



Computer Electronics Program Review



June 2017

Computer Electronics

CTE Program Review

August 2017

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Executive Summary

Provide an executive summary of the findings of this program review. Your audience will be your Division Program Review Group, the MJC Program Review Workgroup, and the various councils of MJC.

Upon the completion of The Computer Electronic Program Review, the faculty has found several items that need consideration. The current success rates have room for improvement especially for Hispanics, enrolled in the program possibly due to language barriers. The Computer Electronics program faculty has recognized the need to better market our program. There is a large number of career opportunities available for trained Information Technology technicians in the Valley and the Bay area.

Our classroom facilities that house the Computer Electronics program (the Electronics Building) badly needs upgrades such as painting the walls, better lighting, and new anti-static flooring.

Information Technology is an exciting and fast changing field. The Computer Electronics program has much to offer our students. We have started to better market our program by creating an advertising posters to placed around campus.

Program Overview

Please review each question below, following the prompts and links given in the help text. Additional help, and a list of frequently asked questions is available on the [Program Review Instructions](#) page.

Programs

Program Awards	Include in Review (yes/no)	External Regulations (yes/no)
AS – Computer Electronics	Yes	No
CERT – Computer Electronics	Yes	No

Response and follow-up to previous program reviews

On the [Curricunet website](#), please locate your department and the previous program review. After reviewing, please complete the following questions;

Briefly describe the activities and accomplishments of the department since the last program review.

There have been neither commendations nor recommendations from the previous program review.

The Mission of Modesto Junior College

MJC is committed to transforming lives through programs and services informed by the latest scholarship of teaching and learning. We provide a dynamic, innovative, undergraduate educational environment for the ever-changing populations and workforce needs of our regional community. We facilitate lifelong learning through the development of intellect, creativity, character, and abilities that shape students into thoughtful, culturally aware, engaged citizens.

Provide a brief overview of the program and how it contributes to accomplishing the Mission of Modesto Junior College. (Overview Suggestions: How consistent is the program with the institutional mission, vision, core values and/or goals? How are aspects of the institutional mission addressed within the program? Is the program critical to the pursuit of the institutional mission?)

The major function of the program is to provide an education in Information Technologies (IT) which combine elements of computer hardware and software technology along with technology support skills for assisting people with computers. Specific areas of instruction include; support services, computer application support, computer hardware theory, operating systems support, wired and wireless network support, domestic and industrial technology integration, design technologist skills, internet-of-things (IOT) supports, network devices, servers, robotics, telepresence, and cloud computing. In addition to classroom instruction, students are given opportunities to apply their knowledge and skills in a laboratory setting using simulations along with current computer and network hardware. Graduates of the Computer Electronics program are highly employable and receive compensation that is often three times the living wage in our area. This employment provides students with the opportunity to provide for their families while working in an exciting and ever-changing field.

Student Achievement and Completion

College Goal for Student Achievement

Increase Scorecard Completion Rate for Degree and Transfer

The College has a primary aspirational goal of increasing the Completion rate from 43% to 53% on the **CCCCO Scorecard Completion Rate for Degree and Transfer** [[view](#)] by **2022**. The completion rates in the Scorecard refers to the percentage of degree, certificate and/or transfer-seeking students tracked for six years who completed a **degree, certificate, or transfer-related outcomes (60 transfer units)**.

As you answer the questions below, please consider how your program is helping the college complete this aspirational goal of increasing the MJC Degree, Certificate, and Transfer Completion rate by 10% on the CCCCCO Scorecard by 2022.

Success

The following questions refer to data from the Department Success Rates Dashboard. Use the filters to examine both departmental and course level data. Charts will be included for the record by Research and Planning once the review is submitted.

Locate your department success rates on the [Success Rate Data Dashboard](#) and consider your department success rates trends over time, especially the last two years. Also, consider the data detailing the variance of success rate of courses across sections. Are these rates what you expected? Are there any large gaps? Is there anything surprising about the data? What do you see in the data?

