

## CTE Course Description and Standards Crosswalk

### Course Information

Course Name	Advanced GIS and Remote Sensing
Course Number	81100
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	November 2014

### Career & Technical Student Organization (CTSO)

CTSO embedded in this sequence	FFA
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### Occupational Standards

Source of Occupational Standards	States Career Cluster Initiative (SCCI) 2008;
Names/Numbers of Occupational Standards	AGC, AGPE

### Registration Information

Course Description (brief paragraph – as shown in your student handbook or course list)	This class continues what was covered in the Introduction to GIS and RS Concepts class. It teaches students the project management skills required to work on and build a real GIS project. Students will plan, collect, and display their data using a GPS and mapping software.
Instructional Topic Headings (please separate each heading by a semi-colon)	Visualization of Spatial Data; Data Inventory Management; Demographic an Economic Data Analysis; Location-Based Analysis Techniques; Data Collection Methods and Techniques; Experiments in Skills Applications (Bloom’s Taxonomy: Application, Analysis, Synthesis, Evaluation)

### Summative Assessments and Standards

Technical Skills Assessment (TSA)	None
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, Dr. Stephen Brown; Revised by Don Berberich
Course adapted from	
Date of previous course revision	2008
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 learn the various ways that GIS software can present (visualize) data.	AGC02.02	AG-NR 1-4	SL.9-12.4	Math Practice 4,5,6,7	B2,4	A2,5	Technical Skills Technology	Discussion Essay
Students will demonstrate their knowledge of GIS visualization to choose proper display techniques.	AGC02.01	AG-NR 1-4	RST.9-12.7	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Project
Students will learn how to use GIS to manage different types of data and to explain why data management is important.	AGPE01.02,03	AG-NR 1-4	RST.9-12.7 WHST.9-12.8	Math Practice 1, 4,5,6	B2,4	A2,5	Technical Skills Technology	Presentation Project
Students will learn and demonstrate how to search national census data using GIS.	AGC10.02.04	AG-NR 1-4	WHST.9-12.7-.9	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Presentation
Students will use GIS to explore the cultural, ethnic, and economic demographics of Alaska.	AGC10.02.04	AG-NR 1-4	WHST.11-12.7	Math Practice 4,5,6	A7 B2,4	A2,5	Technical Skills Technology Community	Presentation
Students will create and edit geospatial data using GIS and explain the various ways spatial data can be queried for information.	A.02.04GC10 AGPE01.01	AG-NR 1-4	WHST.11-12.5	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Demonstration

**DISTRICT NAME: Matanuska Susitna 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>
	.02,03							
Students will collect spatial data using a GPS and display the data in GIS.	AGPE0201.02.01	AG-NR 1-4	SL.11-12.4	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Project Presentation
Students will create new GIS data using software-based creation techniques.	AGPE01.01.02	AG-NR 1-4	WHST.9-12.6	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Presentation
Students will complete GIS project that identifies, explores, and visualizes an environmental problem.	AGPE01.02.02	AG-NR 1-4	SL.9-12.4-.6	Math Practice 4,5,6	B2,4	A2,5	Technical Skills Technology	Presentation

**Instructional Resources**

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

Teacher Resource Pack  
 Leica GeoSystems Image Analysis 25 Station License  
 Series 2 Book 1 - Advanced GIS Tools and Processes  
 Series 2 Book 2 - Introduction to Essential Tools in Remote Sensing