

Santa Rosa Junior College

Program Resource Planning Process

Advanced Manufacturing Technology 2023

1.1a Mission

Our Machine Tool Technology program mission continues to revise, update, and improve student educational methods to ensure that manufacturing instruction is current with the technological advances required by industry. Robotics, CNC-Computer Numerical Control, and basic machining knowledge is required by engineers and designers that format our future machinery products, machinists, tool and die product and basic machine operators.

It is our mission as career and technical education instructors is to provide the most current educational training and services to new students and those returning to school in order maintain their employment edge and therefore contribute to the continuing improvement and competency of our work force within Sonoma County, California, national and international.

We pledge to work closely with local industry leaders to make sure our programs consistently educate students to meet current industry standards and maintain close ties with local area high schools.

We offer a learning environment that is open and affirming to all students, provide safety and environmental education as it relates to each program. Our instructional programs must be flexible to the needs of all students entering their chosen occupational fields and foster learning environments that allow each student to develop the necessary skills to achieve their educational goals. It is important that faculty provide instruction that reflects the latest industrial advancements, update program curriculum, and provide the latest equipment to maintain our individual laboratories. Our programs must meet the increasing and evolving environmental public requirements.

1.1b Mission Alignment

The Machine Tool Program pedagogy of "learning by doing" encourages that the program must continually re-engineer basic training concepts, in order to meet current technological requirements. Basic machining knowledge applies not only to the machining industry but automotive, diesel, and the necessary engineering design concepts that must apply to creating any new product that will require building a machine to produce such products.

Future planning for our program will consist of creating a working model that will bring in and align simple basic jobs from local industry and charging a minimal fee to cover material and parts. Students will continue to learn while earning, along with necessary job demands by working with local industry thus providing student skills with hands-on training of various manufacturing processes, allowing the student to be more competitive in the job market. Our program will gain some additional funding to assist with program upgrades, and local industry will have input opportunity, hire students trained from our program, and by providing minimal jobs at low cost, save money. the long term goal of the progra is to incorporate all programs into a manufacturing center serving the North Bay region.

1.1c Description

Machinist skills are often called a “trade within a trade” but many industries (view table below) require this vital skill such as robotics, agriculture, manufacturing, aircraft, film and electronics. A Master Machinist, Tool & Die Maker, or Machinist might have produced the die, mold, prototype, or machine to produce every day products.

Machinists set up and operate a variety of machine tools to produce precision parts and instruments. Include precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures

The Machine Tool program provides instruction on manual and CNC lathes and mills for regional industry and those interested in learning manufacturing skills. In order to ensure that our manufacturing instruction is current with the technological advances required by industry, our program continues to revise and update the necessary educational skills for our students to meet those required skills. Robotics, CNC-Computer Numerical Control, basic machining knowledge is required not just for machine operators but by engineers and designers that format our future machinery.

1.1d Hours of Office Operation and Service by Location

In order to reach as many students as possible, the Machine Tool program offers day and evening classes.

The service center is located in the Lounibos Center Building, the administrative office hours are 8:30 am to 12:30 pm Monday through Friday. The service center serves the Automotive, Diesel, Machine Tool, and Welding (effective Fall 2011) Programs.

1.2 Program/Unit Context and Environmental Scan

The machine tool program class size is normally 13 to 17 students per class. We have a lower size due to

California industries that employ machinists:		
Industry Title	Number of CA Employers	Percent of Total
Machine Shops and Threaded Products	4,645	33.40%
Aerospace Product & Parts Manufacturing	298	8.70%
Employment Services	7,273	8.50%
Electronic Instrument Manufacturing	906	3.10%
Metalworking Machinery Manufacturing	816	3.00%
Semiconductor and Electronic Components	2,011	2.90%
Other Fabricated Metal Product Mfg	821	2.70%
Medical Equipment and Supplies Mfg	3,997	2.60%
Other General Purpose Machinery Mfg	1,045	2.10%
Architectural and Structural Metals	2,181	1.90%
Ship and Boat Building	136	1.30%
Electrical Equipment and Appliances	1,066	1.20%
Industrial Machinery Manufacturing	335	1.20%
Commercial Machinery Repair/Maintenance	2,472	1.00%
Machinery & Supply Merchant Wholesalers	11,528	1.00%
Other Miscellaneous Manufacturing: <ul style="list-style-type: none"> • Sign Manufacturing • Jewelry (except Costume) Manufacturing • Sporting & Athletic Goods Manufacturing 	6,566	1.50%

limited:

- Staffing to monitor student safety while operating machinery and to safeguard the equipment due to the high cost of repair and replacement
- Training space

The limited number of machines affects the students ability to get hands-on experience. Our enrollment efficiency has never dropped below 85.5% and has been as high as 106.5%

Quote from the California Community Colleges Chancellors Office, Economic Development and Workforce Preparation website (ccco.edu).

