De Anza College
Instructional Annual Program Review 2021-22

Instructions: The first column is section and question number, followed by ask without explanation The third column fully describes the information that the IPBT is requesting. The blank column is where you will type your response. Save program review as a Word document. This is the document you will send to your Dean. It will be posted on the De Anza website in pdf format.

In addition to this document, please also submit to your Dean the Resource Request spreadsheet making sure facilities requests are on "Facilities" tab and large-ticket items are on Large-ticket Items" tab.

	Information Requested	**Explanation of Information Requested.**	**Enter your answers here**
	Department Name:		Design and Manufacturing Technologies
	Program Mission Statement:	How does your program mission statement relate to the mission of De Anza College and our Institutional Core Competencies"? (https://www.deanza.edu/about-us/mission-and-values.html).	Mission: The Design and Manufacturing Technologies offers a broad yet in-depth curriculum that imparts a strong foundation for direct employment and engagement in local industries or transfer to a four-year college. Diversification is the hallmark of the program. The program is based on skills required to gain or enhance employment by means of program innovation, which focus on critical thinking, peer communication and personal responsibility for career success. Program Description: DMT offers state of the art advanced manufacturing instruction in computer aided design (CAD), additive manufacturing (3D printing, laser scanning, laser cutting, design for additive manufacturing),

			computer numerical control (CNC) machining, rapid prototyping, materials processing and quality assurance. The curriculum is ideally suited to those who are new to the field, as well as drafters, lab technicians, machine operators, machinist and quality technicians who wish to update their skills and advance in this rapidly changing industry. Certificate of Achievement in CAD-Mechanical, CNC Machinist, Quality Technician and Additive Manufacturing are the initial point of entry into the DMT program. Students who complete the program will have a solid foundation in design and manufacturing systems with the opportunity to choose a further specialization in the areas of CAD design, additive manufacturing (3D printing), advanced multi axis CNC set-up, CNC operation, multi axis CNC programming and quality assurance. The program is also a primary choice for many tech, medical, aerospace and automotive engineers, designers, planners and purchasers who wish to increase their overall "hands on" skills and overall knowledge of the design and advanced manufacturing process in order to advance their careers.
I.A.1	What is the Primary Focus of Your Program?	Choose from General Education, Transfer. Career/Technical, Learning Resources/Academic Services, personal enrichment or N/A	Career/Technical
I.A.2	Choose a Secondary Focus of Your Program.	Choose from General Education, Transfer. Career/Technical, Learning Resources/Academic Services, personal enrichment or N/A	Transfer
I.B.1	# Certificates of Achievement Awarded	State the number of Certificates of Achievement awarded during the 2020-21 academic year. Please refer to:	43

		https://www.deanza.edu/ir/AwardsbyDivision.html . If you do not offer Certificates of Achievement please state “none offered”.	
I.B.2	# Certificates of Achievement -Advanced Awarded:	State the number of Certificates of Achievement - Advanced awarded during 2020-21 academic year. Please refer to https://www.deanza.edu/ir/AwardsbyDivision.html If you do not offer Certificates of Achievement” please state “none offered”.	4
I.B.3	# ADTs (Associates Degrees for Transfer) Awarded	State the number of Associate Degree Transfer awarded by you department during the 2020-21 academic year. Please refer to https://www.deanza.edu/ir/AwardsbyDivision.html . If you do not offer Associate Degree Transfer, please state “none offered”.	None Offered
I.B.4	# AA and/or AS Degrees Awarded:	State the number of Associate of Arts or Associate of Science degrees awarded during the 2020-21 academic year. Please refer to https://www.deanza.edu/ir/AwardsbyDivision.html .-If you do not offer Associate of Arts or Associate of Science Degree, please state “none offered”.	9

