

Santa Rosa Junior College

Program Resource Planning Process

Machine Tool Technology 2014

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.

Our department is working towards the incorporation, testing, and instructor applications of NIMS (National Institute for Metalworking Skills) certification and a full upgrade to the facilities.

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 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

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%

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
- Need tool room sized CNC Lathe and Mill (In Progress)
- 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 west 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.

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2.1 Fiscal Year Expenditures

Santa Rosa Campus

Expenditure Category	Unrestricted Funds	Change from 2011-12	Restricted Funds	Change from 2011-12	Total	Change from 2011-12
Faculty payroll	\$57,460.20	6.06%	\$0.00	0.00%	\$57,460.20	6.06%
Adjunct payroll	\$46,970.15	1.04%	\$0.00	0.00%	\$46,970.15	1.04%
Classified payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%
STNC payroll	\$5,767.25	7.48%	\$0.00	0.00%	\$5,767.25	7.48%
Student payroll	\$0.00	0.00%	\$0.00	0.00%	\$0.00	0.00%

Management payroll (and Dept Chairs)	\$24,625.80	-11.76%	\$0.00	0.00%	\$24,625.80	-11.76%
Benefits (3000's)	\$32,403.33	1.05%	\$0.00	0.00%	\$32,403.33	1.05%
Supplies (4000's)	\$11,300.06	10.44%	\$0.00	0.00%	\$11,300.06	10.44%
Services (5000's)	\$1,308.73	-23.69%	\$3,130.00	0.00%	\$4,438.73	158.82%
Equipment (6000's)	\$0.00	0.00%	\$35,829.48	229.72%	\$35,829.48	229.72%
Total Expenditures	\$179,835.52	1.06%	\$38,959.48	258.52%	\$218,795.00	15.88%

Expenditure Totals

Expenditure Category	Amount	Change from 2011-12	District Total	% of District Total
Total Expenditures	\$218,795.00	15.88%	\$109,755,801.72	0.20%
Total Faculty Payroll	\$104,430.35	3.74%	\$37,642,229.36	0.28%
Total Classified Payroll	\$0.00	0.00%	\$17,914,387.66	0.00%
Total Management Payroll	\$24,625.80	-11.76%	\$9,033,594.60	0.27%
Total Salary/Benefits Costs	\$167,226.73	0.74%	\$83,300,149.56	0.20%
Total Non-Personnel Costs	\$51,568.27	126.04%	\$13,951,537.78	0.37%

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	ALL	01	01	\$10,000.00	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	ALL	01	01	\$10,000.00	to cover increased cost of metal, tool bits, and other materials

2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Administrative Assistant II	20.00	12.00	Provides administrative and program support to Department Chair, faculty, staff and students. Monitors budgets and prepares all Schedule Change Forms, Personnel Action Forms, etc. Helps with scheduling, and coordinates four advisory committees and the certificate ceremonies for Industrial & Trade Technology programs. Serves on various committees, and provides administrative assistance with new faculty.

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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Lab Assistants	20.00	10.00	Assists students operating machinery during laboratory settings; helping to provide a safe learning environment.
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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.

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

Machine Tool Technology - FY 2012-13

2.2 Fiscal Year Employee Data and Calculations

Employee Head Counts

Employee Category	Count	Change from 2011-12	District Total	% of District Total
Contract Faculty	1	0.00%	283	0.35%
Adjunct Faculty	6	50.00%	1276	0.47%
Classified Staff	0	0.00%	497	0.00%
STNC Workers	2	0.00%	420	0.48%
Student Workers	0	0.00%	597	0.00%
Mgmt/Admin/Dept Chair	1	0.00%	148	0.68%

Employee FTE Totals

FTE Category	FTE	Change from 2011-12	District Total	% of District Total
FTE-F - Faculty	2.7219	6.55%	642.6824	0.42%
FTE-CF - Contract Faculty	1.0000	0.00%	278.5000	0.36%
FTE-AF - Adjunct Faculty	1.7219	10.76%	364.1824	0.47%
FTE-C - Classified	0.0000	0.00%	400.6181	0.00%
FTE-ST - STNC	0.1375	-46.54%	50.7970	0.27%
FTE-SS - Support Staff	0.1375	-46.54%	627.9055	0.02%
FTE-SW - Student Workers	0.0000	0.00%	176.4904	0.00%
FTE-M - Management	0.3000	-11.76%	118.9300	0.25%
FTE-DC - Department Chairs	0.0000	0.00%	50.0000	0.00%

