

DISTRICT NAME:

CTE Course Description and Standards Crosswalk Template

Course Information	
Course Name	Cad-Cam
Course Number	II950
Number of High School Credits	.5
Career Cluster	Engineering
Pathway (as defined under the Career Cluster)	Engineering and Technology
Occupational Standards Information	
Source of Occupational Standards	SkillsUSA
Names/Numbers of Occupational Standards	SkillsUSA Technical Drafting
Date or Version Number of Occupational Standards	4 th Edition, 2009
Registration Information	
Course Description (brief paragraph – as shown in your student handbook or course list)	This course introduces the theory and application of computer programs that provide the automatic generation of CNC machine tool codes from the entry of part geometry. Operator designs and runs tool path for CNC machines in 2-1/2 D. This technology eliminates the need for the CNC programmer to master the traditional M and G codes and dramatically shortens CNC programming time.
Instructional Topic Headings (please separate each heading by a comma)	<ol style="list-style-type: none"> 1. Introduction to basic drafting tools and techniques 2. Measurement and scales 3. Introduction to basic machining tools and techniques 4. Views and planes 5. Dimension techniques 6. Pictorial view 7. Careers in drafting and machining 8. understanding a 2.5 D model
Program of Study and Sequence Information	
If course is part of a CTE Sequence, name of Sequence	Engineering
If course is part of a CTE Program of Study (CTEPS), name of CTEPS	Engineering
If course applies to more than one Sequence or CTEPS, please name the additional Sequences or CTEPS, separated by commas.	
Career & Technical Student Organizations (CTSO) Information	

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Which specific CTSO does this course support?	SkillsUSA
Tech Prep Information	
Current Tech Prep Articulation Agreement? (Y/N)	N
Date of Current Agreement	
Postsecondary Institution Name	
Postsecondary Course Name	
Postsecondary Course Number	
# of Postsecondary Credits	

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Additional CTE Course Information

Author	
Course developed by	Kenai Curriculum Committee
Course adapted from	Previous curriculum
Date of Last Course Revision	2011
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	N
Technical Assessment(s)	
Name of Technical Assessment used in course	Basic Safety
Assessment Vendor	NCCER
Certificate, Credential, or License	
Industry-recognized skill certificate, credential, or state license that a student is eligible for upon successful completion of the course?	Technical Drafting, Code C120
Issuing body/organization/agency	SkillsUSA

Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Alaska Reading, Writing, Math, Science 4th Ed. PSGLE's	Alaska Employability Standards	Alaska Cultural Standards	All Aspects of Industry	Formative Assessment
1. Utilize basic drafting and design tools	CADD 1.1.2				Planning	Lab Assignments
2. Measure and draw within a standard tolerance.	CADD 1.4.07	M.A.1 M.A.2			Technical	Lab Assignments
3. Understand and draw items to an appropriate scale.	CADD	M.A.1			Technical	Lab Assignments

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	1.1.4	M.A.2				
4. Given a print or drawing, determine the length of the object.	CADD 1.1.2	M.A.2			Technical	Lab Assignments
5. Use lines that meet drafting standards.	CADD 1.1.4	M.A.1 & 2			Technical	Lab Assignments
6. Machine parts from a scale drawing	CADD 1.1.4	E.C.2			Technical	Lab Assignments
7. Given a print, determine the shape of an object	CADD 1.2.1	M.A.5			Technical	Lab Assignments
8. Given an object, be able to digitize in to a part file	CADD 1.2.1				Technical	Lab Assignments
9. Use the ShopBot to cut out predefined parts	CADD 1.2.1	M.A.5			Technical	Lab Assignments
10. Understand the spatial relation between views and objects.	CADD 1.2.1	M.C.1			Technical	Lab Assignments
11. Use appropriate dimension techniques.	CADD 1.4.07	M.C.1			Technical	Lab Assignments
12. Determine and utilize appropriate Bits, speed and feed rates	CADD 1.1.3	M.C.1			Technical	Lab Assignments
13. Identify various file extensions associated with machine parts	CADD 1.3.1	M.C.1			Technical	Lab Assignments
14. Assess the Part file and select the most appropriate cutter head to use for machining the part.	CADD 1.3.1	E.C.2			Technical	Lab Assignments
15. Utilize clamping techniques for holding down parts to be	CADD				Technical	Lab Assignments

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cutout.	1.3.1					
16. Identify careers related to design and drafting.	CADD ES.8.1	M.E.1	A 1-8 B 1-5	A2 & 6 B4	Personal Work Habits	Lab Assignments
17. Develop a career path plan with a safety net that leads to a career in the drafting and/or design profession.	CADD ES.8.1	M.E.1	A 1-8 B 1-5	C4	Personal Work Habits	Lab Assignments

Add extra rows as necessary by using the Tab key.

List of Major Instructional Resources: (websites, textbooks, essential equipment, reference materials, supplies)

Resources:

NCCER, 2009 Core Curriculum

NCCER Basic Safety module 09

NCCER Introduction to Power Tools 09

SkillsUSA Technical Drafting 2011

Equipment: PlasmaCAM cutting Machine

Drafting Software: AutoCAD (from AutoDesk) Drafting Program 2010

Additional Drafting Software: Chief Architect 2010