

CTE Course Description and Standards Crosswalk

Course Information	
Course Name	Drafting II
Course Number	II745
Number of High School Credits	.5
Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the EED-CTE system.)	Construction Management (CTEPS) Engineering (CTEPS)
Date of district Course Revision	September 10, 2014
Career & Technical Student Organization (CTSO)	
CTSO embedded in this sequence	Y
Occupational Standards	
Source of Occupational Standards	AutoDesk
Names/Numbers of Occupational Standards	AutoCAD 2009, 2010- C AutoCAD 2010, -P
Registration Information	
Course Description (brief paragraph – as shown in your student handbook or course list)	A continuation of Drafting I, this course covers the principles of Mechanical Drafting, engineering design and computer-assisted drawing. It is recommended for students to pursuing Mechanical Drafting related careers such as Engineering, Fabrication, Management Careers and the Biomedical fields.
Instructional Topic Headings (please separate each heading by a semi-colon)	Introduction to intermediate Mechanical Drafting and CAD tools and techniques; Auxiliary views; Rotational views; Line Intersections and developments; Assembly drawings; and an introduction to basic Geographic Information Systems (GIS) and Civil Engineering Technology, skills and career field information. Introduction to 3d printing.
Summative Assessments and Standards	
Technical Skills Assessment (TSA)	Y
Course addresses:	
New Alaska ELA and Math Standards	Y
Alaska Cultural Standards	Y
All Aspects of Industry (AAI)	Y

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Core Technical Standards	Y
Employability Standards	Y
Employability Standards	
Source of Employability Standards	State of Alaska
Tech Prep	
Current Tech Prep Articulation Agreement? (Y/N)	Yes
Date of Current Agreement	Dec 2014
Postsecondary Institution Name	UAA
Postsecondary Course Name	Fundamentals of CADD for Building Construction
Postsecondary Course Number	AET A101
# of Postsecondary Credits	4

Student Performance Standards DISTRICT NAME: KPBSD (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standard	Common Technical Core Standards	New Alaska ENG/LA Standards	New Alaska Math Standards	Alaska Cultural Standards	Employability / Career Readiness Standards	All Aspects of Industry/ Systems	Assessment
1. Assess and utilize fundamentals of residential architectural design and planning.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R3, R4, R5, W4, W5	G-CO.1 N-Q.1 G-CO.12	A3 E6 E7 LA E4	A-2	Principals of Technology, Technical and production skills	Oral Presentations
2. Understand design factors affecting residential construction and planning.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R4, R7, W1	G-CO.1 G-CO G-SRT.1 N-Q.1	D-6	A-2	Principals of Technology, Technical and production skills	Demonstrate
3. Identify differing room design criteria and use this information to design a functional residential floor plan.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R4, R7, W1	G-CO.1 G-CO.5	D-6	A-2	Principals of Technology, Technical and production skills	Demonstrate
4. Develop site plans pictorial, elevation, and floor plans that meet architectural graphic standards.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R2, W2-d	G-CO.1 G-CO.5 G-SRT.1	B4 C4	A-2	Principals of Technology, Technical and production skills	Demonstrate
5. Produce schedules and specifications that meet architectural industry standards.	IBC & NCS	AC-1, AC-6,	R2, W4	G-CO.1	B4 C4	A-2	Principals of Technolo	Demonstrate

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		AC-DES-4, AC-DES-6,					gy, Technical and productio n skills	
6. Develop a working knowledge of building codes as they relate to residential construction.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R2, R3, R4, R6	N-Q.1 N-Q.2 N-Q.3	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
7. Produce a floor plan with accurate electrical and mechanical utility drawing subsets.	IBC & NCS	AC-1, AC-6, AC-DES-4, AC-DES-6,	R3, R4	G-CO.12 N-Q.2 N-Q.3	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
8. Identify careers in architectural drafting.	SkillsUSA	AC-1, AC-6, AC-DES-4, AC-DES-6,	W1- a, b, c W2- a, b, d	G-CO.12 G-CO.1 N-Q.1 N-Q.2 N-Q.3	D-6, B-4	B-2, B-4	Business, Principals of technology, technical production skills.	Demonstrate

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9. Utilize advanced drafting and design tools such as Autodesk products and apply student knowledge using CNC plasma cutters, CNC 3-D routers, and 3-D printers.		AC-1, AC-6, AC-DES-4, AC-DES-6,	R3, R4, W6	G-CO.1 N-Q.1 N-Q.2 N-Q.3	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
10. Create user-defined menus for specific types of drawings.	NCS-6.4.1 NCS-3.2	AC-1, AC-6, AC-DES-4, AC-DES-6,	R4, W6	G-CO.1 N-Q.1 N-Q.2 N-Q.3	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
11. Draw irregular shapes, circles, and arcs with an auxiliary view.	NCS-6.4.1	AC-1, AC-6, AC-DES-4, AC-DES-6,	R3, R4, W6	G-CO.1 G-CO.2 G-CO.3 G-CO.4 G-CO.13	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
12. Utilize interactive CADD databases for the appropriate use of Blocks, symbols, and tolerances.	NCS-6.4.1 NCS 1.3.1	AC-1, AC-6, AC-DES-4, AC-DES-6,	R3, R4, W6	G-CO.1 G-CO.4 N-Q.3	B-4	A-2	Principals of Technology, Technical and production skills	Demonstrate
13. Utilize the advantages of advanced CAD functions to solve design problems that	BIM	AC-1, AC-6,	R3, R4,	N-Q.3	B-4	A-2	Principals of Technology	Demonstrate

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incorporate assembly drawings.		AC-DES-4, AC-DES-6,	W6	G-CO.1 N-Q.1			gy, Technical and productio n skills	
14. Encourage CTSO involvement	SkillsUSA			G-CO.1	D-6			

Additional CTE Course Information

Author	
Course developed by	KPBSD
Course adapted from	Previous Version
Date of previous course revision	May 2013
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	Course not brokered, can be traditionally and/or distance delivered

Standards Alignment

Instructional Resources

List the major instructional resources used for this course: (websites, textbooks, essential equipment, reference materials, supplies)

Autodesk Certification website: <http://usa.autodesk.com/adsk/servlet/item?siteID=123112&id=17208050>

AutoCad 2012 Autodesk Certification Exam Preparation Roadmap:
http://images.autodesk.com/adsk/files/autocad_2012_certification_exam_preparation_roadmap_lores.pdf

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CADD National Skill Standards:

National Occupational Skill Standards for Computer Aided Drafting and Design (CADD). Washington, DC: Foundations for Industrial Modernization.

ICBO: Uniform Building Code:

<https://archive.org/stream/gov.law.icbo.building.1991/icbo.building.1991#page/n0/mode/2up>

<http://SkillsUSA.org>

United States National CAD Standard – V6 (NCS): <http://www.nationalcadstandard.org/ncs6/>

International Building Code: Textbook: 2015 International Residential Code for One- and Two-Family Dwellings June 19, 1014 ISBN-13: 978-1609834708

National BIM Standard-United States Version 2(BIM): <http://www.nationalbimstandard.org/about.php>

National Mechanical Code (NMC): <https://law.resource.org/pub/us/cfr/ibr/003/boca.mechanical.1993.pdf>