I.B.5.	Trends in # Total Awards	If applicable to your program, has total number of certificates and degrees increased, decreased or stayed the same? What thoughts do you have on these changes?	Due to the fact the pandemic closed on campus classes / labs in 2020-21 and beyond the Certificate of Achievement Advanced and AS degrees did decrease (40% over the previous year) due to students unable to finish classes on campus. Certificate of Achievement certificates that students were able to finish online with expensive software / on site computer access increased (10% over previous year). The obvious change was due the pandemic and the closure of labs. The DMT courses are 90% dependent on hands on labs and the fact that it took an extremely long time to get back into the labs had a severe impact for students completing advanced certificates and degrees. Since entry level classes are completely hands on lab classes the pandemic negatively impacted the program tremendously. But, the program is open on campus at this time and the trend will start moving back to previous years number over the next couple of years.
I.B.6.	Strategies to Increase Awards	What strategies (1, 2, 3. . . .) does your department have in place to ensure students are obtaining awards when it is applicable to their educational goal? (e.g. Outreach, In-reach, graduation workshops, collaborations with other offices, etc.)	1. The DMT department recently applied and was awarded a 3yr NSF grant $525,000.00 (starting in July 2022) to increase exposure of advance manufacturing to underrepresented populations, high school students and high school / college instructors. A part of the grant will focus on new certificate and degrees in the areas of advanced multi axis CNC machining, Additive Manufacturing (3d Printing design manufacturing and design) and industrial automation robotics 2. With the inconsistency of on campus programs due to the pandemic, the DMT instructors will continue to hold sessions in the classroom to assist with filling out certificate and degree on line forms 3. Instructors counsel all students on required classes and their availability as well as counsel on remaining courses to achieve their certificate and degree goals. 4. Counsel students who already have their degrees to apply for certificates when taking courses as they are seeking

			valuable job skills to enhance their employment opportunities.
I.C.1	CTE Programs: Review of Perkins Core Indicator and SWP Outcomes Metrics	Review the most recent Perkins Core Indicator and SWP Outcomes Metrics data for your program(s). Cite planned interventions and activities to enhance student and program outcomes. Perkins Core Indicator Reports provided by Margaret Bdzil. Cal-PASS Launchboard SWP Metrics: https://www.calpassplus.org/LaunchBoard/Home.aspx	DMT faculty will continue with the existing plan of actively providing counseling on course selection and scheduling to students. They hold advising sessions and help students prepare applications for certificate and degree awards. Similarly, DMT faculty will continue to expand their industry partnerships and connections with professional associations such as SME and NTMA to help current students and recent graduates connect with employment opportunities. De Anza's DMT program has also expanded offerings in Additive Manufacturing and Quality Assurance. With the combined resources of SWP and Perkins funding, the program has acquired state-of-the art 3D printers, industrial robotics and multi axis CNC equipment. A new certificate program in Additive Manufacturing is complete and will be offered Fall 22, which will expand employment opportunities for all students. Now that the DMT program is open again on campus, we will be expanding our lab times and increasing the number of tutors/mentors and open lab time for those students who do not have computer access. The De Anza College DMT Department Is accredited by the National Institute for Metalworking Skills (NIMS). Students are encouraged to pursue these Industry-recognized certifications at no cost. The major impact to enhance our program and student outcomes will be the work completed during the NSF grant. This grant will also focus on recruitment, career awareness and training workshops with an emphasis on our underrepresented populations.
I.C.2	CTE Programs: Labor Market	Review and summarize statewide and regional labor market (LMI) data for	Employment opportunities for Design and Manufacturing program graduates exist in high tech,

