

Santa Rosa Junior College

Program Resource Planning Process

Machine Tool Technology 2019

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 progrma 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

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%

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 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

We need increased repair and maintenance funding. Our machines are old (many 40 to 70 years) and in constant need of servicing. We do most of the labor ourselves, but there is little or no funding to pay staff to do the 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 water treatment system, forklift, and other 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 Machine Tool Technology - FY 2017-18

2.1 Fiscal Year Expenditures

Santa Rosa Campus

Expenditure Category	Unrestricted Funds	Change from 2016-17	Restricted Funds	Change from 2016-17	Total	Change from 2016-17
Faculty payroll	\$137,716.18	0.00%	\$18,964.62	0.00%	\$156,680.80	0.00%
Adjunct payroll	\$70,065.13	-22.89%	\$5,395.88	>1000%	\$75,461.01	-17.30%
Classified payroll	\$0.00	0.00%	\$50,691.20	0.00%	\$50,691.20	0.00%
STNC payroll	\$0.00	-100.00%	\$0.00	-100.00%	\$0.00	-100.00%
Student payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
Management payroll (and Dept Chairs)	\$3,919.20	0.00%	\$0.00	0.00%	\$3,919.20	0.00%
Benefits (3000's)	\$65,241.65	968.75%	\$28,930.47	>1000%	\$94,172.12	>1000%
Supplies (4000's)	\$21,558.66	17.16%	\$0.00	0.00%	\$21,558.66	17.16%
Services (5000's)	\$358.80	-57.57%	\$0.00	0.00%	\$358.80	-57.57%
Equipment (6000's)	\$0.00	0.00%	\$85,589.22	47.87%	\$85,589.22	47.87%
Total Expenditures	\$298,859.62	156.72%	\$189,571.39	203.40%	\$488,431.01	173.03%

Expenditure Totals

Expenditure Category	Amount	Change from 2016-17	District Total	% of District Total
Total Expenditures	\$488,431.01	173.03%	\$154,788,480.66	0.32%
Total Faculty Payroll	\$232,141.81	154.42%	\$50,884,933.44	0.46%
Total Classified Payroll	\$50,691.20	0.00%	\$22,270,301.15	0.23%
Total Management Payroll	\$3,919.20	0.00%	\$10,134,908.88	0.04%
Total Salary/Benefits Costs	\$380,924.33	274.32%	\$111,941,187.45	0.34%
Total Non-Personnel Costs	\$107,506.68	39.38%	\$16,406,746.64	0.66%

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Santa Rosa	01	01	\$5,000.00	Having faculty do maintenance and repairs on machines saves the district money, HAVING AN OUTSIDE REPAIR PERSON COME IN IS VERY EXPENSIVE. We have been doing maintenance for years and saving the district a lot of money.
0002	Santa Rosa	01	01	\$2,000.00	to cover increased cost of metal, tool bits, and other materials

2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
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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
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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

Machine Tool Technology - FY 2017-18

2.2 Fiscal Year Employee Data and Calculations

Employee Head Counts

Employee Category	Count	Change from 2016-17	District Total	% of District Total
Contract Faculty	2	0.00%	317	0.63%
Adjunct Faculty	8	14.29%	1352	0.59%
Classified Staff	1	0.00%	525	0.19%
STNC Workers	0	-100.00%	427	0.00%
Student Workers	0	0.00%	506	0.00%
Mgmt/Admin/Dept Chair	2	0.00%	170	1.18%

Employee FTE Totals

FTE Category	FTE	Change from 2016-17	District Total	% of District Total
FTE-F - Faculty	2.8498	60.49%	726.9903	0.39%
FTE-CF - Contract Faculty	2.0000	0.00%	314.0788	0.64%
FTE-AF - Adjunct Faculty	0.8498	-52.14%	412.9115	0.21%
FTE-C - Classified	1.0000	0.00%	446.6005	0.22%
FTE-ST - STNC	0.0000	-100.00%	41.0691	0.00%
FTE-SS - Support Staff	1.0000	915.87%	648.5309	0.15%
FTE-SW - Student Workers	0.0000	0.00%	160.8613	0.00%
FTE-M - Management	0.1000	0.00%	119.8350	0.08%
FTE-DC - Department Chairs	0.0000	0.00%	0.0000	0.00%

