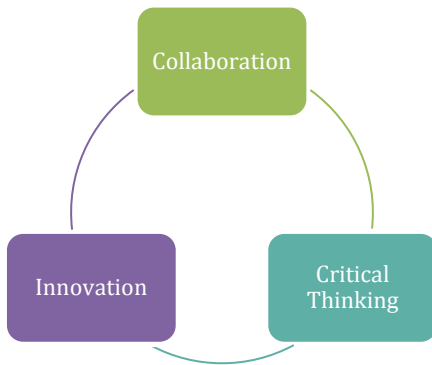


STEM School Chattanooga

11th Grade PBL Unit Plan Template

Unit Quarter: 4th

Title: Drone-Based GIS Analysis



Learning Target Topics

Collaboration: Working with other people on a project or problem to achieve a shared goal.

Critical Thinking: Accessing, using, and applying information and knowledge.

Innovation: Using creative thinking to construct something new and valuable.

Grade Level	11 th Grade	Unit Length	9 Weeks
Industry Partner	<ul style="list-style-type: none"> UTC Interdisciplinary Geospatial Technology Lab and UTC SimCenter 		
Unit Overview	<p>STEM student teams will utilize the school's DJI Phantom drone to collect GIS data of the Chattanooga State Community College campus. Using computing and software resources at UTC's SimCenter, the teams will create a GIS model of the campus. For the school partner, the focus is on GIS modeling and analysis using data collected from the drone. For the STEM School, the focus is on the critical thinking and innovation skills demonstrated by the student teams.</p>		
Unit Essential Issue	<ul style="list-style-type: none"> Project: Use GIS data collected by a drone and processed by UTC's SimCenter computing capabilities to develop a GIS model and analysis of the Chattanooga State Community College campus. 		
Kick Off Event	<p>Kick Off: Week of March 21st The UTC sponsors will discuss the field and applications of GIS, examples of GIS modeling and analysis, the software and computing capabilities available to the students, and the expectations for the GIS campus model.</p>		
Culminating Events	<p>Presentation Day: Week of May 16th The student teams will present their GIS model and analysis of the Chatt State Community College campus to the project sponsors. The project sponsors will evaluate the model and analysis and provide constructive feedback to the teams.</p>		
Common Assessment	<p>Students will be scored using the Association of American Colleges and Universities rubric for Critical Thinking and Creative Thinking Skills. All 4's will equate to Advanced, scores of 3 and 4 will equate to Proficient, and any scores below a 3 will equate to Below Basic.</p> <p>Items that will be used to score student work:</p> <ul style="list-style-type: none"> Assignments (Plans, Weekly Prototype Reports, Design Process Work Products, etc.) Presentation GIS model of the Chattanooga State Community College Campus 		