	Demand and Industry Trends:	occupations that are closely aligned with your program. Cite current industry trends. Provide an overview of your program advisory committee's recommendations relating to existing and new course and certificate/degree offerings. Cite additional data when applicable. California EDD LMI Info: https://www.labormarketinfo.edd.ca.gov/cgi/dataanalysis/areaselection.asp?tablename=occprj	research/ development large manufacturing facilities and small, independent design shops. Individuals with a background in manufacturing technology can also parlay their skills into other related positions in the industry: CAD design, Engineering. Additive Manufacturing. CAD/CAM programmers, CNC set-up operation, PLC programmers, Rapid Prototyping, Quality Assurance. and Manufacturing Production Estimators. The $565K DMT NSF grant, which focuses on Multi Axis CNC machining, Additive Manufacturing (3D printing) and Industrial Automation was written with full support of our local advisory board. The responses and letters of support were received from over 38 manufacturing companies in the local area. These areas of focus will also be offered as new courses and as an Advanced Certificate of Achievement, also recommended by our advisory board. **CURRENT LOCAL LMI DATA:** **0953.00 - Design and Manufacturing Tech.** **CAD/Additive Manufacturing** Mechanical Drafters 46 annual openings - $48.82/hr. Mechanical Engineering Technicians 43 annual openings - $34.23/hr. Industrial Engineering Technicians 54 annual openings - $30.49/hr. **0956.00 - Design and Manufacturing Tech**. **CNC and Robotic Automation** CNC Tool Operators 106 annual openings - $23.40/hr.

			CNC Tool Programmers 31 annual openings - $44.71/hr. Machinists 283 annual openings - $25.75/hr. While the above Is a sampling of the CNC and CAD career opportunities available, the DMT program serves a variety of other careers. Over the years the program has provided Mechanical Engineers, Industrial Engineers, (not technicians) Program Managers, Manufacturing Planners and Purchasers with career advancing knowledge and skills. These jobs represent a significant number of current career positions, as well as job growth in the Bay Area.
I.D.1	Academic Services and Learning Resources: # Faculty Served	Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of faculty served per year (Fall, Winter and Spring): Provide number from previous year, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number.	0
I.D.2	Academic Services and Learning Resources: # Students Served	Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of students served per year (Fall, Winter and Spring):	0

<table>
<tr><td></td><td></td><td>Provide number from previous year APRU, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number.</td><td></td></tr>
<tr><td>I.D.3</td><td>Academic Services and Learning Resources: # Staff Served</td><td>Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of staff served per year (Fall, Winter and Spring): Provide number from previous year APRU, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number.</td><td>0</td></tr>
<tr><td>I.E.1</td><td>Full Time Faculty (FTEF)</td><td>For ALL programs: State the number of FTEF assigned to your department/program. Refer to your program review data sheet: https://www.deanza.edu/ir/program-review.20-21/index.html .</td><td>2019-20 FTEF 6.5
2020-21 FTEF 4.3
Due to pandemic and closure of DMT labs for over a year, the 2020-21 numbers are lower, but will be returning to normal as classes and labs are now in person. The impact can be realized reviewing the Table below.

<table>
<tr><th>Year</th><th>2016-17</th><th>2017-18</th><th>2018-19</th><th>2019-20</th><th>2020-21</th><th>5-yr %Inc</th></tr>
<tr><td>Full Time Load</td><td>3.1</td><td>2.8</td><td>2.7</td><td>2.7</td><td>2.3</td><td>-25%</td></tr>
<tr><td>Full Time %</td><td>45.70%</td><td>45.10%</td><td>42.30%</td><td>46.80%</td><td>54.10%</td><td>18%</td></tr>
<tr><td>Overload</td><td>1</td><td>1</td><td>1.5</td><td>1.3</td><td>0.6</td><td>-46%</td></tr>
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<tr><td>Overload %</td><td>15.40%</td><td>15.60%</td><td>22.60%</td><td>22.30%</td><td>13.10%</td><td>-15%</td></tr>
<tr><td>Part Time Load</td><td>2.6</td><td>2.5</td><td>2.3</td><td>1.8</td><td>1.4</td><td>-46%</td></tr>
<tr><td>Part Time %</td><td>38.90%</td><td>39.30%</td><td>35.10%</td><td>30.90%</td><td>33.00%</td><td>-15%</td></tr>
<tr><td>Total FTEF</td><td>6.7</td><td>6.3</td><td>6.5</td><td>5.9</td><td>4.3</td><td>-36%</td></tr>
</table>
</td></tr>
<tr><td>I.E.2</td><td># Student Employees</td><td>If applicable to your program, state number of student employees and if there were any changes between number this academic year and the previous two academic years.</td><td>0</td></tr>
<tr><td>I.E.3</td><td>Full Time Load as a %</td><td>State the percentage of courses taught by full-time faculty (exclude overload). Refer to your program review data sheet. https://www.deanza.edu/ir/program-review.20-21/index.html or access within the program review tool.</td><td>54.1% - 2020-21

