

## CTE Course Description and Standards Crosswalk

Course Information	
Course Name	Construction Surveying 2
Course Number	86160
Number of High School Credits	.5
Sequence or CTEPS (You must first have the Sequence or CTEPS entered into the EED-CTE system.)	Geospatial Technology
Date of district Course Revision	October 2014
Career & Technical Student Organization (CTSO)	
CTSO embedded in this sequence	SkillsUSA
Occupational Standards	
Source of Occupational Standards	Alaska Society of Professional Land Surveyors (ASPLS)
Names/Numbers of Occupational Standards	NSPS Model Standards (Approved 2002)
Registration Information	
Course Description (brief paragraph – as shown in your student handbook or course list)	Builds on principles learned in Construction Surveying 1. Students will apply their knowledge with project-based activities, including expanded use of the equipment learned in the introductory course. Students will be introduced to the Total Station and surveyors GPS unit. Students will translate field data to technical drawings.
Instructional Topic Headings (please separate each heading by a semi-colon)	Introduction to Surveying; Leveling; Measuring horizontal angles; Traversing; Horizontal curves; Earthwork volume computations; Topographic survey; Boundary survey principles and construction staking techniques; Coordinate systems and construction layout techniques; Surveying equipment; Global Positioning Systems
Summative Assessments and Standards	
Technical Skills Assessment (TSA)	No
Course addresses:	
New Alaska ELA and Math Standards	Yes
Alaska Cultural Standards	Yes
All Aspects of Industry (AAI)	Yes
Core Technical Standards	Yes
Employability Standards	Yes
Employability Standards	
Source of Employability Standards	State of Alaska
Tech Prep	
Current Tech Prep Articulation Agreement? (Y/N)	N
Date of Current Agreement	
Postsecondary Institution Name	
Postsecondary Course Name	
Postsecondary Course Number	
# of Postsecondary Credits	

### Additional CTE Course Information

Author	
Course developed by	Mary Shreves, Tyler Gilligan
Course adapted from	Surveying 2
Date of previous course revision	
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	N

Standards Alignment
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Student Performance Standards (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
Students will demonstrate proper care and handling of equipment.	C(3)	ST (1-6) ST-ET (1-6)	RST.9-10.2-5 RST.9-10.7		B2, B4	A2, A5	Technology Technical Skills	Chapter quizzes, hands-on demonstrations
Students will improve their ability in the operation of equipment, such as surveyors level, digital theodolite.	B(2)(4) C(2)(3)(5) D, E, G	ST (1-6) ST-ET (1-6)	RST.9-10.2-5	N-Q.1-3 A-APR.7 F-IF.7 F-TF.1 G-CO.1,3,4,5	B2, B4	A2, A5	Technology Technical Skills	Chapter quizzes, hands-on demonstrations

**DISTRICT NAME: Mat-Su Borough School District**

<b>Student Performance Standards (Learner Outcomes or Knowledge &amp; Skill Statements)</b>	<b>Specific Occupational Skills Standard</b>	<b>Common Technical Core Standards</b>	<b>New Alaska ENG/LA Standards</b>	<b>New Alaska Math Standards</b>	<b>Alaska Cultural Standards</b>	<b>Employability/ Career Readiness Standards</b>	<b>All Aspects of Industry/ Systems</b>	<b>Assessment</b>
Students will develop a working knowledge of surveying equipment and techniques required to do basic construction layout.	D	ST (1-6) ST-ET (1-6)	RST.9-10.2-5 RST.9-10.2 WHST.9-10.7	N-Q.1-3 A-APR.7 F-IF.7 F-TF.1 G-CO.1,3,4,5 G-SRT.6&8 G-GMD.3&4 G-MG.3	B2, B4	A2, A5	Technology Technical Skills	Chapter quizzes, hands-on demonstrations
Students will analyze technical drawings from field data.	B(5)	ST (1-6) ST-ET (1-6)	RST.9-10.7	N-Q.2,3 F-IF.7 F-TF.1 G-CO.4,5 G-SRT.6&8 G-GMD.4 G-MG.3 G-GPE.7 S-IC.6	B2, B4	A2, A5	Technical Skills	Chapter quizzes, hands-on demonstrations
Students will manipulate the set up and operation of GPS units.	E(2) F(3)(4)(5)	ST (1-6) ST-ET (1-6)	RST.9-10.2-5	G-GPE.7	B2, B4	A2, A5	Technology Technical Skills	Chapter quizzes, hands-on demonstrations
Students will survey topography.	E F(3)	ST (1-6) ST-ET (1-6)	RST.9-10.2 &4	G-GPE.7 N-Q.1	B2, B4	A2, A5	Technical Skills	Chapter quizzes, hands-on demonstrations

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Students will examine vertical curve theory and practice.	F(2-4) G(3.a-b)	ST (1-6) ST-ET (1-6)		N-Q.1-3 F-IF.7 F-TF.1	B2, B4	A2, A5	Technical Skills	Chapter quizzes, hands-on demonstrations
Students will calculate and illustrate vertical angles, reading, recording, and repetition.	F(2-4) G(3.a-b)	ST (1-6) ST-ET (1-6)		N-Q.1-3 F-IF.7 F-TF.1	B2, B4	A2, A5	Technical Skills	Chapter quizzes, hands-on demonstrations
Students will read and restate the basics and operation of a total station.	E(3.a-b) F(2-3) G(3)(4)	ST (1-6) ST-ET (1-6)		N-Q.3 G-GPE.7	B2, B4	A2, A5	Technology Technical Skills	Chapter quizzes, hands-on demonstrations

**Instructional Resources**

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

Construction Surveying and Layout, 3rd edition Wesley G. Crawford, Creative Construction Publishing, 2003

**Occupational Standards:**

Alaska Society of Professional Land Surveyors (ASPLS), Standards 2013, Sections A through H,  
<http://www.alaskapls.org/standards2013/nsps.standards.pdf>