



UTAH SYSTEM OF
HIGHER EDUCATION

Utah System of Higher Education

The Gateway, Salt Lake City, UT 84101

801-646-4784

Civil Construction I		Course Description	
<i>Catalog Year: 2025, Required Hours: 120, Credits: 4</i>			
Foundational Courses (Required Hours: 120, Credits: 4)			
<i>Foundational Courses (Required Hours: 120, Credits: 4)</i>		Credits	Hours
TECI 1010	Civil Construction Fundamentals	4.00	120.00
<p>This comprehensive course is designed to provide students with a foundational understanding of civil construction processes, equipment, safety protocols, and environmental considerations. From the initial bid to project hand-off, students will delve into the intricacies of construction blueprint reading, measurement techniques, and soil mechanics. Real-world application through site visits and a culminating capstone project will solidify their knowledge and skills for successful entry into the heavy civil construction industry.</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Explore the fundamental concepts and practices within the heavy civil construction industry. • Identify the standard processes involved from project bidding to final hand-off. • Identify the functions of various heavy equipment commonly used in construction projects. • Explain the environmental factors affecting construction projects. • Integrate sustainable practices into construction planning and execution. • Demonstrate safety throughout all aspects of heavy civil construction. • Interpret blueprints including recognizing symbols and measurements. • Perform depth and slope calculations, read grade stakes, and review GPS data. • Interpret and explain the basics of geotechnical reports. • Identify sand and gravel aggregate types. • Explain proctor and moisture requirements for soil compactions. • Describe asphalt paving techniques, including sand and aggregate requirements. • Follow safety protocols associated with asphalt paving. • Perform practical site visits, focusing on earthwork, excavation, and material transportation. • Demonstrate ability to maneuver heavy equipment utilizing heavy equipment simulators and emphasizing safety protocols. • Demonstrate basic utility layout principles. • Explain load requirements for utilities. • Demonstrate trenching and excavation with a focus on safety. • Prepare a comprehensive capstone project based on a module from prior learning, or alternatively, utilize on-the-job projects to meet capstone project requirements. 			