

CTE Course Description and Standards Crosswalk

Course Information

Course Name	Surveying
Course Number	86150
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
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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)	This course introduces the field and office methods and principles required in construction surveying, with an emphasis on typical building layout requirements. Students get to apply their learning by working with actual surveying tools and equipment. Topics include leveling, traversing, site considerations, plumbing of the structure, and general usage of optical and digital instruments.
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
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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	David Ralph
Course adapted from	Surveying
Date of previous course revision	7/06
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	N

Standards Alignment

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 understand how to set up and operate a digital theodolite.	Sec. F (2)(6)(7)	ST (1-6) ST-ET (1-6)	RST.9-10.2-5	N-Q.1-3	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will know how to care for and handle surveying equipment.	Sec. C(3)	ST (1-6) ST-ET (1-6)	RST.9-10.2-5		B2, B4	A2, A5	Health/Safety Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will discover how to and understand why we set up and operate a GPS unit.	Sec. 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	Technical Skills Technology	Chapter quizzes, hands-on demonstrations

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Students will describe traverses, closed polygon; measuring calculations and layout.	Sec. B (2) & G (2c)	ST (1-6) ST-ET (1-6)	RST.9-10.1-7, 10	A-APR.7 G-CO. 1-5, 12 S-IC.6 G-GPE.7 G-SRT.6,8,10 G-MG.3 N-Q.2,3	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will demonstrate differential leveling, theory and practice.	Sec. E (3a) (4)(5)	ST (1-6) ST-ET (1-6)	RST.9-10.1-7, 10	N-Q.1-3 G-CO.1 G-SRT.8 F-TF.8	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will examine the basics of U.S. federal land system, deeds and descriptions.	Sec. B (7)	ST (1-6) ST-ET (1-6)	RST.9-10.1,2,4, 5,6,10 WHST.9-10.2.a-f		B2, B4	A2, A5	Technical Skills Technology Community	Chapter quizzes, hands-on demonstrations
Students will prepare construction layout, distances and angles, and calculate error tolerance.	Sec. C;& D	ST (1-6) ST-ET (1-6)	RST.9-10.1-5, 7, 9	F-TF.1, 8, 9 A-APR.7 A-CED.2 N-RN.3 N-Q.1-3 G-CO.1,3,4,5, 12 G-NG.3 G-SRT.6, 8	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations

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Students will observe topography.	Sec. E&F(3)	ST (1-6) ST-ET (1-6)	RST.9-10.1-5, 7,9	N-Q.1,2 G-CO.2	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will examine and illustrate horizontal angles, reading, recording, and repetition.	Sec. B (2) & F (2),G (3a)	ST (1-6) ST-ET (1-6)	RST.9-10.1-5, 7,9	F-TF.1,2 G-CO.1,2 G-C.2 G-GPE.7	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will demonstrate and sketch horizontal distance taping.	Sec.B&C(3) &D(3)	ST (1-6) ST-ET (1-6)	RST.9-10.1-7, 10	G-SRT.6,8 G-CO.10	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will know how to set up and operate a Surveyors level (transit).	Sec.C(3)&D	ST (1-6) ST-ET (1-6)	RST.9-10.2-5	N-Q.1-3	B2, B4	A2, A5	Technical Skills Technology	Chapter quizzes, hands-on demonstrations
Students will develop a working knowledge of surveying equipment and techniques required to do basic construction layout.	Sec. D	ST (1-6) ST-ET (1-6)	RST.9-10.1-7, 10	N-Q.1-3	B2, B4	A2, A5	Technical Skills Technology	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