Current statistics show good success rates African American and White populations. The Hispanic population performance has caught us by surprise and appears to be 10% lower than the highest population, which is white. As a department it had been perceived that all ethnic populations performed equally as well and that is not the case.

What is your set goal for success? Do your department and individual course rates meet this goal?

Our current success rate is over 70% and the department feels the current overall rate could be improved. The success rate our Hispanic student population needs more improvement at just over 60%. Our goal is to increase the success rate of Hispanics to over 70%, the current rate for whites.

If your rates for success are lower than your goals, what are your plans to improve them?

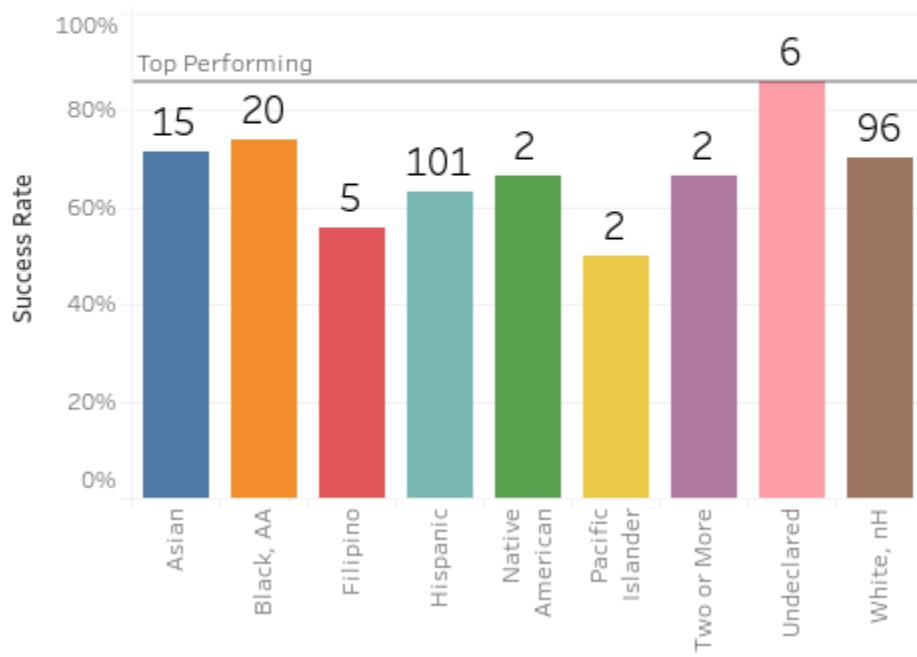
The department will be working to develop teaching strategies to improve the success of Students within the Hispanic community and other groups that speak English as a second language. The Information Technology field is replete with technical language. Greater care must be taken to explain these terms in the simplest English possible.

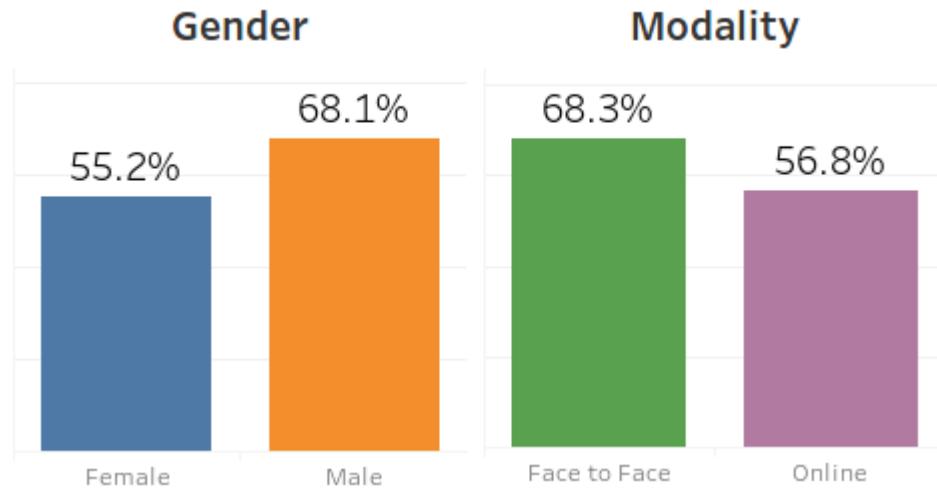
Locate your department equity rates on the [Success Rate Data Dashboard](#) (by pressing on the equity tab). Examine these rates, disaggregated by ethnicity and gender, over the last two years. If there are differences in success across groups, how do you plan on addressing issues of student equity? In other words, how do you plan on closing achievement gaps across student populations?