Student Data

Data Element	Value	Change from 2016-17	District Total	% of District Total
FTES-CR - Credit	15.5010	-63.87%	14738.9657	0.11%
FTES-NC - Non-Credit	1.4400	37.45%	2075.9009	0.07%
FTES - combined	16.9410	-61.45%	16814.8666	0.10%
Students Enrolled/Served	234	-4.10%	30000	0.78%

Calculations

Data Element	Value	Change from 2016-17	District Total	% of District Total
FTE-S : FTE-F	5.9447	-75.98%	23.1294	25.70%
FTE-AF : FTE-CF	0.4249	0.00%	1.3147	32.32%
FTE-F : FTE-SS	2.8498	-84.20%	1.1210	254.22%
FTE-F : FTE-M	28.4975	0.00%	6.0666	469.75%
FTE-SS : FTE-M	10.0000	0.00%	5.4119	184.78%
FTE-ST : FTE-C	0.0000	0.00%	0.0920	0.00%
Average Faculty Salary per FTE-F	\$81,460.30	58.53%	\$69,993.96	116.38%
Average Classified Salary per FTE-C	\$50,691.20	0.00%	\$49,866.27	101.65%
Average Management Salary per FTE-M	\$39,192.00	0.00%	\$84,573.86	46.34%
Salary/Benefit costs as a % of total budget	77.99%	37.10%	72.32%	107.84%
Non-Personnel \$ as a % of total budget	22.01%	-48.95%	10.60%	207.66%
Restricted Funds as a % of total budget	38.81%	11.12%	17.08%	227.22%
Total Unit Cost per FTE-F	\$171,394.10	70.12%	\$212,916.84	80.50%
Total Unit Cost per FTE-C	\$488,431.01	0.00%	\$346,592.72	140.92%
Total Unit Cost per FTE-M	\$4,884,310.10	0.00%	\$1,291,680.07	378.14%
Total Unit Cost per FTE-S	\$28,831.38	608.26%	\$9,205.45	313.20%
Total Unit Cost per student served/enrolled	\$2,087.31	184.69%	\$5,159.62	40.45%

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18

2.2a Classified Positions Employees paid from a Classified OBJECT code

Name Last	First	Position	Hours	FTE
Davis	Frederick	Science Laboratory Instructional Assistant	0.00	1.0000
Totals			0.00	1.0000

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18

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

Name Last	First	Position	Hours	FTE
Lemmer	David	Faculty	0.00	0.0500
McCracken	William	Faculty	0.00	0.0500
Totals			0.00	0.1000

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18

2.2c STNC Workers Employees paid from an STNC OBJECT code

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

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18

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	ALL	01	01	None	Lab/Tool Room Assistant- 100% or (2) @ 50%	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
machine tool	1.0000	0.9900	1.3400	73.0000	

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 adjunct pool in the next year.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2016-17

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

Name Last	First	Position	Hours	HR FTE	DM FTE
McCracken	William	Program Coordinator/Instructor		1.00	

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

Name Last	First	Position	Hours	FTE
Nelson	Richard			
Parker	Jimmy		350.00	0.5201
Riley	Eileen		101.00	0.1095

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
0001	ALL	02	01	Machine Tool Technology	

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

1 each- CNC Lathe and CNC Milling Machine to accommodate 20 students per class, presently students are waiting on machines for hours while CNC machines are being used by classmates.

2 each- surface grinders to incorporate surface finishing and surface grinding skills in the MACH 51B course. Machines can also be used in the MAC 161 Metallurgy course.

Tensile testing machine for MACH 161 Metallurgy.

3D Printer for students to operate in a new Machine Tool Technology Capstone course. Additive Manufacturing is essential for students to learn 21st century manufacturing skill sets.

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	CNC Vertical Machining Center, 5-axis ready	1	\$80,000.00	\$80,000.00	William McCracken	2330	William McCracken
0002	Santa Rosa	01	01	CNC Lathe	1	\$60,000.00	\$60,000.00	William McCracken	2330	William McCracken
0003	Santa Rosa	01	01	Surface grinders	2	\$20,000.00	\$40,000.00	William McCracken	2330	William McCracken
0004	Santa Rosa	01	01	Tensile Testing Machine	1	\$20,000.00	\$20,000.00	William McCracken	2330	William McCracken
0005	Santa Rosa	01	01	3D Printer	1	\$55,000.00	\$55,000.00	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
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2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0001	ALL	04	01	Urgent	Lounibos	2330	\$100,000.00	HVAC system. The Machine Shop gets extremely hot, particularly during the summer months due to the heat generated by the equipment and the bodies in the small rooms. Temperatures in the room reach levels that cause concern for student safety.
0002	ALL	04	06	Urgent	Lounibos	2330	\$100,000.00	Add a new smart classroom. Move the machining computer classroom north into the current break room. The break room is rarely used. This would free up much needed space in the machining lab. Measure H bond money can be used for this project.

