priority: High</p>	<p>Reporting Year: 2017-18</p> <p>% Completed: 0</p> <p>No Perkins funding will be available for lab assistants or tutors for the 2018-2019 academic term, and possibly beyond. Augmentation of the department's hourly instructional aide ("nightman") account is requested to allow the department to continue hiring lab assistants for the fundamentals courses (ELEC 50A/50B) as well as evening courses where equipment room coverage is needed. In addition, because ELEC 74 continues to require student assistants with subject-matter expertise, a lab assistant who is not a Mt. SAC student may be needed in the future, thus requiring the department to hire an individual at "professional expert" rates higher than those paid in the past. (05/18/2018)</p>
		<p>Reporting Year: 2016-17</p> <p>% Completed: 0</p> <p>Perkins funding will not be available for in-class assistants for 2017-18, and the need for coverage for ELEC 74 will continue next year. Therefore, alternative sources of funds must be identified and secured. (07/06/2017)</p>
	<p>Full Funding Requested - Need to hire a part-time Career Specialist to support experiential learning opportunities for the Electronics and Computers and Networking Technology programs.</p> <p>Describe Plans & Activities</p> <p>Supported: Specialist to assist with work experience placements and employer panels, career fairs, etc.</p> <p>Lead: Rachael Brown</p> <p>On-Going Funding Requested (if applicable): 55000</p> <p>Type of Request: Staffing</p> <p>Planning Unit Priority: High</p>	
<p>Pathways effort - As part of its participation as a "pilot" in the AACCC</p>	<p>Completed - Update Pathways flowcharts and in-department flow-</p>	<p>Reporting Year: 2016-17</p> <p>% Completed: 100</p> <p>: Updated course flow charts are available in brochure holders on</p>

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<p>Pathways effort, the department has become much more aware of the need to integrate coursework in both ELEC and CNET with the college's General Education requirements. The department will work to improve its "collateral" in the form of flow-charts and student handouts that show possible ways to integrate GE course work during the primary semesters in which students are taking subject-specific courses. These flow-charts will also emphasize that there are multiple paths to completion, as the Electronics and CNET programs are not heavily dependent on "hard" prerequisites.</p> <p>Status: Active Goal Year(s): 2016-17 Date Goal Entered (Optional): 09/01/2016</p>	<p>chart handouts; keep department web site up to date.</p> <p>Lead: Joe Denny Type of Request: Marketing Planning Unit Priority: High</p>	<p>Department flow-charts (available as printed handouts on brochure holders in halls as well as on the department web site) have been updated to show various paths to completion and to direct students to the department web site for information regarding alternate paths to completion as well as degree/certificate and transfer resources. Pathway maps have been developed and will appear on the web site as well as on the hallway walls of the department. (07/06/2017)</p>	<p>the 4th floor of Building 28B as well as in the division office and on the department web site. (08/19/2017)</p>
<p>Lab Modernization Requests - Each department laboratory will have industry current equipment to respond to employer and transfer institution needs.</p> <p>Status: Active Goal Year(s): 2016-17, 2017-18 Date Goal Entered (Optional): 07/05/2017</p>	<p>Report directly on Goal</p>	<p>Reporting Year: 2017-18 % Completed: 100</p> <p>Equipment purchases, as well as the comprehensive nature of the programs in the department, have resulted in a larger number of students seeking positions with high-impact employers starting and continuing with our programs. We have seen an increase in the number of students from LA Metro, and we know of three Metro employees who intend to begin our program in Fall 2018. This is purely the result of word-of-mouth advertising. In addition, CNET students are routinely finding internships and permanent positions, both with Mt. SAC and with a variety of other area employers, particularly school districts.</p> <p>For the current year, the Electronics & Computer Technology Department was recognized with a bronze medal as a Strong Workforce Star by the state chancellor's office for producing a 59% increase in earnings according to</p>	