The Hispanic student population isn't performing to the level that their white and African American peers. In order to increase success in the Hispanic student population, the staff will focus more one on one time with these students, pair the lower performing students with higher performing students of the same ethnicity and direct them to available resources provided by the college.

Divison	Department	Academic Year	Term
MTECH	MCMPET	(Multiple values)	(All)

Ethnicity for 2015-2016 & 2016-2017 MTECH MCMPET





If distance education is offered, consider any gaps between distance education and face-to-face courses. Do these rates differ? If so, how do you plan on closing the achievement gaps between distance education and face-to-face courses?

The online success rates are about 10% lower than face-to-face course. The department has started to record the class sessions of the face-to-face to help the online students feel more apart of the course in a social context.

Conferred Award Trends

Review the [Program Awards Dashboard](#), using the drop-down filters to focus the analysis on your department. Starting with identifying the year, please supply degrees and certificates awarded. These charts will be attached by Research and Planning before being posted publicly.

What is your set goal for degrees and certificates awarded? Do your rates meet this goal?

The department would like to increase the number of Computer Electronics associate degrees. We have many students who seek training for certificates but do not complete the degree. Many take the computer electronics courses as part of other degree majors such as Computer Science or Industrial Technology.

If your rates for degrees and certificates awarded are lower than your goals, what are your plans to improve them?

The department wishes to significantly increase the number of Computer Electronics degrees by making an effort to explain the requirement for the Computer Electronics degree, which, in many cases is easily earned with only little extra effort.

Student Learning Outcomes

Instructions

This section of the Program Review measures student learning.

PLO / GELO / ILO Outcomes

To ease in analysis, trending charts have been created by Research and Planning on the [Learning Outcomes Dashboard](#) website. Using these charts, you can identify your current success rates in student achievement towards the outcomes. Considering your current outcome success rates, and previous semester, set a department aspirational goal, and examine what your outcome success rates are currently. Later you will be asked to outline a plan to achieve this threshold, but for now, simply supply the Goal % and Current % for each level.

Note: If the dashboards do not show your Learning Outcomes, please ensure that they have been mapped in eLumen. Each course will need to be mapped to each applicable PLO, GELO, and ILO. The Outcome Assessment Workgroup has created a web page detailing the work already done -> [PLO, ILO, and GELO Assessment grids](#). For additional assistance, review [the Course Learning Outcome Assessment](#) web pages, or contact Nita Gopal at gopalm@mjc.edu.

Student Learning and Outcomes Assessment

Please review your Learning Outcomes data located on the [MJC Student Learning Outcomes Assessment](#) website and below, in regards to any applicable Program, Institutional, and General Education Learning Outcomes.

For each ILO that your course learning outcomes inform, you will find your overall rate. On the MJC Student Learning Outcomes Assessment website, you will also see that overall rate disaggregated across student populations; you can use this information to understand how different student populations are learning in your courses.

After you have examined your rates and disaggregated data, reflect on the data you encountered. Please address the program outcomes (PLO), general education outcomes GELO (if any), and institutional outcomes (ILO) in your analysis.

Program Learning Outcomes (PLO)

What is your set goal for PLO success? Do your overall rates meet this goal?

