

Introduction to Technology Education

Career Cluster	STEM
Course Code	21051
Prerequisite(s)	None
Credit	.5
Program of Study and Sequence	Foundational course
Student Organization	None
Coordinating Work-Based Learning	Field trips
Industry Certifications	None
Dual Credit or Dual Enrollment	None
Teacher Certification	Architecture & Construction Cluster Endorsement; Manufacturing Cluster Endorsement; STEM Cluster Endorsement; Transportation, Distribution & Logistics Cluster Endorsement; 7-12 Technology Education Endorsement
Resources	http://www.iste.org/standards/ISTE-standards/standards-for-students ; www.google.com

Course Description: Technology is a significant part of society. Most careers call for some type of technology skills, knowledge, and abilities. Technology education brings deeper meaning to core content concepts while introducing students to various technologies, technical skills, critical thinking processes, and hands-on experiences. Students will increase their technological literacy, problem solving, and creative/critical thinking skills. Within this course the following topics of study will be addressed: nature of technology, technology and society, design process, energy and power, manufacturing, construction, transportation, communication, professionalism, health, safety and the environment.

Program of Study Application- This is a STEM Cluster Course in the STEM Engineering Pathway. It is recommended that the course be preceded by a series of foundation courses and a cluster course(s) in STEM, and followed by a more specialized pathway course such as Industrial and Bioprocess Engineering, Mechanical Drafting & Design, Architectural Drafting, and/or Robotics.

Note: Each standard has been addressed at four Webb levels. This differentiation may be used to determine appropriateness for grade level use or progression of learning.

Course Standards

Indicator # ITE 1 Analyze the scope and nature of technology		
<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2: Skill/Concept	ITE 1.1 Examine the relationship between technology and other areas of study	
Level 2: Skill/Concept	ITE 1.2. Understand the effects of technology on the natural environment	
Level 2: Skill/Concept	ITE 1.3. Examine the relationship between the cultural, social, economic, and political effects of technology on society	
Indicator # ITE 2 Apply the system-thinking model (the feedback loop) to technology		
<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2: Skill/Concept	ITE 2.1 Apply the design process to the engineering design process	
Indicator # ITE 3 Solve problems using innovation, research, experimentation, and design		
<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 3: Strategic Thinking	ITE 3.1 Use research and experimentation methods to solve problems	

Level 3: Strategic Thinking	ITE 3.2. Use innovative and/or troubleshooting methods to solve problems	
Indicator # ITE 4 Apply appropriate skill sets to various ranges of technology		
<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2: Skill/Concept	ITE 4.1. Understand biotechnologies	
Level 2: Skill/Concept	ITE 4.2 Understand energy and power technologies	
Level 2: Skill/Concept	ITE 4.3 Understand information and communication technologies	
Level 2: Skill/Concept	ITE 4.4 Understand transportation technologies	
Level 2: Skill/Concept	ITE 4.5 Understand manufacturing technologies and materials	
Level 2: Skill/Concept	ITE 4.6 Understand construction technologies	
Indicator # ITE 5 Understand ethics and professionalism in technology		
<i>Webb Level</i>	<i>Sub-indicator</i>	
Level 3: Strategic Thinking	ITE 5.1 Investigate and demonstrate understanding of professionalism and ethics in the technological environment	
Indicator # ITE 6 Understand safety and health in technology		
<i>Webb Level</i>	<i>Sub-indicator</i>	

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Level 2: Skill/Concept	ITE 6.1. Understand implication of health and public safety standards	
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