2.5b Analysis of Existing Facilities

The machine shop runs hot with sun always on one wall or the other, machinery constantly running, lighting and other various heat sources. We need air conditioning in this area to make for a safer and more productive learning environment. This is a top priority. As the machining lab is utilized more in the summer months with the addition of summer classes and summer camps, air conditioning is critical. Through the months of April - October, recorded temperatures have reach 95 degrees in the machining lab.

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 Develop Financial Resources

3.2 Serve our Diverse Communities

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 Machine Tool program is currently mentoring students in conjunction with CTE, including non-traditional students/instructors for the program.

3.3 Cultivate a Healthy Organization

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.

3.4 Safety and Emergency Preparedness

Cliff Norton and Dave Yoast are the current emergency preparedness personel.

3.5 Establish a Culture of Sustainability

We recycle all our scrap metals, oils, shavings and parts.

4.1a Course Student Learning Outcomes Assessment

Machine Tool Technology has a SLO assessment schedule that sets at least one SLO in every course to be assessed every six years.

Please refer to the table below for our schedule and completions:

Machine Tool Technology; Course SLO Assessment Six Year Cycle

Course	S2011	F2011	S2012	F2012
Mach 51A - Beg. Machine Tool Technology	X (SLO 1)			
Mach 51B - Adv. Machine Tool Technology			X (SLO 1)	
Mach 80A - Intro. To Computer Numeric Control Lathe			X (SLO 2)	
Mach 80B - Intro. To Computer Numeric Control Mill		X (SLO 1)		
Machine 61.1 Ferrous Metallurgy				
Machine 61.2 Non-Ferrous Metallurgy				
Required Courses				
*Not Currently Offered				

X=SCHEDULED
X=COMPLETED

4.1b Program Student Learning Outcomes Assessment

We have completed program level course SLO assessments (with the exception of Metallurgy, which hasn't run until the Fall 2014 semester).

All faculty will be assessing the SLOs of one course of the certificate a semester. We teach 10 courses and have 4 certificates and 1 major, so we can do the rotation within 6 years starting Spring of 2012.

As the department assesses the courses in the certificate, the certificate itself is also being assessed. Once all **required** courses have been assessed, the Machine Tool program will have a dialogue about how well the students are learning and achieving the certificate and major outcomes. Faculty will identify areas for improvement, if any, and form a plan for addressing those.

As of September, 2014, the following certificates have been assessed:

1. Basic CNC Lathe

2. Basic Manual Machine Tool Technology

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	Mach61.12 NonFerrous 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 51a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 51b	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 61.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mach 61.2	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 machine tool 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, with the NIMS certification this should help with updating our instruction. 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 Sonoma High to attract those students.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (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	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0	38	42	0	43	38	0	37	
Machine Tool Technology	0	152	159	0	175	151	12	83	
ALL Disciplines	0	190	201	0	218	189	12	120	1

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0	0	0	0	0	0	0	0	
Machine Tool Technology	0	0	0	0	0	0	0	0	
ALL Disciplines	0	0	0	0	0	0	0	0	

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0	0	0	0	0	0	0	0	
Machine Tool Technology	0	0	0	0	0	0	0	0	
ALL Disciplines	0	0	0	0	0	0	0	0	

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0	38	42	0	43	38	0	37	
Machine Tool Technology	0	152	159	0	175	151	12	83	
ALL Disciplines	0	190	201	0	218	189	12	120	1