The Computer Electronics program have set our PLO success goal at 85% across all ethnic groups. Considering the current campus ILO success rate is near 72%, we feel that the nature of our classes requires us to maintain a higher standard. Currently our program maintains an average about 10% below our 85% goal.

General Education Learning Outcomes (GELO)

If your program has General Education outcomes, what is your set goal for GELO success? Do your overall rates meet this goal?

Not applicable

Institutional Learning Outcomes (ILO)

What is your set goal for ILO success? Do your overall rates meet this goal?

We do not yet have data available for ILO's for our department.

Continuous Quality Improvement

If your rates for success for any PLOs, GELOs, and ILOs are lower than your goals, what are your plans to improve them?

The Computer Electronics program have set our PLO success goal at 85% across all ethnic groups. Considering the current campus ILO success rate is near 72%, we feel that the nature of our classes requires us to maintain a higher standard. Currently our program maintains an average about 10% below our 85% goal.

Equity and Success

Do your rates for your PLOs, GELOs, and ILOs vary across student populations? How do you plan on addressing issues of equity? In other words, how do you plan on closing the learning gaps across student populations?

The department rates for your PLOs vary across student populations with a lower rates among groups who often speak English as a second language. In order to increase success in the Hispanic student population, the staff will make a greater attempt to bridge the language difficulties caused by technical terms and focus more one on one time with these students. We will also pair the lower performing students with higher performing students of the same ethnicity and direct them to available resources provided by the college.

Curriculum and Course Offerings Analysis

Curriculum Analysis

Courses that have not been reviewed, or not scheduled to be reviewed, are listed on the Curriculum Committee web pages. To aid in use, please [view this filtered spreadsheet](#), using the drop down menus along the field headings, to view just your department. On opening the spreadsheet, click the Enable Editing and Enable content buttons that should appear across the top menu bar.

Considering those courses that have not been reviewed within the last five years, please address these below.

Provide your plans to bring courses into compliance with the 5-year cycle of review. If your department is compliant, please state that.

We have completed our first Program Learning Outcome last Spring (Spring 2017). Therefore, our department is compliant.

Provide your plans to either inactivate or teach each course not taught in the last two years.

We have a small number of courses because many of our degree requirements involve courses in other departments. All of the Computer Electronics courses are taught on a regular basis of at least once in the Spring/Fall cycle.

Does the College Catalog accurately display the descriptions and requirements of all the courses and educational awards (degrees/certificates) overseen by this program? If not, please describe your plans to correct.

All descriptions are currently in the catalog or in the catalog addendum.

Are there plans for new courses or educational awards (degrees/certificates) in this program? If so, please describe the new course(s) or award(s) you intend to create.

Yes, we wish to offer two new courses in the Computer Electronics department. One course will offer training for Network and Internet Server Technicians for conventional and Cloud based services. Another course will focus on Networking Technologies including copper, fiber optics, and wireless data transmission.

What needs or rationale support this action, and when do you expect to submit these items to the Curriculum Committee?

There is great demand for such technical abilities in the San Joaquin Valley and in the Bay Area. We wish to submit a proposal within one year,

Course Time, Location and Modality Analysis

Please follow this link and review the [Course Attributes](#) in regards to when, where, and in which method the courses in this program are taught. Use the filters to focus the report on your department. Then answer the following questions.

Location/Times/Modality Trend Analysis:

Consider and analyze your location, time, and modality trends. Discuss any program plans that address more efficient and beneficial location, modality and/or time of day trends.

When Computer science moved from the old Electronics Building to the Center for Advanced Technologies, it was our understanding that the Computer Electronics program would follow shortly thereafter. This did not occur for reasons that are not fully understood by the members of the Computer Electronics Department.

On the other hand, the proximity of the Computer Electronics program classroom and lab (Electronics Building, Room 100) has been great boon for our students because we have received over 100 computers that, while they were older models replaced by upgrades, were well suited for our lab activities. We are grateful to the staff in Technology Services for thoughtfully providing these machines.