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	<p>Report directly on Goal</p> <hr/> <p>Full Funding Requested - Software maintenance for Programmable Logic Control course Lead: Hymer Planning Unit Priority: High</p> <hr/> <p>Full Funding Requested - Digital oscilloscopes Describe Plans & Activities Supported: Class set of 12 digital oscilloscopes for use in three advanced courses in electronics program. Existing instruments are 30 years old, are beginning to fail, and replacement parts are no longer available from manufacturer. Lead: Hymer One-Time Funding Requested (if applicable): 12000 Planning Unit Priority: High</p> <hr/> <p>Full Funding Requested - KVM Switches Describe Plans & Activities Supported: Purchase 4 KVM (keyboard-video-mouse) switches for use in CNET 58 (Server Systems) course. Lead: Ken Miller One-Time Funding Requested (if applicable): 4000 Planning Unit Priority: High</p>	<p>state workforce data in the area of Electronics and Electric Technology. (05/20/2018)</p> <hr/> <p>Reporting Year: 2017-18 % Completed: 0 Department intends to investigate alternatives to the proprietary (Allen-Bradley) programmable logic controllers presently used in ELEC 54B. Micrologix and other vendors provide open-source/no charge software that is functionally identical to that supplied by the vendor of Allen-Bradley hardware. (05/19/2018)</p> <hr/> <p>Reporting Year: 2017-18 % Completed: 100 The class set of oscilloscopes has been procured with Perkins funds and will be used beginning in Fall 2018 in all advanced courses. Demonstrations of some scope features as well as student-centered exercises for the ELEC 50B and ELEC 12 courses will begin in Spring 2018. (05/19/2018)</p> <hr/> <p>Reporting Year: 2017-18 % Completed: 0 Funding has been requested through institutional (instructional equipment) channels, as Perkins funds were not awarded for this purpose in the 2018-19 cycle. (05/19/2018)</p>
<p>Distance Learning Availability - Introduce distance-learning-based versions of test-preparation courses</p>	<p>Report directly on Goal</p>	<p>Reporting Year: 2017-18 % Completed: 100 All CNET test-preparation courses (CNET 60, 62, 64, 66)</p>

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<p>in CNET program: CNET 60, 62, 64, 66 will be available as both in-person and distance-learning based courses. Status: Active Goal Year(s): 2018-19 Date Goal Entered (Optional): 05/20/2018</p>	<p>Report directly on Goal</p>	<p>have received approval for distance learning delivery beginning Summer 2018. CNET 60 and 62 have been scheduled and will be offered. (05/20/2018)</p>
<p>Increase department visibility - Increase department visibility: make students aware of department offerings, increase number of degrees and certificates awarded, and continue to offer articulation to courses offered at Cal Poly Pomona and other CSUs. Status: Active Goal Year(s): 2018-19 Date Goal Entered (Optional): 05/20/2018</p>	<p>Report directly on Goal</p>	<p>Reporting Year: 2017-18 % Completed: 50 Department has installed a video wall system on the 4th floor of Bldg. 28B. A short video will be made for use on campus monitors to increase awareness of the department. Students in terminal courses (in particular, ELEC 12 and ELEC 55) will be encouraged to apply for all certificates for which they are eligible. A certificate eligibility worksheet and the certificate application are both available on the department's web site, and applications are passed out in classes and students are given time to fill them out and encouraged to submit them. (05/20/2018)</p>
	<p>Partial Funding Requested - Support for job developer (half-time position) to support efforts of Rachael Brown Describe Plans & Activities Supported: Update video wall with job listings, internship opportunities, work experience. Type of Request: Staffing Planning Unit Priority: High Documentation Attached?: No</p>	
<p>Audio-visual upgrades - Upgrades to audio-visual equipment in lab rooms. Specifically, a presentation camera (Elmo or other) is requested for Room 312, and campus-standard video projectors with HDMI inputs are requested for rooms 312, 401, 403, 405, and 410. Status: Active</p>		

Unit Goals

Resources Needed

Where We Make an Impact: Closing the Loop on Goals and Plans

Goal Year(s): 2017-18, 2018-19