"Multiple strategies are used to enable the colleges to provide critical development services to employers and communities, to increase economic success, and to support excellence in Career Technical Education and training for individuals entering the workforce, as well as incumbent and re-entry workers"

In order to achieve the above strategies, improve our retention, and expand course offerings this machine tool technology program requires a three-six-ten year plan to develop a working training model:

- Create a working "learn by doing" education model and bring in local industrial manual and CNC jobs for a minimal fee
- Create a training program for students that show potential, have completed their basic training courses and hire for a short term as training assistants
- Seek CTEA and other grant funding to assist with the formulation of the training module
- Seek local industrial funding via machinery donations (in Progress)
- Better assess the industrial community needs by revitalizing the advisory committee with current industry representatives.
- Encourage and invite our local industrial community to have the opportunity to become involved by providing technology input, possible donations, and involve new ideas to our advisory program
- Increase the amount of available machinery for student use
- Add a full and part-time certified industry current instructors
- Utilizing our existing space by enclosing the CNC lab; allowing us to run manual and CNC classes at the same time
- Expand out the north wall of Lounibos and create another class room, as all the class rooms in the area are outdated and not conducive to learning

We have no Petaluma classes as there is no shop space at the Petaluma campus.

2.1a Budget Needs

The number one need for the Advanced Manufacturing Program is a lab assistant due to the safety of the students operating the equipment. The lab assistant would also assist the program with machine maintenance and repair. We need increased repair and maintenance funding. The equipment in the Advanced Manufacturing laboratory has daily, monthly and yearly preventative maintenance that has to be completed. We do most of the labor ourselves, but there is little or no funding to pay staff to do the remaintenance and repairs (which saves us thousands of dollars compared to having an outside contractor do the work).

Enhancement of the program supplies budget by \$5,000 per year and the equipment maintenance budget by \$20,000 per year for parts and allied faculty labor would bring the program to more efficient and safe operating levels.

A repair budget, to be used by all Industrial & Trade Technology programs, that would be allowed to roll-over into the next fiscal year would be very beneficial. It could be used, for example, to repair the major equipment used by all Lounibos programs. The way the budget is currently set up, the funds are "use it or lose it". Some years we go through our entire repair budget plus a lot more, while other years we barely tap into this fund. If we could have a rollover budget of \$2,000 a year, it would build up funds and avoid scrambling for money when the inevitable expensive, major repairs are needed.

Santa Rosa Junior College - Program Unit Review

Advanced Manufacturing Technology - FY 2021-22

2.1 Fiscal Year Expenditures

Santa Rosa Campus

Expenditure Category	Unrestricted Funds	Change from 2020-21	Restricted Funds	Change from 2020-21	Total	Change from 2020-21
Faculty payroll	\$73,778.70	-15.11%	\$0.00	0.00%	\$73,778.70	-15.11%
Adjunct payroll	\$22,188.82	>1000%	\$0.00	0.00%	\$22,188.82	>1000%
Classified payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
STNC payroll	\$2,612.50	0.00%	\$0.00	0.00%	\$2,612.50	0.00%
Student payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Management payroll (and Dept Chairs)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Benefits (3000's)	\$37,556.93	-10.20%	\$0.00	0.00%	\$37,556.93	-10.20%
Supplies (4000's)	\$8,333.84	2.88%	\$0.00	0.00%	\$8,333.84	2.88%
Services (5000's)	\$389.93	428.29%	\$0.00	0.00%	\$389.93	428.29%
Equipment (6000's)	\$0.00	0.00%	\$169,841.07	-37.57%	\$169,841.07	-37.57%
Total Expenditures	\$144,860.72	4.77%	\$169,841.07	-37.57%	\$314,701.79	-23.30%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Expenditure Category	Unrestricted Funds	Change from 2020-21	Restricted Funds	Change from 2020-21	Total	Change from 2020-21
Faculty payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Adjunct payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Classified payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
STNC payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Student payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Management payroll (and Dept Chairs)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Benefits (3000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Supplies (4000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Services (5000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Equipment (6000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Total Expenditures	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%

Other Locations (Includes the PSTC, Windsor, and other locations)

Expenditure Category	Unrestricted Funds	Change from 2020-21	Restricted Funds	Change from 2020-21	Total	Change from 2020-21
Faculty payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Adjunct payroll	\$6,988.70	0.00%	\$0.00	0.00%	\$6,988.70	0.00%
Classified payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
STNC payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Student payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Management payroll (and Dept Chairs)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Benefits (3000's)	\$1,357.20	0.00%	\$0.00	0.00%	\$1,357.20	0.00%
Supplies (4000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Services (5000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Equipment (6000's)	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Total Expenditures	\$8,345.90	0.00%	\$0.00	0.00%	\$8,345.90	0.00%

Expenditure Totals

Expenditure Category	Amount	Change from 2020-21	District Total	% of District Total
Total Expenditures	\$323,047.69	-21.26%	\$0.00	0.00%
Total Faculty Payroll	\$102,956.22	16.65%	\$0.00	0.00%

Total Classified Payroll	\$0.00	0.00%	\$0.00	0.00%
Total Management Payroll	\$0.00	0.00%	\$0.00	0.00%
Total Salary/Benefits Costs	\$144,482.85	11.07%	\$0.00	0.00%
Total Non-Personnel Costs	\$178,564.84	-36.27%	\$0.00	0.00%