Also, having our own classroom and laboratory facilities has made scheduling easy for the Computer Electronics Faculty because of the ready availability of the rooms. There is ample time available for new course that we plan to offer in the future.

Course Distribution and Fill Rates

Division	Department	Season	Academic Year	Component
MTECH	MCMPET	(Multiple values)	(Multiple values)	Core

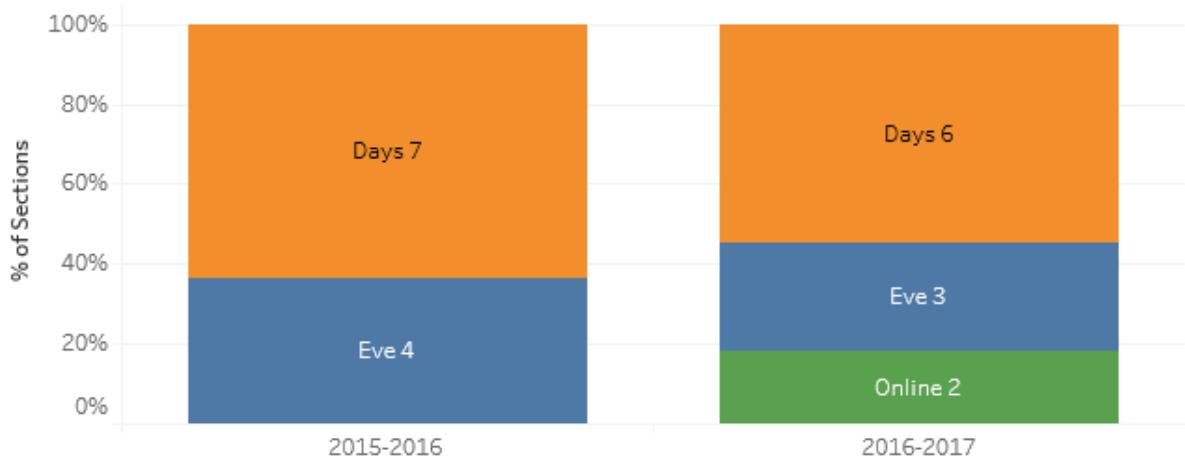
Section Distribution

Academic..	Season	Days	Eve	Online
2015-2016	FALL	60%	40%	
	SPRING	60%	40%	
	SUMMER	100%		
2016-2017	FALL	60%	20%	20%
	SPRING	40%	40%	20%
	SUMMER	100%		

Fill Rate Distribution

Academic..	Season	<80%	80-89%	90-99..	>100%
2015-2016	FALL	20.0%	20.0%	40.0%	20.0%
	SPRING	40.0%		20.0%	40.0%
	SUMMER			#####	
2016-2017	FALL		20.0%	60.0%	20.0%
	SPRING		60.0%	20.0%	20.0%
	SUMMER	#####			

Sections Offered by Time of Day



Sections by Location (Dual listed multiple)



Program Analysis

Program Personnel

Please refer to the [**Department Faculty and Sections Dashboard**](#) to supply the names of faculty and adjuncts for the periods requested. Use the dashboard filters to focus on your individual department. Due to the complexity of payroll accounts and assignments, those listed may not match known individuals, please note any discrepancies.

Additional comments or narrative can be added below.

Faculty Name	Full-Time or Part-Time (adjunct)
Jose Cazares	Part-Time
John Sinclair	Part-Time
Tim Vaughan	Full-Time

Faculty Assignments

Please refer to the [**Department Faculty and Sections Dashboard**](#) to supply the number of faculty and adjuncts for the past two years of regular terms. Use the dashboard filters to focus on your individual department. Due to the complexity of payroll accounts and assignments, those listed may not match known individuals, please note any discrepancies. Please note that summer positions are all shown as adjunct due to payroll categories.