Student Data

Data Element	Value	Change from 2011-12	District Total	% of District Total
FTES-CR - Credit	34.8571	-10.81%	16141.1500	0.22%
FTES-NC - Non-Credit	0.7048	180.30%	2064.1447	0.03%
FTES - combined	35.5619	-9.58%	18205.2947	0.20%
Students Enrolled/Served	363	7.08%	30000	1.21%

Calculations

Data Element	Value	Change from 2011-12	District Total	% of District Total
FTE-S : FTE-F	13.0651	-15.14%	28.3270	46.12%
FTE-AF : FTE-CF	1.7219	10.76%	1.3077	131.68%
FTE-F : FTE-SS	19.7957	99.31%	1.0235	>1000%
FTE-F : FTE-M	9.0730	20.76%	5.4039	167.90%
FTE-SS : FTE-M	0.4583	-39.41%	5.2796	8.68%
FTE-ST : FTE-C	0.0000	0.00%	0.1268	0.00%
Average Faculty Salary per FTE-F	\$38,366.65	-2.63%	\$58,570.50	65.51%
Average Classified Salary per FTE-C	\$0.00	0.00%	\$44,716.87	0.00%
Average Management Salary per FTE-M	\$82,086.00	0.00%	\$75,957.24	108.07%
Salary/Benefit costs as a % of total budget	76.43%	-13.07%	75.90%	100.70%
Non-Personnel \$ as a % of total budget	23.57%	95.07%	12.71%	185.42%
Restricted Funds as a % of total budget	17.81%	209.40%	11.39%	156.30%
Total Unit Cost per FTE-F	\$80,383.05	8.75%	\$170,777.67	47.07%
Total Unit Cost per FTE-C	\$0.00	0.00%	\$273,966.16	0.00%
Total Unit Cost per FTE-M	\$729,316.67	31.33%	\$922,860.52	79.03%
Total Unit Cost per FTE-S	\$6,152.51	28.16%	\$6,028.78	102.05%
Total Unit Cost per student served/enrolled	\$602.74	8.21%	\$3,658.53	16.47%

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2.2a Classified Positions Employees paid from a Classified OBJECT code

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

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

Name Last	First	Position	Hours	FTE
Kelly	William		0.00	0.3000
Totals			0.00	0.3000

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2.2c STNC Workers Employees paid from an STNC OBJECT code

Name Last	First	Position	Hours	FTE
Riley	Eileen		100.00	0.0481
Thorup	Scott		186.00	0.0894
Totals			286.00	0.1375

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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		Tool Room Manager	Classified
0001	ALL	01	01	STNC Lab Assistants	Lab Assistant	STNC

2.3a Current Contract Faculty Positions

Position	Description
Wm. James Kelly	This contract faculty also had duties as dept chair. Those duties will move onto another faculty member of the dept. This faculty is responsible for instruction coordination, repair, staffing, outreach, and other program related tasks. Service on Machine Tool Technology Advisory committees, and hiring committees is also required. This faculty is currently working on NIMS certification and has been directed to integrate into the industry partners and K-12 partners.

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

the only full time instructor is within retirement age.

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.

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

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

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

Name Last	First	Position	Hours	FTE
Kelly	William		143.00	0.4667
Miller	Robert		48.00	0.0914
Moller	Gary		207.00	0.5229
Norton	Clifford		24.00	0.0457
Riley	Eileen		218.50	0.5952
Vera	Richard		25.50	0.0000
Totals			666.00	1.7219

2.3e Faculty Staffing Requests

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

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

Tool room sized CNC lathe and CNC mill: this is something that is currently used in industry and we are unable to teach. Students are missing a valuable learning experience that would facilitate their employable skills. This equipment can also be used for bringing in jobs and manufacturing parts for industry, allowing students real world work experience.