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Santa Rosa	01	01	\$5,000.00	Annual maintenance for Advance Manufacturing equipment. Performed in-house by faculty for considerably less money than an outside repair person.
0002	Santa Rosa	01	01	\$5,000.00	to cover increased cost of metal, tool bits, and other materials

2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
----------	-------	-------	------------

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Department Chair	12.00	12.00	Evaluates faculty and staff, coordinates classes, reviews curriculum, on call for any problems. Trains new faculty, reviews and implements purchase orders, budget transfers, scheduling, and curriculum. Serves on department advisory committees (Machine, Automotive, Diesel, and effective Fall 2011, Welding) attending 5-two hour advisory meetings per program, per semester or 200 hours per year, 5- one hour individual program meetings per month or 20 hours per year, not including summer session chair duties and mandatory 1 hour cluster meetings (2 per month) and mandatory 2 hour DCC and DCC/IM meetings (1 each per month).

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
----------	-------	-------	------------

2.2d Adequacy and Effectiveness of Staffing

Two half time classified staff persons should be hired to manage the machine shop and tool inventory. One for evenings, one for morning classes. Students are being injured due to the amount of students being supervised by one instructor. This is a major safety concern.

It is imperative that adequate staff be provided to serve the students in their laboratory work. This same staff should also maintain the laboratory and supply rooms to assure quality instruction and maximum safety at all times that we are in operation.

Additional hours for the Service Center Administrative Assistant as this assistant provides necessary duties to five instructional areas and will be needed as the job duties increase with added responsibility.

The Industrial and Trade Technology department is significantly understaffed compared to other departments. The vast majority of lab classes, especially evening and weekend classes, have no lab assistant support, the faculty are required to set up and run their own labs, while also working the tool room. Safety is an on-going issue, especially when a student injury occurs without a lab assistant available. The instructor has no support and must be taken away from the rest of the class, sometimes for lengthy periods of time, in order to manage the injury.

Santa Rosa Junior College - Program Unit Review

Advanced Manufacturing Technology - FY 2021-22

2.2 Fiscal Year Employee Data and Calculations

Employee Head Counts

Employee Category	Count	Change from 2020-21	District Total	% of District Total
Contract Faculty	1	0.00%	0	0.00%
Adjunct Faculty	4	300.00%	0	0.00%
Classified Staff	0	0.00%	0	0.00%
STNC Workers	1	0.00%	0	0.00%
Student Workers	0	0.00%	0	0.00%
Mgmt/Admin/Dept Chair	0	0.00%	0	0.00%

Employee FTE Totals

FTE Category	FTE	Change from 2020-21	District Total	% of District Total
FTE-F - Faculty	2.1333	113.33%	0.0000	0.00%
FTE-CF - Contract Faculty	1.0000	0.00%	0.0000	0.00%
FTE-AF - Adjunct Faculty	1.1333	0.00%	0.0000	0.00%
FTE-C - Classified	0.0000	0.00%	0.0000	0.00%
FTE-ST - STNC	0.0457	0.00%	0.0000	0.00%
FTE-SS - Support Staff	0.0457	0.00%	0.0000	0.00%
FTE-SW - Student Workers	0.0000	0.00%	0.0000	0.00%
FTE-M - Management	0.0000	0.00%	0.0000	0.00%
FTE-DC - Department Chairs	0.0000	0.00%	0.0000	0.00%

Student Data

Data Element	Value	Change from 2020-21	District Total	% of District Total
FTES-CR - Credit	24.1448	94.72%	0.0000	0.00%
FTES-NC - Non-Credit	0.0000	0.00%	0.0000	0.00%
FTES - combined	24.1448	94.72%	0.0000	0.00%
Students Enrolled/Served	246	54.72%	0	0.00%

Calculations

Data Element	Value	Change from 2020-21	District Total	% of District Total
FTE-S : FTE-F	11.3179	-8.73%	0.0000	0.00%
FTE-AF : FTE-CF	1.1333	0.00%	0.0000	0.00%
FTE-F : FTE-SS	46.7088	0.00%	0.0000	0.00%
FTE-F : FTE-M	0.0000	0.00%	0.0000	0.00%
FTE-SS : FTE-M	0.0000	0.00%	0.0000	0.00%
FTE-ST : FTE-C	0.0000	0.00%	0.0000	0.00%
Average Faculty Salary per FTE-F	\$48,260.71	-45.32%	\$0.00	0.00%
Average Classified Salary per FTE-C	\$0.00	0.00%	\$0.00	0.00%
Average Management Salary per FTE-M	\$0.00	0.00%	\$0.00	0.00%
Salary/Benefit costs as a % of total budget	44.72%	41.06%	0.00%	0.00%
Non-Personnel \$ as a % of total budget	55.28%	-19.06%	0.00%	0.00%
Restricted Funds as a % of total budget	52.57%	-20.70%	0.00%	0.00%
Total Unit Cost per FTE-F	\$151,428.56	-63.09%	\$0.00	0.00%
Total Unit Cost per FTE-C	\$0.00	0.00%	\$0.00	0.00%
Total Unit Cost per FTE-M	\$0.00	0.00%	\$0.00	0.00%
Total Unit Cost per FTE-S	\$13,379.62	-59.56%	\$0.00	0.00%
Total Unit Cost per student served/enrolled	\$1,313.20	-49.11%	\$0.00	0.00%

