

CTE Course Description and Standards Crosswalk

- The information on page 1 must be entered directly into the EED CTE Web Portal (log in at <https://www.eed.state.ak.us/tls/cte/perkins> with your district credentials)
- Then this entire form can be submitted by using the “Click here Provide Supporting Documentation” link on the Web Portal, or by emailing it to ctegrants@alaska.gov.

Basic CTE Course Information

Course Information	
Course Name	Introduction to Engineering
Course Number	II940
Number of High School Credits	1
Sequence or CTEPS (You must first have the Sequence or CTEPS name put into the system.)	Engineering
Occupational Standards	
Source of Occupational Standards	Project Lead the Way
Names/Numbers of Occupational Standards	PLTW Introduction to Engineering Design
Registration Information	
Course Description (brief paragraph – as shown in your student handbook or course list)	This is the first fundamental course in the PLTW series. It uses a design development process while enriching problem solving skills; students create and analyze models using specialized computer software. An introduction to the field of engineering will be delivered.
Instructional Topic Headings (please separate each heading by a semi-colon)	Evolution of Innovation; Sketching and Visualization; Production; Elements of Design; Geometric Relationships; Marketing; Design Analysis; Modeling
Summative Assessments and Standards	
Technical Skills Assessment	PLTW Introduction to Engineering Design
Course addresses Alaska GLEs	Y
Course addresses Employability Standards	Y
Course addresses Cultural Standards	Y

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Course addresses All Aspects of Industry (AAI)	Y
Career & Technical Student Organization (CTSO)	
CTSO associated with this course	SkillsUSA
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	

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Additional CTE Course Information

Author	
Course developed by	Steve Krueger, Matanuska-Susitna Borough SD
Course adapted from	Matanuska-Susitna Borough SD
Date of last course revision	Nov. 2012
Course Delivery Model	
Is the course brokered through another institution or agency? (Y/N)	No
Certificate, Credential, or License	
Industry-recognized skill certificate, credential, or state license that a student is eligible for upon successful completion of the course?	PLTW Introduction to Engineering Design
Issuing body/organization/agency	PLTW

Standards Alignment

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Alaska Reading, Writing, Math, & Science Standards	Alaska Employability Standards	Alaska Cultural Standards	All Aspects of Industry	Formative Assessment
Students will explore the concepts of form and function and explain its use in product design.	PLTW	M4.1-3 M5.4.1 SE2.1 W4.2.2 W4.2.4	A1,A2	E3	Princ of Tech, Comm Issues	PLTW Assessments
Students will apply the steps of the design process to solve a variety of design problems.	PLTW	M8.4.1-3 SA1.1 SE2.1	A1,A2	E6	Princ of Tech, Comm Issues	PLTW Assessments
Students will develop a portfolio to organize and display evidence of their work.	PLTW	W4.2.2 W4.2.4	A3	A1	Princ of Tech, Comm Issues	PLTW Assessments

Student Performance Standards (Learner Outcomes or Knowledge & Skill Statements)	Specific Occupational Skills Standards	Alaska Reading, Writing, Math, & Science Standards	Alaska Employability Standards	Alaska Cultural Standards	All Aspects of Industry	Formative Assessment
Students will evaluate and select the necessary views to graphically communicate design solutions.	PLTW	M2.4.3 M5.4.1 M8.4.1-3 W4.2.2	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will identify major geometric shapes.	PLTW	M5.4.1	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will draw a two-dimensional sketch using a CAD package.	PLTW	M8.4.1-3	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will explore and demonstrate assembly modeling skills to solve a variety of design problems.	PLTW	M7.3.3 M8.4.1-3 M10.2.1-3	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will translate a three-dimensional drawing or model into corresponding orthographic drawing views.	PLTW	M5.4.2 M5.4.4 M5.4.6 M8.2.1-3	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will interpret data which have been statically analyzed to ensure product quality.	PLTW	M6.4.1 M7.3.3	A1,A2	Princ of Tech, Comm Issues	PLTW Assessments	PLTW Assessments
Students will participate in CTSO classroom activities.	C1:1	R4.4	A1-4, B1	A7, B1-2, E7	Portfolio	PLTW Assessments

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Instructional Resources

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

Project Lead the Way: <http://www.pltw.org>