CNC Machine upgrades (hardware and software) 4 lathes and 3 mills upgraded so it can be run off the internet, and be used with our new HAAS controllers and our new MasterCam X5 software. This is needed to bring our shop near to current with industry standards. This has been purchased, but is still not working correctly. We are currently working with the company to correct this.

4 CNC bench top mills and 4 CNC bench top lathes: Our current ones are not compatible with modern computers forcing us to use outdated technology.

10 full sized manual vertical mills and 10 full sized manual lathes: Our current ones are 30 to 50 years old and worn, and are in constant need of repair.

Elmo document camera: This is needed to project pictures out of books, papers and equipment for the entire class to see.

2.4c Instructional Equipment and Software Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Santa Rosa	01	01	Elmo Document Camera	1	\$800.00	\$800.00	Mark Larson	2330	Mark Larson
0002	Santa Rosa	01	06	CNC vertical machining center, 4&5 axis ready	4	\$120,000.00	\$480,000.00	Mark Larson	2330	Mark Larson
0003	Santa Rosa	01	06	CNC lathe with live tooling	2	\$100,000.00	\$200,000.00	Mark Larson	2330	Mark Larson
0004	Santa Rosa	02	01	4-axis rotary table	4	\$11,000.00	\$44,000.00	Mark Larson	2330	Mark Larson
0005	Santa Rosa	02	01	5-axis trunnion table	2	\$35,000.00	\$70,000.00	Mark Larson	2330	Mark Larson
0006	Santa Rosa	01	01	Cold saw	1	\$10,000.00	\$10,000.00	Mark Larson	2330	Mark Larson
0007	Santa Rosa	01	01	Manual tool room lathe	2	\$30,000.00	\$60,000.00	Mark Larson	2330	Mark Larson
0008	Santa Rosa	02	01	Manual knee milling machine	2	\$20,000.00	\$40,000.00	Mark Larson	2330	Mark Larson
0009	Santa Rosa	01	01	Surface grinder	1	\$20,000.00	\$20,000.00	Mark Larson	2330	Mark Larson
0010	Santa Rosa	02	01	CNC abrasive water jet machine	1	\$130,000.00	\$130,000.00	Mark Larson	2330	Mark Larson
0011	Santa Rosa	01	06	NIMS tooling	1	\$15,000.00	\$15,000.00	Mark Larson	2330	Mark Larson
0012	Santa Rosa	01	01	Sand casting equipment for metallurgy lab	1	\$2,000.00	\$2,000.00	Mark Larson	2330	Mark Larson
0013	Santa Rosa	01	01	Manual Lathes- can be purchased a few a year	10	\$20,000.00	\$200,000.00	Jim Kelly	2330	Jim Kelly
0014	Santa Rosa	01	01	Manual Mills - can be purchased a few a year	10	\$15,000.00	\$150,000.00	Jim Kelly	2330	Jim Kelly

2.4d Non-Instructional Equipment, Software, and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	ALL	04	01	chairs	25	\$300.00	\$7,500.00	Jim Kelly	2330	Jim Kelly
0001	ALL	04	01	tables	10	\$600.00	\$6,000.00	Jim Kelly	2330	Jim Kelly

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
0001	ALL	04	06	Urgent	Lounibos	2330	\$0.00	Free standing shed in front of machine shop is falling down and a hazard. It needs to be repaired or replaced.
0002	ALL	04	06	Urgent	Lounibos	2330	\$30,000.00	Enclose CNC room and expand east wall out. There is wasted space that can be better utilized for instruction.
0003	ALL	04	06	1 Year	Lounibos	2330	\$15,000.00	Enclose and repair roof of storage shed
0004	ALL	04	01	Urgent	Lounibos	2330	\$15,000.00	Air condition machine shop
0005	ALL	04	01	1 Year	Lounibos	2330	\$100,000.00	Add a new smart classroom

2.5b Analysis of Existing Facilities

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

Existing facilities are not adequate in space, storage or technology. We need a smart classroom off the back of the machine shop 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.

We have had problems with theft from our existing storage locations. We need to secure our storage areas to keep consumables that we normally buy in bulk once a year to save money; as well as to keep machines that we are being repaired, used for parts, and for instructional purposes in our capstone MACH120 class.

