

## De Anza College

### Program Review – Annual Update Form – Fall 2025

1. **DMT / Design and Manufacturing Technologies**
2. **Name of individual completing the form: Mike Appio**
3. **Briefly describe how your area has used the feedback from the Comprehensive Program Review and Annual Program Review Update provided by RAPP members over the past two years (if unsure, request the feedback form from your dean/manager).**

During 2025-26, **Design and Manufacturing Technologies (DMT)** entered the fourth and final year of a No-Cost Extension (NCE) for its **National Science Foundation (NSF)** funded Advanced Technological Education project: **Manufacturing Automation and Additive Design Excellence (MAADE)**. In addition to the MAADE project, the DMT Department is contributing to the **Silicon Valley Advanced Manufacturing Partnership (SVAMP)** and an **Industrial Driven Regional Collaborative (IDRC)** grant, both of which are focused on increasing the number of CNC machinists and other skilled advanced manufacturing professionals in the South Bay region. To accomplish the goals of these projects, DMT faculty are engaged in a range of program improvement and curriculum development initiatives. Similarly, these efforts have made a positive impact on the department's student retention, success, and completions. To fully realize the program improvement objectives of these grant-funded projects, ongoing staffing, student services, and support are imperative.

Although the RAPP committee's **Annual Program Review feedback** in **Winter 2025** was overwhelmingly positive, DMT Department faculty and Classified Professionals continue to review student feedback and program outcomes data on a regular basis. These data include Perkins Core Indicator Reports and NSF MAADE project course impact surveys, as well as aggregated and disaggregated FHDA **Student Success Analytics Program Review** reports for the DMT Department. The **disaggregated course-level student outcomes data** is used to identify the Disproportionately Impacted (DI) populations and determine how best to provide differentiated instruction and where to focus supplemental peer tutoring and professional mentoring.

4. **Describe any changes or updates that have occurred since you last submitted program review (program review [submissions](#)).**

Throughout 2025 and continuing into 2026, the DMT Department is placing a greater emphasis on curriculum design and faculty professional development in the areas of industrial automation and robotic integration. Four new courses that will constitute the core requirements for a new credit **Certificate of Achievement** and non-credit **Certificate of Completion in Industrial Automation**, which were recently approved by the Curriculum Committee, are listed below.

- Fundamentals of Industrial Automation (DMT 96)
- Intermediate Industrial Automation (DMT 97)
- Industrial Automation – Processing (DMT 98)
- Advanced Industrial Automation Process (DMT 99)

By leveraging resources from multiple funding sources, including the SVAMP and IDRC grants and Measure G bond, DMT has acquired programmable-logic controllers (PLCs) simulators and industrial automation systems from Universal Robots, Festo MecLab, and Rockwell Automation. DMT faculty and Classified Professionals are currently participating in **industry-sponsored professional development** in order to strengthen their knowledge and skills in operating these systems, attain industry-recognized credential (such NC3), and be prepared to fully implement the new Industrial Automation curriculum, which is scheduled to launch in Fall 2026.

5. Provide a summary of the progress you have made on the goals (i.e., OKRs for Student Services) identified in your last program review (as included in the comprehensive program review or annual program review update).

Goal title	Goal description	Responsible parties	Collaboration with....	What evidence have you used to monitor progress?	How have you assessed your goal?	What changes have been made based on the assessment?
<b>DMT Curriculum Innovation (CPR Goal 1)</b>	<ol style="list-style-type: none"> <li>1) Design new courses and certificate program in Industrial Automation.</li> <li>2) Update existing course: Advanced CNC Mills (DMT 84B).</li> <li>3) Create new course: CNC Lathe Live Y-axis Tooling Programming and Operation (DMT 84D).</li> <li>4) Create new course: CNC Mill – 4<sup>th</sup>/5<sup>th</sup> Axis – Robotic Automation Programming and Operations (DMT 84E).</li> </ol>	<p>DMT Department Chair</p> <p>DMT Faculty</p>	<p>Industry Partners</p> <p>Curriculum Committee</p>	<p>Industry partner feedback</p> <p>Curriculum Committee feedback and recommendations</p>	Curriculum Committee approvals	Incorporated feedback to revise course details and SLO designations
<b>DMT Industry Partnership</b>	<ol style="list-style-type: none"> <li>1) Continue to build new and strengthen existing industry partnerships in the areas 3D/additive</li> </ol>	DMT Department Chair	Industry Partners: SLAC, FM	Signed and approved apprenticeship	1) Launch of first cohort of apprentices	N/A – Apprentice cohorts in training