46.8% - 2019-20

Due to pandemic and closing of DMT labs for over a year, the 2020-21 numbers are higher as we lost some very good part time instructors because of the forced closure, as well of many deciding not to return due to retirement or potential health concerns.</td></tr>
<tr><td>I.E.4</td><td># Staff Employees</td><td>If applicable to your program, state number of staff employees and if there were any changes. ONLY report the number of staff</td><td>2</td></tr>
</table>

		that directly serve your program. Deans will make a report regarding staff serving multiple programs.	
I.E.5	Changes in Employees/Resources	Briefly describe how any increase or decrease resources/employees (exclude teaching faculty) has impacted your program. What strategies does your program have in place to ensure students are being supported and able to reach their full capacity when faced with these changes and challenges**?** (e.g. Mentors, embedded tutors, extended lab hours, instructional support, non-credit support, etc.)	There was no increase or decrease in 2020-21 as the program was not open on campus for the full year. Upon reopening, the department is continuing extended lab hours and increased instructional support thru full time instructors and the help of lab technicians during regular lab hours.
	Enrollment		
II.A	Enrollment Trends	What changes in enrollment have you seen in the last three years? Refer to https://www.deanza.edu/ir/program-review.20-21/index.html or access within the program review tool. You do not need to list enrollments; rather reflect on enrollment trends. What strategies does your department have in place to increase or maintain current enrollment trends?	The DMT department enrollment had virtually not changed 2016-17 to 2018-19. With a strong economy enrollment had remained strong for those three years. The major change occurred when the department labs / classes were closed down due to the pandemic in May of 2020. Very few classes could continue on line. Therefore, the enrollment decline happened over one year, which was detrimental to the students trying to complete degrees and certificates. The department did open in person in May 21 during the Spring quarter. The goal is to continue to create new and advanced classes with SWP / Regional funds as well as our new NSF grant to retain students to continue their education goals, which will increase their career and wage opportunities, as well as attract

			new students into the field. The DMT department did complete new courses in 3D printing /additive manufacturing and quality assurance, which are now being offered for the first time on campus since the pandemic closure of the labs. On campus classes will create new opportunities and increase enrollment in the future. The department is currently expanding existing rooms in the E3 building (completion Spring/Fall 2023). E35 will become a state of the art 3D printing / Additive Manufacturing lab and E34 and E36 becoming CAD-CAM, Quality Assurance and Materials lecture / labs. Advanced 3D printing / Additive Manufacturing continues to be a high-level discussion with our advisory committee since our first course offerings in 3D printing. This advanced technology is expanding at a pace never seen before and the DMT department has already set the bar for all community colleges. This expansion has already provided opportunities for the department chair to actively peruse outside interest, such as he did with the Haas $1-million-dollar donation to the multi axis CNC lab. With the awarding of the NSF grant, the enhanced space (lab / classrooms} will allow the department to deliver new course offerings and new certificates /degrees as outlined in our 3 year NSF grant. The building enhancement will also allow the department to offer existing classes during hours that will better serve all students.
II.B.	Enrollment Trends for disproportionately impacted student groups	Using the program review data tool, what is the enrollment of African American, Latinx, Filipinx, and Pacific Islander students as a percentage of your entire program compared to other student groups in campus-wide percentages? You do not need to list enrollments, but rather reflect on what the	Overall enrollment for this group of students Is 37% college and 29% department. Although the difference Is a small percentage, it does follow the pattern of the college as a whole. Location of the college and the ever-changing location of manufacturing from the south bay to the east bay over last 20 years has changed the diversity of the design and manufacturing department.