Enter figures for each term, to add additional rows, click in last cell on right and push tab on the keyboard.

Additional comments or narrative can be added below.

Term	# Sections Offered / Term	# Taught by FT Faculty	# Taught by Other Faculty	Program Fill Rate %
2015 Fall	5	3	2	85%
2016 Spring	5	3	2	94%
2016 Summer	1		1	80%
2016 Fall	5	4	1	93%
2017 Spring	5	3	2	93%

Department Faculty and Sections Taught

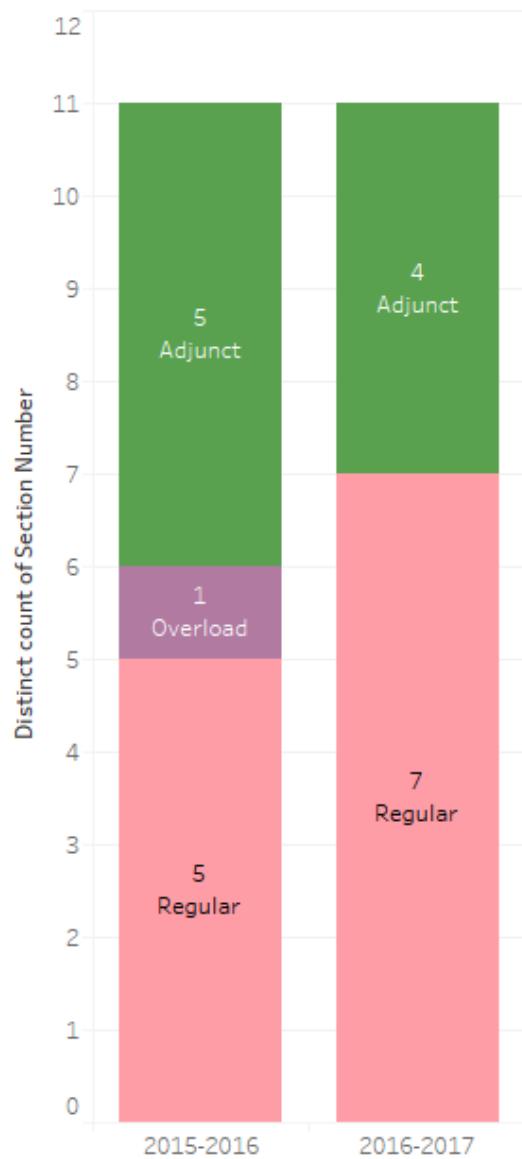
Faculty Assignments

Division	MTECH	Full Time	Part Time	# Sec	Fill Rate		
Department	MCMPE	2015MFA	3	2	2015MFA	5	85%
Years	(Multiple ...)	2016MSP	3	2	2016MSP	5	94%
Terms	(Multiple ...)	2016MSU		1	2016MSU	1	80%
		2016MFA	4	1	2016MFA	5	93%
		2017MSP	3	2	2017MSP	5	93%

Faculty Teaching in Department



Sections by Position Type



Departmental Productivity Measurements

If not pre-filled, please complete for **two years** the following table of indicators, as listed on top of the [**Productivity Dashboard**](#). A picture of this dashboard will be supplied by Research and Planning. Please enter one term per line; to add an additional line, click in last cell and use the Tab key.

The space below is available for comments and narratives.