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

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

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	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	63.3%	70.0%	0.0%	71.7%	84.4%	0.0%	61.7%	77.3%
Machine Tool Technology	0.0%	115.0%	113.0%	0.0%	117.9%	98.3%	60.0%	80.0%	87.3%
ALL Disciplines	0.0%	95.6%	96.9%	0.0%	101.2%	94.5%	60.0%	70.8%	82.4%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	63.3%	70.0%	0.0%	71.7%	84.4%	0.0%	61.7%	77.3%
Machine Tool Technology	0.0%	115.0%	113.0%	0.0%	117.9%	98.3%	60.0%	80.0%	87.3%
ALL Disciplines	0.0%	95.6%	96.9%	0.0%	101.2%	94.5%	60.0%	70.8%	82.4%

5.2b Average Class Size

The advanced classes are losing enrollment as students become dissatisfied with the lack of up to date equipment and current industry instruction.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

5.2b Average Class Size The average class size in each Discipline at first census (excludes cancelled classes).

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0	12.7	14.0	0.0	14.3	12.7	0.0	12.3	1
Machine Tool Technology	0.0	23.0	22.6	0.0	20.8	19.7	12.0	16.0	1
ALL Disciplines	0.0	19.1	19.4	0.0	18.7	17.3	12.0	14.2	1

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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
ALL Disciplines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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
ALL Disciplines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0	12.7	14.0	0.0	14.3	12.7	0.0	12.3	1
Machine Tool Technology	0.0	23.0	22.6	0.0	20.8	19.7	12.0	16.0	1
ALL Disciplines	0.0	19.1	19.4	0.0	18.7	17.3	12.0	14.2	1

5.3 Instructional Productivity

Our productivity is extremely limited because our class size is reduced to a maximum of 7 work stations for lab classes. Increasing the number of work stations and updating instructional skills will improve retention in the program and classes.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

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		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	1.69	1.87	0.00	1.83	1.74	0.00	1.46	1.5
	FTEF	0.00	0.18	0.18	0.00	0.18	0.18	0.00	0.18	0.1
	Ratio	0.00	9.25	10.25	0.00	10.00	9.50	0.00	8.00	8.2

Machine Tool Technology		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	16.10	18.27	0.00	20.03	19.30	1.46	6.40	4.6
	FTEF	0.00	1.07	1.24	0.00	1.58	1.57	0.21	0.63	0.4
	Ratio	0.00	15.09	14.68	0.00	12.65	12.33	7.08	10.22	11.1

Petaluma Campus (Includes Rohnert Park and Sonoma)

Industrial Education		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Machine Tool Technology		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

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

Industrial Education		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Machine Tool Technology		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	FTEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

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

Industrial Education		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	1.69	1.87	0.00	1.83	1.74	0.00	1.46	1.5
	FTEF	0.00	0.18	0.18	0.00	0.18	0.18	0.00	0.18	0.1
	Ratio	0.00	9.25	10.25	0.00	10.00	9.50	0.00	8.00	8.2

Machine Tool Technology		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
	FTES	0.00	16.10	18.27	0.00	20.03	19.30	1.46	6.40	4.6
	FTEF	0.00	1.07	1.24	0.00	1.58	1.57	0.21	0.63	0.4
	Ratio	0.00	15.09	14.68	0.00	12.65	12.33	7.08	10.22	11.1

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	Cred
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
2015	095630	Machine Tool Technology	S	0	0	0	0	5	2
3034	095630	Machine Tool Technology	L	0	0	0	0	0	0
			T	3	5	2	2	8	0
3293	095630	Machine Tool Technology: Basic CNC Lathe	E	0	0	0	2	3	3
3294	095630	Machine Tool Technology: Basic CNC Mill	E	0	0	0	1	4	2
5044	095630	Machine Tool Technology: Basic Manual Machin	O	0	0	0	20	20	13

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 than the district as a whole.

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (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).

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	94.7%	88.1%	0.0%	74.4%	91.9%	0.0%	81.1%	88.1%
Machine Tool Technology	0.0%	72.6%	70.8%	0.0%	72.8%	80.5%	83.3%	68.1%	77.1%
ALL Disciplines	0.0%	78.1%	75.5%	0.0%	73.2%	83.2%	83.3%	73.8%	82.6%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	94.7%	88.1%	0.0%	74.4%	91.9%	0.0%	81.1%	88.1%
Machine Tool Technology	0.0%	72.6%	70.8%	0.0%	72.8%	80.5%	83.3%	68.1%	77.1%
ALL Disciplines	0.0%	78.1%	75.5%	0.0%	73.2%	83.2%	83.3%	73.8%	82.6%

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

5.6b Successful Course Completion The percentage of students receiving a grade of A,B,C, or CR in each Discipline (duplicated headcount).