<p><b>Enhancement</b> (CPR Goal 2)</p>	<p>manufacturing, robotic integration, and industrial automation.</p> <p>2) Create and launch new apprenticeship programs for CNC machinists.</p>	<p>DMT Faculty</p>	<p>Industries, and Wessdel</p> <p>CA Division of Apprenticeship Standards</p>	<p>partner agreements</p>	<p>2) Successful completion of required courses</p>	
<p><b>Increase Participation of Women and Promote DEI in the DMT Program</b> (CPR Goal 3)</p>	<p>1) Continue the DMT peer and professional mentoring program to enhance the success of all students, with an emphasis on supporting those from disproportionately impacted groups.</p> <p>2) Three mentors will continue to support four DMT courses during the 2025–26 academic year.</p>	<p>DMT Department Chair</p> <p>DMT Faculty</p>	<p>DMT Faculty</p>	<p>Course success rates</p> <p>Perkins Core Indicator Reports</p>	<p>1) Review FHDA Student Success Analytics data</p> <p>2) Identify courses with lower retention and success rates for DI student populations</p>	<p>1) Increased the number of courses with targeted tutoring and mentoring</p> <p>2) Increased the number of peer tutors and professional mentors</p>

6. If your goals (i.e., OKRs for Student Services) are changing or you are adding a new goal(s), please include them below. If new goals require resources, please list requested resources that were not included in your last program review.

Goal title	Goal description	Responsible parties	Collaboration with....	What evidence will you use to monitor progress?	How will you assess achievement of the goal?
<p><b>Align new Industrial Automation program with NC3 certifications</b></p>	<p>1) DMT faculty complete NC3 Train the Trainer Certification courses. 2) Incorporate NC3 certification preparation into course curricula.</p>	<p>DMT Department Chair  DMT Faculty</p>	<p>NC3 and authorized representatives</p>	<p>1) DMT faculty complete required NC3 certification training  2) DMT Industrial Automation students will complete relevant NC3 assessments</p>	<p>1) DMT faculty receive NC3 certifications  2) DMT students receive NC3 certifications</p>
<p><b>Expand DMT apprenticeships partnerships with local industry</b></p>	<p>1) Continue to build CNC Machinist apprenticeship opportunities. 2) Explore future apprenticeship opportunities in Industrial Automation</p>	<p>DMT Department Chair  DMT Faculty</p>	<p>Industry Partners: SLAC, FM Industries, and Wessdel  CA Division of Apprenticeship Standards</p>	<p>1) Monitor DMT apprentice course participation and outcomes 2) Document number of new industry partnerships</p>	<p>1) Number of participating DMT apprentices  2) Course completion and success rates for DMT apprentices</p>

7. **Describe the impact to date of previously requested resources (personnel and instructional equipment, facilities/upgrades) including both requests that were approved and were not approved. For example, what impact have these resources had on your program/department/office and measures of student success or client satisfaction and what have you been able to and unable to accomplish due to resource requests that were approved or not approved?**

Thanks to the allocation of resources and support provided through Strong Workforce and Perkins funding, the DMT Department has been able to **update** its **equipment** in the areas of CNC machining and 3D Printing/Additive Manufacturing, including a **Haas CNC ST20Y livetooling lathe** and two **Ultimaker Factor 4** industrial-grade 3D printers. During 2025, the DMT Department leveraged these resources to acquire new instruction equipment to outfit the new Industrial Automation lab. Acquisitions made this year included **Festo AC/DC** electrical training system, **Rockwell Automation PLC** training system, **Festo Pneumatics and Hydraulics** training systems, and additional **Universal Robots 5e** systems. This state-of-the-art equipment ties directly to Goals 1 and 2 as outlined in DMT's most recent Comprehensive Program Review, as well as the Future Goal identified for the Industrial Automation program. With these additional curricular offerings, the DMT Department will increase program access points, offer industry-vetted training, and expand future employment opportunities for current and future DMT student cohorts. Without this technology, these innovations cannot be fully realized and implemented.

8. **How have these resources (or lack of resources) specifically affected disproportionately impacted students/clients? If you have not requested or received resources, still describe how your area has been able to serve disproportionately impacted students/clients.**

Thanks to the resources that were allocated by the RAPP during 2025, the DMT Department acquired state-of-the-art instructional equipment for the CNC machining and 3D Printing/Additive Manufacturing program. This updated equipment provided additional workstations for students to complete class labs and projects, while offering access to the same technology and software used by advanced manufacturing enterprises throughout the Bay Area.

With funding and resource requests approved by RAPP during 2025, the DMT Department acquired **Festo**, **Universal Robots**, and **Rockwell Automation** training systems for the new Industrial Automation program. The new equipment not only increases students' access to current industry technology but also prepares them for careers in roles where these knowledge and skill sets are essential to secure and retain employment in the advanced manufacturing sector. These improved employment outcomes, in combination with course and program-level success, result in a positive impact on students' overall economic mobility.