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.

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.

Free standing shed in front of machine shop is falling down and a hazard. It needs to be repaired or replaced. This area is used to store used machinery, equipment, materials and our hazardous waste cabinets. It is currently, exposed to the weather, unsafe, not secured this has resulted in loss of material to theft and machinery to weather.

3.1 Develop Financial Resources

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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 personnel.

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	Mach61.12NonFerrous 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 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.

Machine Tool Technology - FY 2012-13 (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	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0	58	24	0	30	32	0	30	50
Machine Tool Technology	0	156	138	0	130	154	0	131	127
ALL Disciplines	0	214	162	0	160	186	0	161	177

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0	0	0	0	0	0	0	0	0
Machine Tool Technology	0	0	0	1	0	0	1	0	0
ALL Disciplines	0	0	0	1	0	0	1	0	0

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0	0	0	0	0	0	0	0	0
Machine Tool Technology	0	0	0	3	0	0	0	0	0
ALL Disciplines	0	0	0	3	0	0	0	0	0

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0	58	24	0	30	32	0	30	50
Machine Tool Technology	0	156	138	4	130	154	1	131	127
ALL Disciplines	0	214	162	4	160	186	1	161	177

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 2012-13 (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	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	96.7%	88.9%	0.0%	100.0%	106.7%	0.0%	150.0%	125.0%
Machine Tool Technology	0.0%	82.1%	81.9%	0.0%	86.7%	84.8%	0.0%	81.6%	68.5%
ALL Disciplines	0.0%	86.5%	83.0%	0.0%	89.3%	88.7%	0.0%	91.0%	80.9%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	20.0%	0.0%	0.0%	10.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	10.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	96.7%	88.9%	0.0%	100.0%	106.7%	0.0%	150.0%	125.0%
Machine Tool Technology	0.0%	82.1%	81.9%	40.0%	86.7%	84.8%	10.0%	81.6%	68.5%
ALL Disciplines	0.0%	86.5%	83.0%	40.0%	89.3%	88.7%	10.0%	91.0%	80.9%

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 2012-13 (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	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0	29.0	24.0	0.0	30.0	32.0	0.0	30.0	25.0
Machine Tool Technology	0.0	16.4	16.1	0.0	17.3	16.7	0.0	17.0	14.0
ALL Disciplines	0.0	19.2	17.1	0.0	19.1	18.6	0.0	18.9	16.4

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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	1.0	0.0	0.0	1.0	0.0	0.0
ALL Disciplines	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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	3.0	0.0	0.0	0.0	0.0	0.0
ALL Disciplines	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0	29.0	24.0	0.0	30.0	32.0	0.0	30.0	25.0
Machine Tool Technology	0.0	16.4	16.1	2.0	17.3	16.7	1.0	17.0	14.0
ALL Disciplines	0.0	19.2	17.1	2.0	19.1	18.6	1.0	18.9	16.4

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 2012-13 (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		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	0.00	6.19	2.56	0.00	3.20	3.41	0.00	1.37	2.29
	FTEF	0.00	0.40	0.20	0.00	0.20	0.20	0.00	0.09	0.18
	Ratio	0.00	15.47	12.80	0.00	16.00	17.07	0.00	15.00	12.50

Machine Tool Technology		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	0.00	17.32	15.96	0.00	15.97	16.50	0.00	15.90	15.30
	FTEF	0.00	1.53	1.67	0.00	1.40	1.52	0.00	1.31	1.70
	Ratio	0.00	11.29	9.54	0.00	11.44	10.84	0.00	12.13	9.02

Petaluma Campus (Includes Rohnert Park and Sonoma)

Industrial Education		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	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
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Machine Tool Technology		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	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
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Industrial Education		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	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
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Machine Tool Technology		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	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
	Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Industrial Education		X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
	FTES	0.00	6.19	2.56	0.00	3.20	3.41	0.00	1.37	2.29

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.

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.

In 12/13 we issued 16 certificates

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.