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	84.2%	83.3%	0.0%	65.1%	83.8%	0.0%	78.4%	85.3%
Machine Tool Technology	0.0%	67.5%	63.7%	0.0%	68.8%	75.4%	83.3%	68.1%	74.3%
ALL Disciplines	0.0%	71.6%	69.0%	0.0%	67.9%	77.4%	83.3%	72.6%	79.7%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	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%
ALL Disciplines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.0%	84.2%	83.3%	0.0%	65.1%	83.8%	0.0%	78.4%	85.3%
Machine Tool Technology	0.0%	67.5%	63.7%	0.0%	68.8%	75.4%	83.3%	68.1%	74.3%
ALL Disciplines	0.0%	71.6%	69.0%	0.0%	67.9%	77.4%	83.3%	72.6%	79.7%

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

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

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.00	2.69	2.63	0.00	1.95	2.66	0.00	2.59	3
Machine Tool Technology	0.00	2.68	2.72	0.00	2.72	3.09	3.60	3.21	3
ALL Disciplines	0.00	2.68	2.70	0.00	2.57	3.02	3.60	2.95	3

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Machine Tool Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
ALL Disciplines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Machine Tool Technology	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
ALL Disciplines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

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

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018
Industrial Education	0.00	2.69	2.63	0.00	1.95	2.66	0.00	2.59	3
Machine Tool Technology	0.00	2.68	2.72	0.00	2.72	3.09	3.60	3.21	3
ALL Disciplines	0.00	2.68	2.70	0.00	2.57	3.02	3.60	2.95	3

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 2017-18 (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	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	White	35	46.1%	36	46.2%	32	50.8%	28	48.0%
	Asian	1	1.3%	1	1.3%	3	4.8%	1	1.6%
	Black	1	1.3%	0	0.0%	0	0.0%	0	0.0%
	Hispanic	32	42.1%	32	41.0%	20	31.7%	18	28.8%
	Native American	1	1.3%	2	2.6%	1	1.6%	1	1.6%
	Pacific Islander	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Filipino	1	1.3%	0	0.0%	0	0.0%	0	0.0%
	Other Non-White	4	5.3%	3	3.8%	4	6.3%	3	4.8%
	Decline to state	1	1.3%	4	5.1%	3	4.8%	2	3.2%
	ALL Ethnicities	76	100.0%	78	100.0%	63	100.0%	53	100.0%

Machine Tool Technology	Ethnicity	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	White	167	62.5%	165	57.9%	78	52.7%	68	52.7%
	Asian	7	2.6%	5	1.8%	5	3.4%	3	2.3%
	Black	7	2.6%	6	2.1%	0	0.0%	0	0.0%
	Hispanic	63	23.6%	63	22.1%	41	27.7%	38	29.2%
	Native American	2	0.7%	4	1.4%	2	1.4%	1	0.8%
	Pacific Islander	1	0.4%	0	0.0%	0	0.0%	0	0.0%
	Filipino	4	1.5%	2	0.7%	5	3.4%	3	2.3%
	Other Non-White	12	4.5%	26	9.1%	9	6.1%	8	6.1%
	Decline to state	4	1.5%	14	4.9%	8	5.4%	5	3.8%
	ALL Ethnicities	267	100.0%	285	100.0%	148	100.0%	129	100.0%

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

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	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	Male	69	90.8%	70	89.7%	60	95.2%	2	100.0%
	Female	5	6.6%	6	7.7%	3	4.8%		
	Unknown	2	2.6%	2	2.6%	0	0.0%		
	ALL Genders	76	100.0%	78	100.0%	63	100.0%		

Machine Tool Technology	Gender	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	Male	235	88.0%	255	89.5%	137	92.6%		
	Female	27	10.1%	18	6.3%	7	4.7%		
	Unknown	5	1.9%	12	4.2%	4	2.7%		
	ALL Genders	267	100.0%	285	100.0%	148	100.0%		

Santa Rosa Junior College - Program Unit Review

Machine Tool Technology - FY 2017-18 (plus current FY Summer and Fall)