Santa Rosa Junior College - Program Unit Review

Advanced Manufacturing Technology - FY 2021-22

2.2a Classified Positions Employees paid from a Classified OBJECT code

Name Last	First	Position	Hours	FTE
<< No Employees >>				

Santa Rosa Junior College - Program Unit Review
Advanced Manufacturing Technology - FY 2021-22

2.2b Management/Confidential Positions Employees paid from a Management/Confidential OBJECT code

Name Last	First	Position	Hours	FTE
<< No Employees >>				

Santa Rosa Junior College - Program Unit Review
Advanced Manufacturing Technology - FY 2021-22

2.2c STNC Workers Employees paid from an STNC OBJECT code

Name Last	First	Position	Hours	FTE
Campbell	Christopher		95.00	0.0457
Totals			95.00	0.0457

Santa Rosa Junior College - Program Unit Review
Advanced Manufacturing Technology - FY 2021-22

2.2d Student Employees Employees paid from a Student Employee OBJECT code

Name Last	First	Position	Hours	FTE
<< No Employees >>				

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0001	Santa Rosa	01	01	None	Science Lab Instructional Asst AMT 100%	Classified

2.3a Current Contract Faculty Positions

Position	Description
William McCracken	Full Time Faculty

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
Advanced Manufacturing Technology	1.0000	0.9900	0.7600	73.0000	0.5 FTE lost due to lack of available instructors

2.3c Faculty Within Retirement Range

2.3d Analysis of Faculty Staffing Needs and Rationale to Support Requests

The program has been directed to find additional adjunct instructors. Contact has been made with industry to "call on" their membership for assistance. In order to maintain the integrity of the program, and to meet the future needs of the recently revived Manufacturing Industry, the dep. request an additional full time Machine Tool Instructor. We need to also populate our associate pool in the next year.

Santa Rosa Junior College - Program Unit Review Advanced Manufacturing Technology - FY 2021-22

2.3a Contract Faculty Positions Employees paid from a Contract Faculty OBJECT code

Name Last	First	Position	Hours	HR FTE	DM FTE
McCracken	William	Faculty	0.00	1.0000	0.0000
Totals			0.00	1.0000	0.0000

Santa Rosa Junior College - Program Unit Review
Advanced Manufacturing Technology - FY 2021-22

2.3b Adjunct Faculty Positions Employees paid from an Adjunct Faculty OBJECT code

Name Last	First	Position	Hours	FTE
Brown	William		70.00	0.1083
Kosten	Jesse		6.00	0.0000
McCracken	William		128.00	0.9167
Nelson	Richard		70.00	0.1083
Totals			274.00	1.1333

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	ALL	08	01	Advanced Manufacturing Technology	

2.4b Rationale for Instructional and Non-Instructional Equipment, Technology, and Software

Computer Lab Desktop Replacement - end of life

The Advance Manufacturing Technology program (AMT) uses desktop computers for designing and compiling the programming necessary for the Computer Numeric Controlled (CNC) lathes and mills. The computers are now 7 years old and are past warranty and at the end of useful life span. Pricing not established as that would be for IT to procure district approved equipment.

CNC Tooling

The AMT program has 5 CNC machines, 2 lathes and 3 mills, that use tool holders and cutting tooling to perform material machining. To increase the options and diverse needs of student learning projects, additional tool holders and cutting tooling are needed. This will expand the offerings of the CNC courses to match the current industry practices being used locally and help prepare students for industry.

2.4c Instructional Equipment Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	01	01	Computer Lab Desktop Replacement - end of lifecycle?	24	\$2,200.00	\$52,800.00	Jesse Kosten	2330	William McCracken
0002	Santa Rosa	01	01	CNC Tooling	1	\$50,000.00	\$50,000.00	William McCracken	2330	William McCracken

2.4d Non-Instructional Equipment and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
------	----------	----	---	------------------	-----	-----------	------------	-----------	------------	---------

2.4f Instructional/Non-Instructional Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
------	----------	----	---	------------------	-----	-----------	------------	-----------	------------	---------

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
------	----------	----	---	------------	----------	-------------	-----------	-------------

2.5b Analysis of Existing Facilities

Existing facilities are not adequate in space, storage or technology. We need a smart classroom created in the under utilized break room so that lecture and lab classes can occur at the same time. This would greatly improve the efficiency of the program and improve safety of the shop in general.

Our existing building is too small, electrical is not adequate for modern equipment.

If we are able to enclose the CNC room it would help maximize the use of the shop as we could run manual and CNC classes at the same time.

3.1 Academic Quality

—

3.2 Student Success and Support

We hire through the SRJC Human Resources department along the standard recruitment methods.

We try to recruit both students and instructors from local industry who service a wide demographic area.

The Advanced Manufacturing Technology program is currently mentoring students in conjunction with CTE, including non-traditional students/instructors for the program.

3.3 Responsiveness to Our Community

Our program reschedules classified time during normal work hours to attend training that allows the employees to better do their job, such as PRPP, CIS, forklift and any other training applicable to their jobs.