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 2012-13 (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	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	73.7%	69.6%	0.0%	80.0%	61.3%	0.0%	83.3%	85.7%
Machine Tool Technology	0.0%	88.4%	90.2%	0.0%	81.6%	86.2%	0.0%	73.5%	76.5%
ALL Disciplines	0.0%	83.4%	86.7%	0.0%	81.2%	81.0%	0.0%	75.8%	79.6%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	73.7%	69.6%	0.0%	80.0%	61.3%	0.0%	83.3%	85.7%
Machine Tool Technology	0.0%	88.4%	90.2%	100.0%	81.6%	86.2%	100.0%	73.5%	76.5%
ALL Disciplines	0.0%	83.4%	86.7%	100.0%	81.2%	81.0%	100.0%	75.8%	79.6%

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	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	64.9%	69.6%	0.0%	80.0%	61.3%	0.0%	83.3%	85.7%
Machine Tool Technology	0.0%	78.6%	88.4%	0.0%	79.6%	86.2%	0.0%	64.7%	75.5%
ALL Disciplines	0.0%	74.0%	85.2%	0.0%	79.7%	81.0%	0.0%	68.9%	78.9%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
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%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ALL Disciplines	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.0%	64.9%	69.6%	0.0%	80.0%	61.3%	0.0%	83.3%	85.7%
Machine Tool Technology	0.0%	78.6%	88.4%	100.0%	79.6%	86.2%	100.0%	64.7%	75.5%
ALL Disciplines	0.0%	74.0%	85.2%	100.0%	79.7%	81.0%	100.0%	68.9%	78.9%

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.00	2.28	2.61	0.00	2.96	2.55	0.00	2.96	2.81
Machine Tool Technology	0.00	2.85	3.06	0.00	3.03	2.84	0.00	2.35	2.87
ALL Disciplines	0.00	2.66	2.98	0.00	3.01	2.78	0.00	2.43	2.85

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	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	3.00	0.00	0.00	3.00	0.00	0.00
ALL Disciplines	0.00	0.00	0.00	3.00	0.00	0.00	3.00	0.00	0.00

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	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	3.00	0.00	0.00	0.00	0.00	0.00
ALL Disciplines	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00

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

Discipline	X2010	F2010	S2011	X2011	F2011	S2012	X2012	F2012	S2013
Industrial Education	0.00	2.28	2.61	0.00	2.96	2.55	0.00	2.96	2.81
Machine Tool Technology	0.00	2.85	3.06	3.00	3.03	2.84	3.00	2.35	2.87
ALL Disciplines	0.00	2.66	2.98	3.00	3.01	2.78	3.00	2.43	2.85

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 2012-13 (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	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013
	White	42	65.6%	25	54.3%	34	46.6%	
	Asian	3	4.7%	2	4.3%	1	1.4%	
	Black	3	4.7%	0	0.0%	2	2.7%	
	Hispanic	5	7.8%	8	17.4%	24	32.9%	
	Native American	0	0.0%	2	4.3%	2	2.7%	
	Pacific Islander	0	0.0%	0	0.0%	0	0.0%	
	Filipino	0	0.0%	0	0.0%	0	0.0%	
	Other Non-White	0	0.0%	0	0.0%	0	0.0%	
	Decline to state	11	17.2%	9	19.6%	10	13.7%	
	ALL Ethnicities	64	100.0%	46	100.0%	73	100.0%	

Machine Tool Technology	Ethnicity	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013
	White	187	69.0%	149	57.5%	148	66.4%	
	Asian	17	6.3%	9	3.5%	10	4.5%	
	Black	4	1.5%	1	0.4%	2	0.9%	
	Hispanic	21	7.7%	47	18.1%	26	11.7%	
	Native American	1	0.4%	2	0.8%	0	0.0%	
	Pacific Islander	2	0.7%	0	0.0%	0	0.0%	
	Filipino	1	0.4%	5	1.9%	2	0.9%	
	Other Non-White	0	0.0%	0	0.0%	0	0.0%	
	Decline to state	38	14.0%	46	17.8%	35	15.7%	
	ALL Ethnicities	271	100.0%	259	100.0%	223	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	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013
	Male	59	92.2%	43	93.5%	69	94.5%	
	Female	5	7.8%	3	6.5%	3	4.1%	
	Unknown	0	0.0%	0	0.0%	1	1.4%	
	ALL Genders	64	100.0%	46	100.0%	73	100.0%	

