

Item 1. Program Goals and Objectives

The Manufacturing 1 program will train students in the skills to obtain entry level employment in the field of Manufacturing in the San Joaquin Valley. These skills are valuable in a variety of manufacturing facilities. The Manufacturing 1 program will provide training in basic machine work, welding, materials, and blueprint reading.

Item 2. Catalog Description

To prepare students for basic skills needed for entrance into the manufacturing work force with emphasis on basic machine, welding, materials, and blueprint reading. Upon completion of the program, students can compete for entry level positions in an entry level manufacturing related positions.

Item 3. Program Requirements

Requirements	Dept. Name/#	Name	Units	CSU-GE	IGETC	Sequence
Required Courses (16 units)	MFGT 21	Blueprint Reading	2			Yr 1, Fall
	MFGT 22	Industrial Materials	2			Yr 1, Fall
	MFGT 60	Introduction to Welding	6			Yr 1, Fall
	MFGT 80	Introduction to Machine Shop	6			Yr 1, Fall

Required Major Total

16 units

Item 4. Master Planning

The college has the facilities and resources to maintain the program. Faculty teaching in the program meet the minimum qualifications/experience for teaching the manufacturing courses.

The manufacturing instructors maintain contact with local business owners through site visits to the manufacturing facilities throughout the year and by phone contact daily or weekly to follow up on student employment opportunities and on-the-job performance. The instructors also maintain class contact with employers and students through work experience classes.

This program will fulfill a training need in industry by training students to work in the field of Manufacturing. Local manufacturing plants are in need of skilled entry level workers.

51-0000 Production occupations

**Machinists
 (SOC Code : 51-4041)**

Occupational Wages

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Area	Year	Period	Hourly Mean	Hourly by Percentile 25th	Median	75th
Fresno MSA	2015	1st Qtr	\$19.10	\$11.76	\$16.54	\$22.91

Occupational Projections of Employment (also called "Outlook" or "Demand")

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Area	Estimated Year-Projected Year	Employment		Employment Change Percent	Annual Avg Openings	
		Estimated	Projected			
Fresno County	2015 - 2025	470	505	35	7.0	45

**Welders, Cutters, Solderers, and Brazers
 (SOC Code : 51-4121)**

Occupational Wages

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Area	Year	Period	Hourly Mean	Hourly by Percentile 25th	Median	75th
Fresno MSA	2015	1st Qtr	\$16.37	\$13.29	\$15.63	\$18.88

Occupational Projections of Employment (also called "Outlook" or "Demand")

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Area	Estimated Year-Projected Year	Employment		Employment Change Percent	Annual Avg Openings	
		Estimated	Projected			
Fresno County	2015 - 2025	630	680	50	7.3	48

		Estimated	Projected	Number	Percent
Fresno County	2015 - 2025	2,770	3,250	480	15.0

Job Statistics for Manufacturing -US Department of Labor

Job Class

% increase in jobs 2015-2025

Reedley College
Manufacturing 1
Certificate of Achievement

Machinist	14.1%
Welders	15.7%

The advisory committee was asked for input on three topics. The first was what new skills need to be considered to keep Reedley College current with new technology. The second was how best to use the current grant opportunities. The third was what best practices are working in your business today to train quality employees.

Committee members suggested the following:

1. Work with VICA or a similar organization to get students involved in apprentice-type competitions.
2. Several members highlighted the urgent need for students to have hands-on experience in building things. This was especially necessary in the welding trades. Suggestions included class projects to actually build something in class and field trips to local stores to actually see, and handle, equipment students will be using in future jobs. Practical experiences such as these would give students confidence and practice in thinking about manufacturing problems and the problems solving skills necessary to create work-a-rounds to problems.
3. Ability to read and interpret blueprints is a big need. Measuring skills are needed in conjunction with blueprint reading in order to build accurate parts.
4. General work ethic and proper shop demeanor needs to be trained. For example, cell phones should not be used on the shop floor. Dress needs to be appropriate for the work environment. Punctuality and consistency are traits needed for workplace success.
5. Working with local manufacturing employers through supervised visits to plants and visits to Reedley College by current manufacturing workers can serve as testimonials and models for the skills and behaviors need in the workplace.

Advisory Committee members:

Name	Company
Bill Johnson	Reedley College
David Clark	Reedley College
Robert Fransen	Reedley College
David Tikkanen	Reedley College
Abe Wiebe	Cen Cal CNC
Ken Klippenstein	Klippenstein Corp
Walt Aviko	Lincoln Electric
Scott Salinas	Melo's Gas and Gear
Mark Erickson	Melo's Gas and Gear
Bob Emrick	Emrick Machine
Bob Hess	Consolidated Metal
Travis Burrell	R&D Farms
Ed Mendes	Ruiz Foods
Pat Gordon	JBT Food Tech
Mario Persicone	PNM Company
Chad Doi	Thiele Technologies

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David M. Hoang	Thiele Technologies
Robert D. King	Technicon Engineering
Larry Diener	Fresno Valves
Josh Wiebe	Gen Cal CNC

Item 5. Enrollment and Completer Projections

Cohort size is 24 students. Two cohorts or 48 student completers are expected each year.

		<Year 1>		<Year 2>	
CB01: Course Department Number	CB02: Course Title	Annual # Sections	Annual Enrollment Total	Annual # Sections	Annual Enrollment Total
MFGT-21	Blueprint Reading	2	48	2	48
MFGT-22	Industrial Materials	2	48	2	48
MFGT-23	Electricity	2	48	2	48
MFGT-24	Hydraulics	2	48	2	48
MFGT-60	Introduction to Welding	2	48	2	48
MFGT-80	Introduction to Machine Shop	2	48	2	48

Item 6. Place of Program in Curriculum/Similar Programs

The new certificate (Manufacturing 1) would offer students not continuing for a second semester the opportunity to receive a certificate and show an employer that they have the basic skills to enter the work force at a beginning level. The manufacturing program offers advanced certificates of machinist and welder that uses the above courses as a foundation to more advanced pathways. This certificate does not replace any other certificates or program pathways.

Item 7. Similar Programs at Other Colleges in Service Area

The Reedley College Manufacturing 1 program is the only one of its kind in the San Joaquin Valley. It offers a sequence of instructional classes starting with basic blueprint, materials, welding, and machine shop.