Required Courses										
*Not Currently Offered										

X=SCHEDULED
X=COMPLETED

4.1b Program Student Learning Outcomes Assessment

We have completed program level course SLO assessments.

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	Mach51a-Beg Machine Tool Tech	Spring 2011	Fall 2011	N/A
Course	Mach51b-Adv Machine Tool Tech	Spring 2012	Fall 2012	N/A
Course	Mach61.11 Ferrous Metallurgy	N/A	N/A	N/A
Course	Mach61.12NonFerrous Metallurgy	N/A	N/A	N/A
Course	Mach80a-IntroCNC Lathe	Spring 2012	Fall 2012	N/A
Course	Mach80b-IntroCNC Mill	Fall 2011	Spring 2012	N/A
Certificate/Major	Basic CNC Lathe	Fall 2012	Fall 2012	N/A
Certificate/Major	Basic CNC Mill	N/A	N/A	N/A
Certificate/Major	Basic Manual Machine Tool Tech	Fall 2012	Fall 2012	N/A
Certificate/Major	Machine Tool Technology	N/A	N/A	N/A
Certificate/Major	Machine Tool Technology	N/A	N/A	N/A

4.2a Key Courses or Services that address Institutional Outcomes

Course/Service	1a	1b	1c	2a	2b	2c	2d	3a	3b	4a	4b	5	6a	6b	6c	7
Mach 161	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 162	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 51.1a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 51.1b	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 80a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 80b	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

4.2b Narrative (Optional)

All of our courses have components of the institutional student learning outcomes. In reviewing the data it appears that we are strong in most of the goals and including the institutional student learning outcome regarding personal health which consists of the safety training provided to students at the beginning of every course to safeguard and provide student safety awareness. We will see if there are more ways to work this into our program in the future.

5.0 Performance Measures

Not applicable

5.1 Effective Class Schedule: Course Offerings, Times, Locations, and Delivery Modes (annual)

The Advanced Manufacturing Technology program offers both day and evening classes to best meet student's needs.

We only offer classes at the Santa Rosa campus, there are no adequate facilities on other campuses.

Machining is hands-on and not able to be taught in other formats.

There is a demand for up-to-date CNC training. New equipment has been purchased and we will continue to replace old and obsolete equipment.

We can better meet the student needs by adding more workstations to eliminate students having to double/triple up on machines.

We are committed to build a relationship and work on articulation with Petaluma High and Santa Rosa High to attract those students.

Advanced Manufacturing Technology - FY 2021-22 (plus current FY Summer and Fall)

5.1 Student Headcounts The number of students enrolled in each Discipline at first census (duplicated headcount).

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0	42	24	0	0	0	0	0	4	0	0	
Machine Tool Technology	0	114	7	0	77	35	0	63	92	0	125	
ALL Disciplines	0	156	31	0	77	35	0	63	96	0	125	

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0	0	0	0	0	0	0	0	0	0	0	
Machine Tool Technology	0	0	0	0	0	0	0	0	0	0	0	
ALL Disciplines	0											

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0	0	0	0	0	0	0	0	0	0	0	
Machine Tool Technology	0	0	4	0	0	0	0	0	0	0	0	
ALL Disciplines	0	0	4	0								

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0	42	24	0	0	0	0	0	4	0	0	
Machine Tool Technology	0	114	11	0	77	35	0	63	92	0	125	
ALL Disciplines	0	156	35	0	77	35	0	63	96	0	125	

5.2a Enrollment Efficiency

Enrollment efficiency meets and exceeds college goals.

Enrollment in the advanced CNC class is lower due to attrition.

Santa Rosa Junior College - Program Unit Review

Advanced Manufacturing Technology

5.2a Enrollment Efficiency The percentage of seats filled in each Discipline at first census based on class limit (not room size).

Santa Rosa Campus

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	95.0%	115.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	95.0%	0.0%	0.0%	96.3%	87.5%	0.0%	126.0%	84.4%	0.0%	107.8%	
ALL Disciplines	0.0%	95.0%	115.0%	0.0%	96.3%	87.5%	0.0%	126.0%	84.4%	0.0%	107.8%	

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
ALL Disciplines	0.0%											

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
ALL Disciplines	0.0%											

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	95.0%	115.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	95.0%	0.0%	0.0%	96.3%	87.5%	0.0%	126.0%	84.4%	0.0%	107.8%	
ALL Disciplines	0.0%	95.0%	115.0%	0.0%	96.3%	87.5%	0.0%	126.0%	84.4%	0.0%	107.8%	

Machine Tool Technology	0.0	19.0	0.0	0.0	19.3	17.5	0.0	31.5	15.3	0.0	20.8	
ALL Disciplines	0.0	19.0	23.0	0.0	19.3	17.5	0.0	31.5	15.3	0.0	20.8	

5.3 Instructional Productivity

Advanced Manufacturing Technology

5.3 Instructional Productivity The ratio of Full-Time Equivalent Students (FTES) to Full-Time Equivalent Faculty (FTEF) in each Discipline at first census.