Machine Tool Technology	Gender	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013
	Male	246	90.8%	240	92.7%	213	95.5%	
	Female	25	9.2%	16	6.2%	8	3.6%	
	Unknown	0	0.0%	3	1.2%	2	0.9%	
	ALL Genders	271	100.0%	259	100.0%	223	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	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013
	0 thru 18	11	17.2%	12	26.7%	4	5.6%	

	19 and 20	21	32.8%	7	15.6%	20	27.8%	
	21 thru 25	12	18.8%	12	26.7%	30	41.7%	
	26 thru 30	6	9.4%	5	11.1%	5	6.9%	
	31 thru 35	8	12.5%	5	11.1%	5	6.9%	
	36 thru 40	3	4.7%	1	2.2%	4	5.6%	
	41 thru 45	1	1.6%	1	2.2%	2	2.8%	
	46 thru 50	1	1.6%	1	2.2%	1	1.4%	
	51 thru 60	1	1.6%	1	2.2%	1	1.4%	
	61 plus	0	0.0%	1	2.2%	1	1.4%	
	ALL Ages	64	100.0%	45	100.0%	72	100.0%	

Machine Tool Technology	Age Range	2010-11	Percent	2011-12	Percent	2012-13	Percent	2013-14
	0 thru 18	33	12.2%	17	6.8%	16	7.5%	
	19 and 20	58	21.5%	41	16.4%	26	12.2%	
	21 thru 25	62	23.0%	69	27.6%	62	29.1%	
	26 thru 30	30	11.1%	39	15.6%	46	21.6%	
	31 thru 35	28	10.4%	21	8.4%	21	9.9%	
	36 thru 40	13	4.8%	10	4.0%	20	9.4%	
	41 thru 45	13	4.8%	13	5.2%	2	0.9%	
	46 thru 50	8	3.0%	14	5.6%	10	4.7%	
	51 thru 60	25	9.3%	26	10.4%	10	4.7%	
	61 plus	1	0.4%	9	3.6%	10	4.7%	
	ALL Ages	270	100.0%	250	100.0%	213	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)

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 standard.

We are in the process of obtaining NIMS certification for the facility and the instructors.

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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6.2a Program/Unit Conclusions

Location	Program/Unit Conclusions
Santa Rosa	The discipline needs to focus on articulation with the high schools providing credit by exam courses for the high school students. This has been in place for the past year and a half and has met with some success.
Santa Rosa	Begin NIMS certification process. The department has applied for both the NIMS certification for the shop and for the instructors. The department has decided that the instructors will be certified first.
Santa Rosa	The department has done a great job increasing the advisory committee membership, and getting the local industry more involved with the program.
Santa Rosa	The department has entered into a productive relationship with Medtronic, providing them with contact training.

6.2b PRPP Editor Feedback - Optional

We are currently working to develop a revitalization plan for this program. During a review this past year, all aspects of improvement listed below were not in progress or completed. The program and its full time instructor have been put on notice to meet the requirements. We have reacquainted ourselves with industry and educational partners. We are committed to move forward from this point forward and certify our instructors and facilities. We have received funding to complete this vital need. We are also committed to work with SCOE to build better relationships with their ROP programs.

The department has just started the pre assessment for the NIMS certification and three instructors from the department have applied for individual MIMS certification.

A five year CTEA funding plan has been submitted in order to replace old and out of date equipment.

Administrator Recommendations for the program

1. Improved marketing of the program
2. Strengthen relationships with out of county feeder schools (Lake and Mendocino County)
3. Re-Build relationships with local industry and foster new relationships with local corporations
4. Update facilities to include automation, CNC, and robotics
5. Reach out to other depts and collaborate to share resources and strengthen offerings
 - Joint cooperation with Auto Cad/Drafting program
 - Joint cooperation with Electronics Department
 - Joint cooperation with Engineering Technology Department
 - Joint cooperation with Mathematics Engineering Science Achievement (MESA) program

Joint cooperation with College Skills and ESL curriculum projects

6. Develop internship programs in local industry

7. Further develop website presence to advertise program and open communication

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
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