

Tucson Unified School District - Career and Technical Education

CAREER PATHWAY

School Name:

Manufacturing: **Industrial Manufacturing - Metals Mfg (15.0600) College Entry**

Career Pathway Plan of Study for ► Learners ► Parents ► Counselors ► Teachers/Faculty



This Career Pathway plan (along with other career planning materials) will serve to direct learners on manufacturing (college-entry) career path. Courses listed within this plan are prescribed with regard to required graduation, licenses, and certifications. Student organization Skills USA may also be included as well as summer school

EDUCATION LEVELS	GRADE	English	Math	Science	Social Studies/ Sciences	Other Required Courses, Other Electives, Recommended Electives, Learner Activities	*Career & Technical Courses and/or Degree Major Courses	Occupations Relating to this Pathway
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Interest Inventory Administered and Plan of Study Initiated for all Learners

SECONDARY	9	English 1-2	Algebra 1-2 or Geometry	Biology	World History/ Geography	Physical Education	Metals Mfg 1,2	Occupations Requiring Less than Baccalaureate Degree ► Machinists ► Lathe & Turning Machine Tool Setters, Operators ► Model Makers, Metal & Plastic ► Welders, Cutters, Solderers ► Computer Controlled Machine Tool Operators, Metal & Plastic ► Cutting, Punching, and Press Machine Setters, Operators, & Tenders ► Metal Worker Occupations Requiring Baccalaureate Degree ► Industrial Engineer ► Materials Engineer ► Mechanical Engineers
	10	English 3-4	Geometry or Int. Algebra	Chemistry 1-2		.5 Health; Fine Arts	Metals Mfg 3,4	
	11	English 5-6	Inter.Algebra or Pre-Calculus	Science College Cr	American History	1st Year Foreign Language	Metals Mfg 5,6	
	<i>College Placement Assessments-Academic/Career Advisement Provided</i>							
	12	English 7-8	Pre-Calculus or Calculus		American Government	2nd Year Foreign Language	Metals Mfg 7,8 or Industrial Mfg Internship 1,2	

CERTIFICATION
Upon completion of Metals Manufacturing students will take the certification written test and hands-on skill test to verify successful industry standard skills. Pima Community College offers Machine Tool Technology - Associate of Applied Science including several certification.

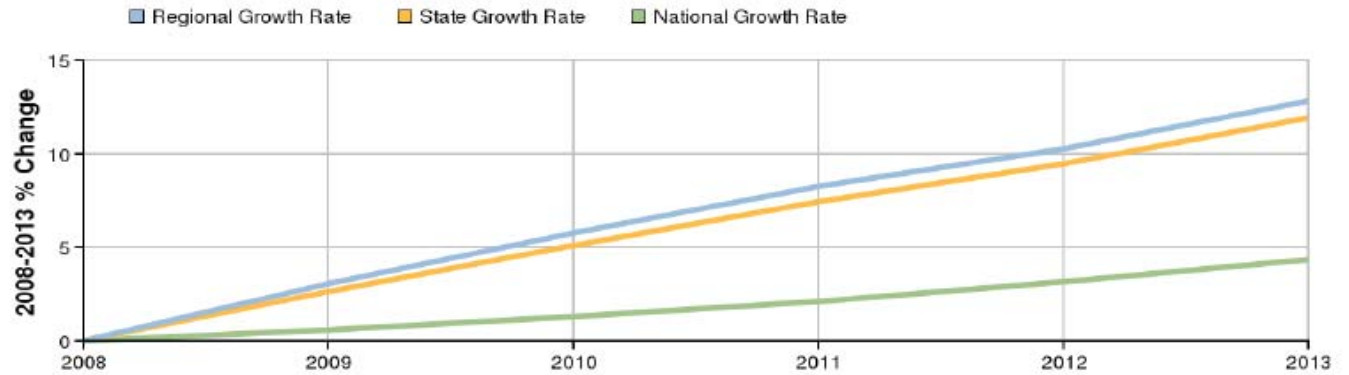
Articulation/Dual Credit Transcribed-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.

POSTSECONDARY	Year 13					All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include. Work-based learning is an integral part of this pathway.	ARTICULATED COURSES* MAC100, WLD110 *Listed courses may be dual credit at some sites
	Year 14	Check requirements for 2-year and 4-year degrees					
	Year 15	Continue courses in the area of specialization					
	Year 16						

Industrial Manufacturing - Metals Manufacturing

Region: Pima County

Occupational Change Summary



SOC Code	Description	2008 Jobs	2013 Jobs	2007 Avg Hourly Earnings
17-2141	Mechanical engineers	2,422	2,683	\$39.22
17-2112	Industrial engineers	833	1,023	\$36.87
51-4121	Welders, cutters, solderers, and brazers	710	783	\$20.46
51-4041	Machinists	675	772	\$26.40
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	266	283	\$13.17
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	92	97	\$18.08
17-2131	Materials engineers	55	64	\$30.52
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	53	56	\$12.84
51-4061	Model makers, metal and plastic	16	18	\$17.52
51-4199	Metal workers and plastic workers, all other	11	11	\$23.25
51-4012	Numerical tool and process control programmers	<10	<10	--
Total		5,141	5,799	\$32.31

Source: EMSI Complete Employment - Spring 2008 Release v. 2

Graduation Requirements For 2009, 2010, 2011 Grads 21 Units or Credits

	Min. H.S.	Univ.
English	4	4
Mathematics	3	4
Science	2	3
Social Studies	3	3
Fine Arts/CTE	1	*1
Physical Educ	1	
Health	0.5	
World Language		2
Career Pathway	6.5	
TOTAL	21	21
		or more

Graduation Requirements For 2012 Grads 22 Units or Credits

	Min. H.S.	Univ.
Science	3	3
TOTAL	22	22
		or more

Graduation Requirements For 2013 Grads

	Min. H.S.	Univ.
Mathematics	4	4