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	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	0 thru 18	11	14.5%	18	23.1%	11	17.5%	2	3.2%
	19 and 20	23	30.3%	16	20.5%	23	36.5%	1	1.6%
	21 thru 25	23	30.3%	20	25.6%	17	27.0%	1	1.6%
	26 thru 30	8	10.5%	9	11.5%	6	9.5%	1	1.6%
	31 thru 35	6	7.9%	6	7.7%	2	3.2%	1	1.6%
	36 thru 40	1	1.3%	2	2.6%	4	6.3%	1	1.6%
	41 thru 45	0	0.0%	0	0.0%	0	0.0%	1	1.6%
	46 thru 50	2	2.6%	3	3.8%	0	0.0%	1	1.6%
	51 thru 60	1	1.3%	3	3.8%	0	0.0%	1	1.6%
	61 plus	1	1.3%	1	1.3%	0	0.0%	1	1.6%
	ALL Ages	76	100.0%	78	100.0%	63	100.0%	20	31.7%

Machine Tool Technology	Age Range	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	0 thru 18	34	12.7%	29	10.2%	25	16.9%	1	0.6%
	19 and 20	57	21.3%	46	16.1%	22	14.9%	1	0.6%
	21 thru 25	52	19.5%	59	20.7%	39	26.4%	1	0.6%
	26 thru 30	43	16.1%	56	19.6%	16	10.8%	1	0.6%
	31 thru 35	37	13.9%	47	16.5%	19	12.8%	1	0.6%
	36 thru 40	6	2.2%	14	4.9%	11	7.4%	1	0.6%
	41 thru 45	5	1.9%	7	2.5%	7	4.7%	1	0.6%
	46 thru 50	15	5.6%	13	4.6%	3	2.0%	1	0.6%
	51 thru 60	9	3.4%	10	3.5%	6	4.1%	1	0.6%
	61 plus	9	3.4%	4	1.4%	0	0.0%	1	0.6%
	ALL Ages	267	100.0%	285	100.0%	148	100.0%	10	6.8%

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)
- Mach61a -every other semester (fall only)
- Mach61b - 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 two Sonoma County High Schools.

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
00-0000	Total, All Occupations	1,086,800	1,169,700	82,900	7.6	8,290	24,273	32,563	\$22.20	\$46,17

00-0000	Total, All Occupations	1,153,700	1,238,000	84,300	7.3	8,430	25,250	33,680	\$20.47	\$42,5
00-0000	Total, All Occupations	75,200	85,600	10,400	13.8	1,040	1,687	2,727	\$17.45	\$36,2
00-0000	Total, All Occupations	219,300	248,200	28,900	13.2	2,890	4,850	7,740	\$17.78	\$36,9
00-0000	Total, All Occupations	144,300	148,900	4,600	3.2	460	3,245	3,705	\$17.31	\$35,9
00-0000	Total, All Occupations	981,700	1,075,600	93,900	9.6	9,390	21,398	30,788	\$23.45	\$48,7
00-0000	Total, All Occupations	185,200	196,600	11,400	6.2	1,140	4,171	5,311	\$14.70	\$30,5

Total		3,846,200	4,162,600	316,400	8.23%	31,640	84,874	116,514		
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17-2112	Industrial Engineers					200	240	40	20.0	4
17-2141	Mechanical Engineers					230	220	-10	-4.3	0
49-9041	Industrial Machinery Mechanics					120	150	30	25.0	3
49-9042	Maintenance and Repair Workers, General					1,540	1,730	190	12.3	19
49-9043	Maintenance Workers, Machinery					60	60	0	0.0	0
51-2041	Structural Metal Fabricators and Fitters					90	100	10	11.1	1
51-4000	Metal Workers and Plastic Workers					1,110	1,130	20	1.8	2
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic					110	110	0	0.0	0
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic					90	100	10	11.1	1
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic					120	110	-10	-8.3	0
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic					60	50	-10	-16.7	0
51-4041	Machinists					220	220	0	0.0	0
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic					50	50	0	0.0	0
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders					780	950	170	21.8	17
51-9021	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders					70	60	-10	-14.3	0
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders					140	160	20	14.3	2
51-9032	Cutting and Slicing Machine Setters, Operators, and Tenders					60	60	0	0.0	0
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders					60	50	-10	-16.7	0
51-9071	Jewelers and Precious Stone and Metal Workers					130	130	0	0.0	0

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
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6.2b PRPP Editor Feedback - Optional

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
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