Term	FTEF	FTES	FTES/FTEF	WSCH/FTEF
2015 Fall	1.28	13.38	10.47	314.09
2016 Spring	1.44	16.55	11.46	343.78
2016 Summer	0.28	2.86	10.31	309.37
2016 Fall	1.28	14.67	11.48	344.51
2017 Spring	1.28	12.63	9.88	296.42
2017 Summer	0.28	2.40	8.64	259.18

The Computer Electronics program has shown a slight decrease in student numbers over the past four years. We feel this is due to two reasons. First, as the local economy has improved, so has the unemployment rate. Students are able to find work straight out of high school rather than gain additional skills by attending MJC. Secondly, we used to be in proximity to the Computer Science and Industrial Electronics programs which contain a number of courses that are part of the Computer Electronics program. Students are less aware of the Computer Electronics program due to the lack of proximity to the other programs. From this aspect, it might have been beneficial for the Computer Electronics program to have also moved to the Center for Advance Technology (CAT) building on East Campus. On the other hand, the Computer Electronics program has received considerable benefit from being in proximity to Technology Services and now Network Services has also moved into the same building. Also facilities availability is very good at our present location which allows us to offer more courses and sections.

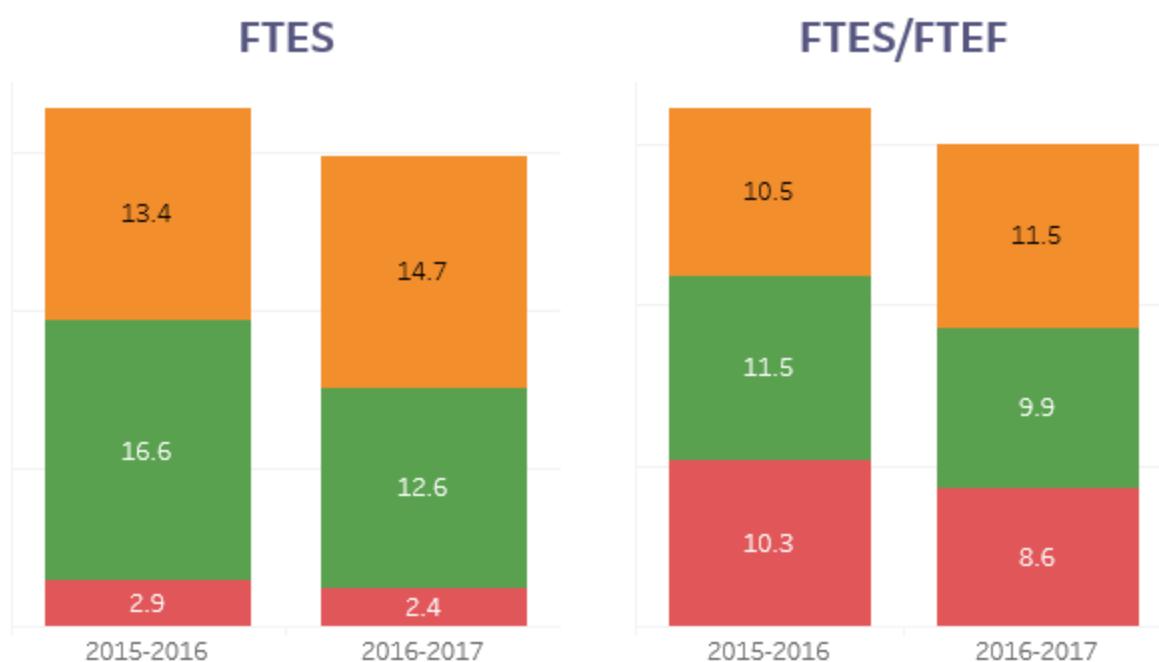
Productivity Measures

Academic Year (Multiple values)	Season (All)	Division MTECH	Subject MCMPET
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■ FALL

■ SPRING

■ SUMMER



Department Productivity MTECH division, MCMPET department

	Ftef	Ftes	FTES / FTEF	WSCH / FTEF
2015MFA	1.28	13.38	10.47	314.09
2016MSP	1.44	16.55	11.46	343.78
2016MSU	0.28	2.86	10.31	309.37
2016MFA	1.28	14.67	11.48	344.51
2017MSP	1.28	12.63	9.88	296.42
2017MSU	0.28	2.40	8.64	259.18

Long Term Planning and Resource Needs

Long Term Planning

Provide any additional information that hasn't been addressed elsewhere in this program review, such as environmental scans for opportunities or threats to your program, or an analysis of important subgroups of the college population you serve.