9. Refer back to your Comprehensive Program Review and Annual Program Review Update from the past two years under the section titled Assessment Cycle or the SLO website (<https://www.deanza.edu/slo/>). In the table below, provide a brief summary of one learning outcome, the method of assessment used to assess the outcome, a summary of the assessment results, a reflection on the assessment results, and strategies your area has or plans to implement to improve student success and equity. If your area has not undergone an assessment cycle, please do so before completing the table below.

**Example below is from DMT 84A, Mike Appio**

**Table 1. Reflection on Learning Outcomes (SLO, AUO, SSLO)**

Learning Outcome (SLO, AUO, SSLO)	Demonstrate the set up and basic operation of vertical machining centers.
Method of Assessment of Learning Outcome (please elaborate)	Students are assessed upon completion of six major projects involving G-code, CNC machining, and CNC operation. For each project, students receive inspection sheets (rubrics) with defined scoring criteria for each dimension shown on the drawings. These sheets are used to inspect the finished parts using metrology equipment learned in prerequisite courses. Upon completion, students submit both the projects and the completed inspection sheets to the instructor. The instructor then repeats the inspection process to verify accuracy and completeness.
Summary of Assessment Results	A total of twenty-two students completed the course. Ten exceeded expectations, ten met expectations, and two did not meet the student learning outcome. The course requires mandatory in-person attendance.
Reflection on Results	Upon examining the results, students who utilized all required lab time to complete the projects exceeded or met expectations. In contrast, students who were consistently late or absent did not meet expectations.
Strategies Implemented or Plan to be Implemented	Students are reminded that starting on time and fully participating in lab sessions are essential to course success.

(aka: enhancements)	The DMT department has already implemented additional lab courses for students who require extra time to complete lab projects or need to make up time due to excused absences.
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**Please email this form to your dean/manager.**

10. Dean Manager Comments:

The Design and Manufacturing Technologies (DMT) Department continues to make strong progress in expanding advanced manufacturing pathways, strengthening industry partnerships, and improving student success. Work supported through the NSF MAADE project and ongoing funding from SVAMP, IDRC, Strong Workforce, and Perkins grants has helped the department grow its curriculum and invest in updated equipment that aligns with current workforce needs.

Increasing employer demand for Industrial Automation, Robotics, and Additive Manufacturing has guided the department's clear program pivot. Faculty are developing new credit and noncredit Industrial Automation certificates, upgrading additive manufacturing curriculum, and pursuing training to increase their expertise in these areas. The department is also seeing growing employer interest, including partnership conversations with government companies such as Northrop Grumman and other private companies, which is expected to lead to new work-based learning and job opportunities for students.

I would like to acknowledge Department Chair Mike Appio for his continued leadership in building partnerships that support hands-on learning and student confidence. This includes coordinating the UAA machinist training program, which provides students on the autism spectrum with guided, supportive machining experiences that help them develop industry skills and feel more prepared to apply for jobs. He also organized a training in robotics with the Festo and Universal Robotics group to ensure that faculty were all being trained in the new industrial automation program.

The department also remains focused on equitable student support. Updated labs and the acquisition of industry-standard technology help reduce barriers to success, particularly in highly technical coursework. This year, the department welcomed a new female tenure-track faculty member, adding both representation and expertise that further strengthen the team. I support hiring at least one additional full-time faculty member in the near future to expand offerings in additive manufacturing, machining, and industrial automation, and to help students complete their programs in a timely manner and transition more quickly into jobs in the growing industrial automation sector.

Overall, the DMT Department demonstrates strong leadership, industry alignment, and a clear commitment to student access and success as it prepares learners for high-demand careers in advanced manufacturing.

#### 11. Vice President/Associate Vice President Comments:

The Design and Manufacturing Technologies Department continues to demonstrate exemplary leadership in workforce-aligned education, industry partnerships, and student success. Through NSF, SVAMP, IDRC, Strong Workforce, and Perkins-funded initiatives, the department has expanded advanced manufacturing pathways in CNC machining, additive manufacturing, robotics, and industrial automation. The launch of new Industrial Automation certificates and apprenticeship programs responds directly to regional employer demand and strengthens career pipelines for students. Investments in state-of-the-art instructional equipment and industry-recognized certifications position graduates for high-wage, high-demand careers. The department's commitment to equity, mentoring, and hands-on learning ensures that all students, particularly those from disproportionately impacted groups have access to cutting-edge training and strong employment outcomes.