Santa Rosa Campus

Industrial Education		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTES	0.00	1.74	1.10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
	FTEF	0.00	0.18	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00	9.50	12.00	0.00								

Machine Tool Technology		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTES	0.00	18.00	0.93	0.00	7.70	4.70	0.00	8.37	15.77	0.00	19.51	
	FTEF	0.00	1.50	0.00	0.00	0.97	0.48	0.00	0.48	1.78	0.00	1.74	
	Ratio	0.00	12.01	0.00	0.00	7.97	9.72	0.00	17.31	8.84	0.00	11.23	

Petaluma Campus (Includes Rohnert Park and Sonoma)

Industrial Education		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00											

Machine Tool Technology		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00											

Industrial Education		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTES	0.00	1.74	1.10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	

Other Locations (Includes the PSTC, Windsor, and other locations)

Industrial Education		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00											

Machine Tool Technology		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00											

ALL Locations (Combined totals from ALL locations in the District)

	FTEF	0.00	0.18	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Ratio	0.00	9.50	12.00	0.00								

Machine Tool Technology		X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
	FTEF	0.00	18.00	0.93	0.00	7.70	4.70	0.00	8.37	15.77	0.00	19.51	
	FTEF	0.00	1.50	0.00	0.00	0.97	0.48	0.00	0.48	1.78	0.00	1.74	
	Ratio	0.00	12.01	0.00	0.00	7.97	9.72	0.00	17.31	8.84	0.00	11.23	

5.4 Curriculum Currency

Curriculum is current; we are currently working on adding SLOs. We will be working on updating courses that are coming up for full review in the fall.

DisciplineNbr	VersionNbr	TermCourseLastTaught	DateLastReview	CourseStatus	ApprovalStatus	CreditByExam
MACH 51A	5	Fall 2014	12/6/2010	Changed Course	Approved	yes
MACH 51B	5	Spring 2014	5/16/2011	Changed Course	Approved	no
MACH 61.1	5	Fall 2014	9/27/2010	Changed Course	Approved	no
MACH 61.2	5	Spring 2013	9/27/2010	Changed Course	Approved	no
MACH 770	4	Fall 2014	2/23/2015	Changed Course	Approved	no
MACH 80A	5	Fall 2014	2/1/2010	Changed Course	Approved	no
MACH 80B	5	Fall 2014	2/22/2010	Changed Course	Approved	no
MACH 98	4	Spring 2014	11/14/2011	Changed Course	Approved	no
MACH 99I	5		5/11/2009	Changed Course	Approved	no

5.5 Successful Program Completion

We are committed to rebuild our relationship with our industry partners to encourage students, even those students that become employed continue with our program(s) to obtain their certificate or AS degree. We have identified targeting groups for outreach. We have identified equipment to replace.

Enrollment and completers have fallen due to the current state of the program. Efforts have been made and implemented to increase the number of completers and to improve our program.

We have identified capstone courses for most of our certificates and are working with the district to get these implemented as automatic triggers for awarding of certificates.

Cert Code	TOP	Description	Prog Awrd	2002 2003	2003 2004	2004 2005	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014
2015	095630	Machine Tool Technology	S	0	0	0	0	5	2	5	1	2	2	3	0
3034	095630	Machine Tool Technology	L	0	0	0	0	0	0	0	0	0	0	0	0
			T	3	5	2	2	8	0	1	2	1	1	3	1
3293	095630	Machine Tool Technology: Basic CNC Lathe	E	0	0	0	2	3	3	1	4	7	12	3	4
3294	095630	Machine Tool Technology: Basic CNC Mill	E	0	0	0	1	4	2	2	4	6	8	7	0
5044	095630	Machine Tool Technology: Basic Manual Machin	O	0	0	0	20	20	13	3	6	4	10	9	3

5.6 Student Success

Machine Tool student retention is good, averaging in the mid 80's as compared to mid 70's for the district as a whole.

Our GPA is better then the district as a whole.

Advanced Manufacturing Technology

FY 2021-22 (plus current FY Summer and Fall)

5.6a Retention The percentage of students receiving a grade of A,B,C,D,CR, or I in each Discipline (duplicated headcount).

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
ALL Disciplines	0.0%	0.0%	100.0%	0.0%								

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.0%	78.6%	82.6%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	
Machine Tool Technology	0.0%	70.2%	100.0%	0.0%	80.0%	65.7%	0.0%	73.0%	86.7%	0.0%	79.0%	
ALL Disciplines	0.0%	72.4%	85.2%	0.0%	80.0%	65.7%	0.0%	73.0%	85.1%	0.0%	79.0%	

5.6c Grade Point Average The average GPA in each Discipline (UnitsTotal / GradePoints).**Santa Rosa Campus**

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.00	2.46	2.52	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	
Machine Tool Technology	0.00	2.79	0.00	0.00	3.11	3.39	0.00	3.12	3.41	0.00	3.18	
ALL Disciplines	0.00	2.73	2.52	0.00	3.11	3.39	0.00	3.12	3.37	0.00	3.18	

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Machine Tool Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ALL Disciplines	0.00											

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Machine Tool Technology	0.00	0.00	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ALL Disciplines	0.00	0.00	3.50	0.00								

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2019	F2019	S2020	X2020	F2020	S2021	X2021	F2021	S2022	X2022	F2022	S2023
Industrial Education	0.00	2.46	2.52	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	
Machine Tool Technology	0.00	2.79	3.50	0.00	3.11	3.39	0.00	3.12	3.41	0.00	3.18	

ALL Disciplines	0.00	2.73	2.72	0.00	3.11	3.39	0.00	3.12	3.37	0.00	3.18
-----------------	------	------	------	------	------	------	------	------	------	------	------

5.7 Student Access

Our program is predominately white, male. However our hispanic population is on the rise.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2021-22 (plus current FY Summer and Fall)

5.7a Students Served - by Ethnicity

The number of students in each Discipline at first census broken down by ethnicity (duplicated headcount).