		trends look like. Link to equity plan and strategic plans 1. What could be contributing to the differences? 2. What strategies does your department have in place to increase or maintain enrollment of these student groups? Are there other trends that you see when drilling into the data that may be important to explore?	Cost of living has also changed the diverse population in the bay area due to relocation and other financial Issues. The department created a dual enrolment program that will offer classes on campus at DeAnza in the DMT lab, which will be a first for the DeAnza dual enrollment program. The focus is on students who would not be familiar with our CTE program and focus on high schools in the local district that are extremely diverse. Many of the underrepresented students are looking for a great career who might not have an opportunity to attend a four-year university and choose to go straight to a high demand career with skills obtained at a community college. Our NSF ATE manufacturing grant was also awarded based on college and industry collaboration and career opportunities focusing on our underrepresented populations as stated above.
II.C.	Overall Success Rate	What changes in student success rates have you seen in the last three years? You do not need to list success rates, rather reflect on trends in success rates. 1. What could be factors that influence success rates? Please refer to: https://www.deanza.edu/ir/program-review.20-21/index.html	Success rate holds steady at 76% - 77% - 74% over the last three. The students who attended on line courses that were created as "hands on" lab classes during the pandemic had the least success since the return to campus. (2% drop) These students missed valuable introductory lab activities that would lead to greater success in the intermediate and advanced on campus classes. Also, the students who are juggling full time work schedules have had less success than the majority of the DMT students. To Increase successes rates the department has opened all classes on campus. We will increase student tutors and mentors and add back in extra "hands-on" labs and special project assignments throughout the quarter.

		2. What strategies does your department have in place to increase or maintain current success rates?	NSF ATE grant will match students with industry experts / mentors to successfully complete certificates and degrees Now that the department is back on campus we will re-invent tools, rubrics and other assessments from beginning to advanced classes to increase success at the introductory level. All new assessments and changes will be implemented to help a higher percentage of students complete the DMT program certificates and degrees.
II.D.	Success, Non-Success and Withdraw Rates for disproportionately impacted student groups	Using the Disproportionate Impact Tool within the Program Review Tool explore differences in success rates by ethnicity, gender and special student populations (foster youth, individuals with disabilities, Veterans and low income students). Of the rows that are highlighted (which indicate there are disproportionate impacts for that group): 1. What differences do you see in successful course completion rates? 2. What are your thoughts on these differences? What strategies might be helpful in closing gaps in successful course completion?	Success rates as per program review research tools for 2020-21 are as follows: Foster youth N/A Individuals with disabilities N/A Veterans 71% Low income 66% Overall DMT program 74% The overall differences in the report are not so much the success rates, but the overall sampling of students, which consist from N/A (foster youth) students to 172 (low income) Observation in the DMT courses: When the campus closed and in person courses were cancelled low-income students struggled with on line learning. This led to missed classes because of internet sharing, no internet in the home or slow service that would drop them during the course. This caused late arrivals and missed lectures, or the worst scenario of getting behind so far that they stop showing up. Many veterans do well with assistance of government education funds, as well as more time available to attend extra lab times and other benefits the DMT has to offer as the numbers show. The gaps will close now that the DMT labs are open, but we will not see real success until the college has a on campus presence that can help low income students in person.