View the [**Program Review Instructions**](#) page for reference and inspiration.

Taking into account the trends within this program and the college, describe what you realistically believe your program will look like in three to five years, including such things as staffing, facilities, enrollments, breadth and locations of offerings, etc.

We envision an increase in student numbers and sections in the foreseeable future. The Computer Electronics program is expected to continue growing as the knowledge spreads about the success of its graduates and the availability of jobs in the Information Technology fields. The facility that house the Computer Electronics program badly needs basic upgrades such as painting the walls, better lighting, and new anti-static flooring.

Resource Request and Action Plan

Priority	Name	Resource Type	Estimated Cost	Objective
1	Facility Upgrade	Facilities	\$50,000	The facility that house the Computer Electronics program badly needs basic upgrades such as painting the walls, better lighting, and new anti-static flooring.
2	Telecommunications Lab Equipment	Equipment	\$50,000	We would like to offer a course in telecommunications and network technology infrastructure.

Evaluation of Previous Resource Allocations

Below is a list of resource allocations received in previous Program Reviews. Please evaluate the effectiveness of the resources utilized for your program. How did these resources help student success and completion?

(<https://www.mjc.edu/governance/rac/documents/ielmallocationsummary20142015.pdf>)

The Evaluation / Measured Effectiveness can be typed in another program and pasted here, or typed directly in to the box below. The box will expand with additional text, and paragraphs (hard returns) can be added by using Ctrl+Enter.

Resource Allocated	PR Year	Evaluation / Measured Effectiveness

Career Technical Education Questions

The following series of question focus on Career and Technical Education, and can be answered using the labor data from Cal-PASS Plus on [Launchboard](#). You will need to create an account before accessing the [Launchboard](#).

How many students did you serve in the last two academic years?

(See Program Snapshot Reports > Where are students taking courses in the region > student)

We have served approximately 400 students in the last two years.

What kinds of students are you serving?

(See Program Snapshot Reports > Where are students taking courses in the region > Check Categories)

The Computer Electronics program serves students of all ages from High School to senior citizens and from all ethnicity and backgrounds. While there tend to be more men in the program, there has been an increasing number of Women in the Information Technology fields.

What percentage of your students are persisting? Consider within the program and within the college.

(See Program Snapshot Reports > Are students progressing the pathway? > Term-to-Term Retention and Persistence)

This information is not available at this time.

Are students getting and keeping jobs?

(See Program Snapshot Reports > Are students getting jobs?)

The job market for Information Technology Technicians has been growing steadily with an above average growth rate. The Computer Electronics program faculty has observed that students who complete the course in the program have little problem finding employment in the area.

What percentage of students are attaining a living wage?

(See Program Snapshot Reports > Are Students Making Reasonable Wages? > Living Wages button)

Information technology students tend to attain a wage higher than the living wage,

Appendix

Optional Questions

Please consider providing answers to the following questions. While these are optional, they provide crucial information about your equity efforts, training, classified professional support, and recruitment.

What strategies do you use to recruit, support and retain students from disproportionately impacted groups?

We regularly recruit at local Hispanic conferences, work one on one with students at risk and make a concentrated effort to provide appropriate resources to ensure the success of all students.

Does your division (or program) provide any training/mentoring for faculty to support the success of students at risk of academic failure?

The Technology Education Division supports faculty as needed. We are able to take courses and training at any time.

Is there a need for more classified professional support in your area, please describe this need. Indicate how it would support the college mission and college goals for success, and completion.

The Computer Electronics program has greatly benefited from the help provided by Federal Work Study Students. We wish to continue employing Work Study students.

What factors serve as barriers to recruiting active faculty to your program(s)?

The only barrier to hiring full-time faculty is funding through the college. Adjunct are difficult to find because the industry generally pays more for qualified employees.