ALL Locations

(Combined totals from ALL locations in the District)

Industrial Education	Ethnicity	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	White	22	35.5%	0	0.0%	1	25.0%	0	0.0%
	Asian	1	1.6%	0	0.0%	0	0.0%	0	0.0%
	Black	2	3.2%	0	0.0%	0	0.0%	0	0.0%
	Hispanic	31	50.0%	0	0.0%	2	50.0%	0	0.0%
	Native American	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Pacific Islander	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Filipino	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other Non-White	3	4.8%	0	0.0%	0	0.0%	0	0.0%
	Decline to state	3	4.8%	0	0.0%	1	25.0%	0	0.0%
	ALL Ethnicities	62	100.0%	0	100.0%	4	100.0%	0	100.0%

Machine Tool Technology	Ethnicity	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	White	44	44.0%	56	63.6%	58	43.0%	117	51.8%
	Asian	1	1.0%	1	1.1%	0	0.0%	2	0.9%
	Black	1	1.0%	0	0.0%	0	0.0%	0	0.0%
	Hispanic	35	35.0%	21	23.9%	43	31.9%	81	35.8%
	Native American	0	0.0%	0	0.0%	3	2.2%	0	0.0%
	Pacific Islander	0	0.0%	0	0.0%	1	0.7%	1	0.4%

	Filipino	0	0.0%	1	1.1%	0	0.0%	0	0.0%
	Other Non-White	7	7.0%	4	4.5%	13	9.6%	8	3.5%
	Decline to state	12	12.0%	5	5.7%	17	12.6%	17	7.5%
	ALL Ethnicities	100	100.0%	88	100.0%	135	100.0%	226	100.0%

5.7b Students Served - by Gender The number of students in each Discipline at first census broken down by gender (duplicated headcount).

ALL Locations (Combined totals from ALL locations in the District)

Industrial Education	Gender	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	Male	60	96.8%	0	0.0%	4	100.0%	0	0.0%
	Female	2	3.2%	0	0.0%	0	0.0%	0	0.0%
	Unknown	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	ALL Genders	62	100.0%	0	100.0%	4	100.0%	0	100.0%

Machine Tool Technology	Gender	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	Male	90	90.0%	81	92.0%	117	86.7%	196	86.7%
	Female	8	8.0%	7	8.0%	16	11.9%	18	8.0%
	Unknown	2	2.0%	0	0.0%	2	1.5%	12	5.3%
	ALL Genders	100	100.0%	88	100.0%	135	100.0%	226	100.0%

5.7c Students Served - by Age The number of students in each Discipline at first census broken down by age (duplicated headcount).

ALL Locations (Combined totals from ALL locations in the District)

Industrial Education	Age Range	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	0 thru 18	22	35.5%	0	0.0%	0	0.0%	0	0.0%
	19 and 20	20	32.3%	0	0.0%	2	50.0%	0	0.0%
	21 thru 25	9	14.5%	0	0.0%	0	0.0%	0	0.0%
	26 thru 30	4	6.5%	0	0.0%	0	0.0%	0	0.0%
	31 thru 35	3	4.8%	0	0.0%	0	0.0%	0	0.0%
	36 thru 40	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	41 thru 45	0	0.0%	0	0.0%	1	25.0%	0	0.0%
	46 thru 50	1	1.6%	0	0.0%	1	25.0%	0	0.0%
	51 thru 60	2	3.2%	0	0.0%	0	0.0%	0	0.0%
	61 plus	1	1.6%	0	0.0%	0	0.0%	0	0.0%
	ALL Ages	62	100.0%	0	100.0%	4	100.0%	0	100.0%

Machine Tool Technology	Age Range	2019-20	Percent	2020-21	Percent	2021-22	Percent	2022-23	Percent
	0 thru 18	19	19.0%	10	11.4%	4	3.0%	26	11.5%
	19 and 20	24	24.0%	15	17.0%	25	18.5%	30	13.3%
	21 thru 25	17	17.0%	28	31.8%	43	31.9%	73	32.3%
	26 thru 30	15	15.0%	14	15.9%	19	14.1%	25	11.1%
	31 thru 35	10	10.0%	4	4.5%	11	8.1%	7	3.1%

	36 thru 40	9	9.0%	5	5.7%	12	8.9%	18	8.0%
	41 thru 45	2	2.0%	4	4.5%	9	6.7%	20	8.8%
	46 thru 50	1	1.0%	5	5.7%	9	6.7%	9	4.0%
	51 thru 60	2	2.0%	3	3.4%	2	1.5%	16	7.1%
	61 plus	1	1.0%	0	0.0%	1	0.7%	2	0.9%
	ALL Ages	100	100.0%	88	100.0%	135	100.0%	226	100.0%

5.8 Curriculum Offered Within Reasonable Time Frame

You can get a certificate within 2 years if a full time student.