II.E.	Changes Imposed by Internal/External Regulations	Address program changes implemented as a response to changes in College/District policy, state laws, division/department/program level requirements or external agencies regulations? How did the change(s) affect your program? (e.g. any curriculum, reorganization of program AB 705, noncredit curriculum, loss of personnel, etc.)	There has been an obvious major affect due to college/ county regulations that have impacted our department. The pandemic closure of the on-campus program could not be transferred over to online successfully. New and existing students did not want to attend on line courses that would not enhance their career opportunities due to no "hands on" experience. The numbers show a program that averaged 1,500 enrollments from 2016 – 19. When courses shifted to mandatory on line the program enrollment the program dropped 43%. Fortunately, the on campus classes have been re-instated and the numbers will return in the future.
	Equity	In order to meet the goals within our State Equity Plan, Institutional Metrics, and Educational Master Plan, the following section asks you to reflect on questions focused on student equity to help inform our goals._	
III.A.	Equity Plans for groups other than the acknowledged disproportionately impacted groups	Are there other groups of students besides the acknowledged disproportionately impacted groups of African American, Latinx, Filipinx, and Pacific Islander students that your department intentionally focused support for.	Other than the previously listed, low income and women in manufacturing will be a major focus of the program when assessing and planning for the future. The department has steadily decreased from 8% 2016 to 2% in 2020. With the closure of the DMT departments on campus program and shift to on line the gap jumped to 9% in one year. We intend to have that number drop with the opening of the on-campus classes and department services.
III.B.	Program Success	Describe any events/program changes/successes that you would like to share relative to your equity efforts?	The DMT department recently was awarded a $525,000 NSF ATE grant. The major component focuses on working with underrepresented populations and will begin July 2022

III.C.	Equity Planning and Support	Has equity work generated any need for resources? If so, what is your request? Include staff/position needs.	Equity work has always required funds to be successful. The 3 year NSF ATE grant will allow the department to be in direct control the equity work done at the department level.
III.D.	Departmental Equity Planning and Progress	Identify which of the following resources you need? How would the resource help? • Professional Development – what areas? • Enhanced support for students • Departmental Collaborations • Best Practices • Coaching/Consultation	The DMT application for the NSF grant directly addressed all of these areas which are identified.
III.E.	Assistance Needed to close Equity Gap	Would you like assistance with identifying strategies and/or best practices and/or resources to help facilitate student success?	N/A
	Assessment Cycle	Navigate to https://www.deanza.edu/slo/ and click "TracDat is gone" which will take you to accordion listing SLO assessments under "Student Learning Outcomes and Assessments Summaries by Division:"	
IV.A	SLOAC Summary	Describe an accomplishment or enhancement that resulted from SLO assessment starting with	Constant adjustments to course outlines, creating new courses and new lab assignments to keep skills relevant to the fast-paced

		Spring 2020 through end of Spring 2022..	advanced manufacturing environment. Enhancements result in more career opportunities for design and manufacturing students.
IV.B	Assessment	List the names of the courses in your department (e.g. CIS 22A) that are planned to be assessed by the conclusion of 2021-22 academic year.	Courses that were offered the first time (in person / on campus) or offered with a new part time instructor. DMT 91, DMT 93, DMT 53, DMT 54
	Resource Requests		
V.A	Budget Trends	Over the past five academic years, describe impact, if any, of external or internal funding trends that you might be currently dealing with (eg COVID demands) upon the program and/or its ability to serve its students. If you don't work with budget, please ask your Division Dean to give you the information.	The division requests the restoration of both 095300 and 095600 B-Budget to meet its program's obligations now that the department is back on campus and utilizing the labs. Both budgets were reduced by approximately 20% when the labs were closed during the pandemic.
V.B	Funding Impact on Enrollment Trends	Over the past five academic years, describe the impact, if any, of external or internal funding changes upon the program's enrollment and/or its ability to serve its students. Refer to Program Review data sheets for enrollment information:	The current college funding over the past three years (SWP and CTE Perkins) has allowed the program to keep up with its current demand of enrollment. As we moved to all classes on campus and the expansion of the quality technician and additive manufacturing courses we will see an increase in enrollment, which could account for a moderate increased "B" budget in the future.
V.C.1	Faculty Position(s) Needed	Describe each request as: "Replace due to Vacancy", "Growth", or if none state "None Needed Unless Vacancy"	(1) Replace due to vacancy

