

Industrial Electronics

2019 Program Review

MJC Program Review 2019

Modesto Junior College's Program Review process is divided into 3 sections:

- Program Analysis (SWOT Analysis)
- Goal Setting and Activities
- Resource Request

Program Analysis

Internal Strengths

1. What strengths does the analysis of student data reveal?

Approximately 53 percent of the students we serve are Hispanic Approximately 37 percent of the students we serve are White, Non-Hispanic Certificate completion more than doubled from 2016/17 to 2017/18

2. Are there specific aspects of the program that are exemplary or could serve as a model?

Dedicated full/part-time faculty and staff Adjunct faculty currently work FT in industry-up-to-date skill set Maintain an advisory committee Network with manufacturing community when feasible Work with local manufacturing industries to provide industry specific training Manufacturing Advisory Council

3. What do others see as the program's strengths?

Regional manufacturing and support industries continue to send their employees to the MJC Industrial Electronics program for training, skills updating, and cross-training. Companies that we serve include E & J Gallo Winery, Gallo Glass, Sensient Foods, Frito-Lay, Modesto Irrigation District, Turlock Irrigation District, Oakdale Irrigation District, JR Simplot, Delicato Vineyards, Stanislaus Food Products, Hilmar Cheese, Foster Farms, Del Monte, Knudsen, Pacific Southwest Container, Saputo Cheese, Silgan Containers, Ball Containers, Guntert & Zimmerman, Flory Industries, Blue Diamond Growers, Diamond Foods, Nestle, ConAgra Foodsto name a few.

4. How well are students meeting program learning outcomes, skills, or competencies; and how are they relevant to careers in your discipline or industries for which you help prepare students?

PLO completion data was not available through eLumen. All the skills learned in our program are relevant regardless of the career choice or degree/certificate. The Electronics Department is approved by the California State Department of Apprenticeship Standards as School #136. Most of the Industrial Electronics courses are approved by the DAS and apply towards state licensing requirements for electricians.

Internal Weaknesses

5. What gaps are observed by reviewing the student data?

No data was available for: Program completers by ethnicity Employment and living wage data Transfer data Low number of student awards compared to students declared in major (7%)

6. What disproportionate gaps need to be addressed?

Since no data is available for ethnicity completers, living wage or employment, we cannot identify any disproportional gaps.

7. What are areas in which the program could improve? (curriculum, scheduling, modality, other?)

Increase quantity of hybrid/online course offerings Our evening courses are impacted due to regional demand. Improve scheduling and course availability through increased lab space Research and validate additional curriculum to meet manufacturing industry needs (i.e. Industrial Mechanics, Fluid Power, Occupational Safety and Health, Quality Assurance, Servo Systems.) Reach 100% compliance of courses for DAS Courses. Retain students in electrical fundamentals courses Implement a class to address the lack of basic math skills.

8. Where are there gaps in the program on how students are meeting learning outcomes, skills, or competencies?

PLO completion data was not available through eLumen. Applied Basic Math skills are inadequate for college level work in technical areas.

External Opportunities

9. Where are potential opportunities for expansion, improvement, or new program development?

Our manufacturing students, who are largely employed in the manufacturing sector, serve many roles in the community; facilities, plant, commercial, etc and need the flexibility to tailor their education to meet their specific industry/employer needs. Because all Technical Education Programs are Industrial Technologies we propose to reactivate the Industrial Technology Electrician, Maintenance Electrician, Building Codes and Maintenance

Programs as a complement to our existing program. The addition of these programs will only require 3-4 adjunct faculty drawn from the local manufacturing industries. Additional lab space for power transmission and fluid power trainers. (trainers are already purchased and in storage.) Minimal modifications to our existing program.

10. What are some industry or disciplinary trends that could enhance the program?

Automation, Robotics, Servos, Building Codes, OSHA, Quality Assurance Power Transmission and Plant Maintenance already exist as inactive courses in CurricuNet and can easily be deployed to strengthen our existing program. Manufacturing Leads, Supervisors, and Managers will need Technical Coursework and a blend of topics to include Lean Manufacturing, Six Sigma, Kanban, 5S vs theoretical traditional coursework such as TQM, Human Resources, Supervision, etc

External Threats

11. How are changing resources, technology, employer, or transfer requirements affecting the program’s ability to serve students?

The Industrial Electronics Program lost a significant amount of lab space in the transition to west campus. This has suppressed our ability to offer the courses necessary for our students to complete their programs in a timely manner. We have been unable to expand course offerings even when wait-lists appear to support expansion.

12. What are some current industry or disciplinary trends that could have a negative impact on the program?

Salary data appears low but does not account for overtime pay which is very common in this local seasonal agricultural/manufacturing economy.

13. What other obstacles does the program face?

We are a three-person department with a limited adjunct pool and two of three people within retirement age. Uncertain state funding College resource allocation process. It is difficult to compete for resources against 40 student classes. Our Lec/Lab classes are limited by space and student safety concerns. We need to grow but resources never seem not allow for it. Due to broad range of industries needing our student majors, creating a strong community of support is difficult with a single program.

Goal Setting and Activities

Goals

Program Goal	Mission Alignment	Area of Focus
1. Increase the number of students that successfully complete Degrees/Certificates by 10%	Workforce Needs	Student Support

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| 2. Increase the number of underrepresented students that successfully complete Industrial Electronics degree or certificates by 10% | Equity | Student Support |
| 3. Increase the number of course sections/ new course offerings to promote access, and completion of an Industrial Electronics Degree/Certificates through exploring new modalities such as Hybrid Online, and short courses. | Workforce Needs | Program Design |

Activities

Activities	In Support of Goal #	Outcome or Deliverable
1. Reactivate the Industrial Technology Program creating awards for Building and Safety Code Inspection, Maintenance, and Maintenance Electrician.	Goal #1	Increase the number of students that successfully complete Industrial Electronics Degree/Certificates by 10%
2. Research and evaluate the feasibility of creating an open lab environment for Industrial Electronics Program students to complete labs and coursework during the hours when classes are not in session.	Goal #1	Increase the number of students that successfully complete Industrial Electronics Degree/Certificates by 10%
3. Build stronger relationships with support specialists and assigned counselors	Goal #2	Increase the number of underrepresented students that successfully complete Industrial Electronics degree or certificates by 10%
4. Research and evaluate the feasibility of increasing online access to courses.	Goal #3	Increase the number of students that successfully complete Industrial Electronics Degree/Certificates by 10%

Resource Requests

Category	Request	Activity #	Estimated Cost
Prof. Level.	Conferences related to online teaching and subject areas.	1	15000
Prof. Level.	In-service with counselors	2	1500
Equipment	Provide 110 laptop computers compatible with Industrial Software (no Apples) in Sierra 114, and 109, 102 and 118	2	100000

Equipment	Conveyor system to support Instrumentation, PLC and PAC/Automation classes	1	NA
Technology	New Hi-resolution Projectors and document cameras for Sierra 114, 109, 118, 102	2	40000
Personnel	Classified lab-aide to for the Department.	1	100000
Facilities	Refurbish Sierra B118 to duplicate the arrangement of Sierra B109	2	50000