Mach51a- every semester

Mach51b - every other semester (spring only)

Mach53 - every other semester (spring only)

Mach161 - every other semester (spring only)

Mach80a - every other semester (fall only)

Mach80b - every other semester (spring only)

5.9a Curriculum Responsiveness

Our advisory committee participation has fallen off in recent years. We are committed to rebuild and reach out to the industry and education partners to work with them to build up the program, equipment and instruction.

The advisory meetings are held once a semester, and at these meetings we provide the industry members with curriculum and ask for feed back. We revise curriculum as suggested by this feedback. We will be working more closely with these new members this next year to improve our program and move toward a manufacturing center.

5.9b Alignment with High Schools (Tech-Prep ONLY)

We are working with the Manager of School Initiatives and Career Pathway Development to articulate with one or two schools in the county. Machine 51A has been articulated with Petaluma High School.

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

N/A

5.11a Labor Market Demand (Occupational Programs ONLY)

SOC Code	Occupational Title	Annual Average Employment		Employment Change		Average Annual Job Openings			Wages and Training		
		2006	2016	Numerical	Percent	New Jobs	Net Replacements [1]	Total [2]	Median Hourly [3]	Median Annual [3]	Education and Training Levels [6]
00-0000	Total, All Occupations	1,086,800	1,169,700	82,900	7.6	8,290	24,273	32,563	\$22.20	\$46,173	
00-0000	Total, All Occupations	1,153,700	1,238,000	84,300	7.3	8,430	25,250	33,680	\$20.47	\$42,559	

00-0000	Total, All Occupations	75,200	85,600	10,400	13.8	1,040	1,687	2,727	\$17.45	\$36,283
00-0000	Total, All Occupations	219,300	248,200	28,900	13.2	2,890	4,850	7,740	\$17.78	\$36,979
00-0000	Total, All Occupations	144,300	148,900	4,600	3.2	460	3,245	3,705	\$17.31	\$35,996
00-0000	Total, All Occupations	981,700	1,075,600	93,900	9.6	9,390	21,398	30,788	\$23.45	\$48,794
00-0000	Total, All Occupations	185,200	196,600	11,400	6.2	1,140	4,171	5,311	\$14.70	\$30,581
Total		3,846,200	4,162,600	316,400	8.23%	31,640	84,874	116,514		

17-2112	Industrial Engineers		200	240	40	20.0	4	5	9	\$40.45	\$84,140	5
17-2141	Mechanical Engineers		230	220	-10	-4.3	0	5	5	\$41.98	\$87,329	5
49-9041	Industrial Machinery Mechanics		120	150	30	25.0	3	2	5	\$24.26	\$50,448	9
49-9042	Maintenance and Repair Workers, General		1,540	1,730	190	12.3	19	4	23	\$19.95	\$41,500	9
49-9043	Maintenance Workers, Machinery		60	60	0	0.0	0	1	1	\$15.14	\$31,476	9
51-2041	Structural Metal Fabricators and Fitters		90	100	10	11.1	1	2	3	\$17.28	\$35,941	10
51-4000	Metal Workers and Plastic Workers		1,110	1,130	20	1.8	2	21	23	N/A	N/A	
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic		110	110	0	0.0	0	1	1	\$12.73	\$26,471	10
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic		90	100	10	11.1	1	3	4	N/A	N/A	10
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic		120	110	-10	-8.3	0	3	3	\$12.92	\$26,889	10
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic		60	50	-10	-16.7	0	1	1	\$13.12	\$27,277	10

51-4041	Machinists	220	220	0	0.0	0	3	3	\$22.15	\$46,062	9
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	50	50	0	0.0	0	1	1	\$12.59	\$26,196	10
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	780	950	170	21.8	17	18	35	\$22.36	\$46,521	10
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	70	60	-10	-14.3	0	1	1	\$17.31	\$35,992	10
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	140	160	20	14.3	2	2	4	\$13.88	\$28,867	10
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders	60	60	0	0.0	0	1	1	\$11.36	\$23,627	10
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	60	50	-10	-16.7	0	1	1	\$18.81	\$39,111	10
51-9071	Jewelers and Precious Stone and Metal Workers	130	130	0	0.0	0	2	2	\$16.47	\$34,259	7

5.11b Academic Standards

The Machine Tool program discusses academic standards at our department meetings. We have recently been dealing with content standards while reviewing course outlines to establish SLOs. Employers expect that our students meet some type of industry performance standard, and we discuss these standards with our advisory committee. Often we use the ability to pass national, independent, industry accepted skill level tests as a standard. We also use acceptable work skill demonstrations as a standards.

6.1 Progress and Accomplishments Since Last Program/Unit Review

Rank	Location	SP	M	Goal	Objective	Time Frame	Progress to Date
------	----------	----	---	------	-----------	------------	------------------

6.2b PRPP Editor Feedback - Optional

—

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
------	----------	----	---	------	-----------	------------	--------------------