V.C.2	Justification for Faculty Position(s):	Do you have assessment data available to justify this request for a faculty position? If so provide the SLO/PLO assessment data, reflection, and enhancement that support this need. If not, provide other data to support this need.	With the retirements of multiple long-time adjunct faculty in the area of Design and manufacturing, the department is in desperate need of hiring an additional full-time faculty to lead in additive manufacturing and 3D printing, which is one of the fasted moving technologies in the world. Other data supporting our justification was obtained when surveying local industry for our NSF grant, which was a major part of the grant being awarded. All 32 companies that responded agreed with the assessment of how it is crucial to have full time committed instructors to learn and teach cutting edge advanced manufacturing. These companies compared their own success as if they were running their companies with part time employees, which would have an obvious negative impact.
V.D.1	Staff Position(s) Needed	Choose: “Replace due to Vacancy”, “Growth”, “None Needed Unless Vacancy” Only make request for staff if relevant to your department only. Division staff requests should be in the Dean’s summary.	N/A
V.D.2	Justification for Staff Position(s):	Do you have assessment data available to justify this request for a staff position? If so, provide the SLO/PLO assessment data, reflection, and enhancement and/or CTE Advisory Board input to support this need. If not, provide other data to support this need.	N/A
V.E	Equipment Requests	List all equipment resource needs on the Excel spreadsheet. Be sure to include to	Requests on separate spreadsheet

		justification and costs in appropriate columns.	
V.F	Facility Request	List all facility needs on the spreadsheet. Be sure to include to justification and costs in appropriate columns.	Requests on separate spreadsheet
V.G	Other Needed Resources	List any other resource needs on the spreadsheet. Be sure to include to justification and costs in appropriate columns.	Requests on separate spreadsheet
V.H.1	Staff Development Needs	Based on what you have written above, what professional development support/resources do you need to achieve your goals?	Continuous training and professional development in multi axis cnc equipment, additive manufacturing (3d printing), and industrial robotics. Continued allocations of Perkins, SWP and regional funds, as well as our NSF ATE grant will support staff development. Resources needed for staff development located on separate spreadsheet.
V.H.2	Staff Development Needs Justification	Please provide reasons for your professional development needs. If you have assessment data available to justify this request for professional development, please provide the SLO/PLO assessment data, reflection, enhancement, and/or CTE Advisory Board input, etc. to support this need. If not, provide other data to support this need.	After looking over assessments from the department, it is still apparent that some instructors (large amount of part time instructors) need development in order to prepare assessments that align with the current needs of the student. This will ensure we are providing the training to prepare students for employment Our advisory group continuously reminds us that If we don't continue to develop the skills of our staff our students will not be prepared for the advanced manufacturing jobs available.
VI.	Closing the Loop	Over the last five years, how did you assess the results of the requested resources, and what were those results? How do you plan to reassess the outcomes	Over the last five years the assessments were established by the resources received. Naturally we are able to asses at a higher level as resources became available. The results have been higher student employment as well as the demand of DMT students by employers. SWP / Regional funds,

		after receiving each of the additional resources requested this year	CTE Perkins and now NSF ATE grant funds have and will play a major role that has allowed the department to asses at a higher level that was previously imaginable. Evaluating assessments and outcomes will change dramatically in the future. When you add resources you add physical (job skills) outcomes and assessment methods that were not possible in the past. Students can be assessed on more advanced curriculum and equipment. The assessments can be updated immediately to match the career opportunities available. The real assessments on a majority of the DMT work will come throughout the 3-year duration of the NSF ATE grant. The grant requires an outside evaluator to assess equity, professional development, curriculum development and other work of the DMT department, combined with equipment and other teaching resources obtained with SWP and regional funds. Outside impartial assessment will truly shape the future and direction the of the design and Manufacturing department.
	Submitted by:	APRU writer's name	Mike Appio
	Last Updated:	Give date of latest update	5/27/22