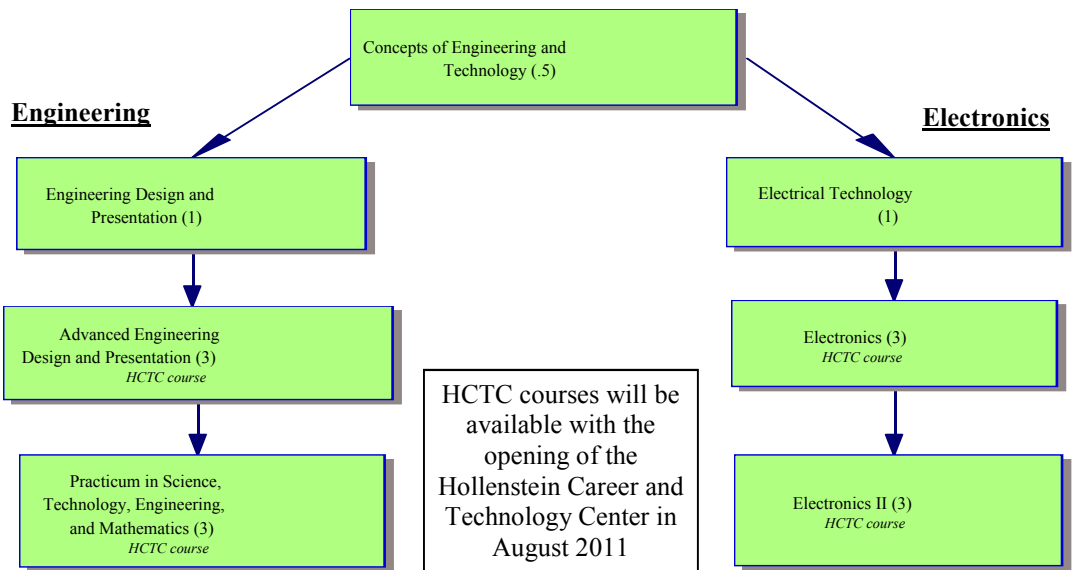




This pathway prepares students for various careers in the Science, Technology, Engineering, and Mathematics fields. Students will choose either the Engineering or Electronics branch of the pathway. Under Engineering the students will demonstrate knowledge and skills of the process of design as it applies to the engineering field. The Electronics branch will provide students the opportunity to understand the applications of circuits, electronic measurement, and electronic implementation. While following these pathways, they can choose to participate in Skills USA. Upon completion of the Science, Technology, Engineering, and Mathematics pathway students may obtain their HBI/RCA Electrical Principles, NCCER, Industrial Electronics Technician, Certified Maintenance and Reliability Professional, IPC 610, IS CET, and OSHA certifications

Suggested Four Year Plan

High School Plan	Grade	English/ Language Arts	Math	Science	Social Studies	Suggested Courses (* indicates graduation requirement)	Sample Occupations Relating to This Career Cluster
	9	English I	Algebra I	Biology	World Geography	Concepts of Engineering and Technology Communication Applications* Foreign Language I* P.E. <u>or</u> Equivalent*	<ul style="list-style-type: none"> Engineer Aerospace Engineer Mechanical Engineer Engineering Technology Electrical Engineer
	10	English II	Geometry	Chemistry	World History	Engineering Design & Presentation <u>or</u> Electrical Technology Fine Art* Foreign Language II*	
	11	English III	Algebra II or Math Models	Physics	U.S. History	Advanced Engineering Design & Presentation <u>or</u> Electronics (HCTC courses)	Extracurricular Activities <ul style="list-style-type: none"> Skills USA
	12	English IV	Algebra II (If Math Models in Grade 11) <u>or</u> Other State Approved Math Course	State Approved Science Course	U.S. Government and Economics	Practicum in Science, Technology, Engineering, and Mathematics <u>or</u> Electronics II (HCTC courses)	



Career and Technical Education: Science, Technology, Engineering and Mathematics (STEM)

Course Name	Credits	Grade Levels	Prerequisites
Concepts of Engineering and Technology	.5	9-12	None
Engineering Design and Presentation	1	10-12	Concepts of Engineering and Technology <i>or</i> Principles of Architecture & Construction
MORE COMING SOON... 2011-2012			MORE COMING SOON... 2011-2012

Concepts of Engineering and Technology

PEIMS: 13036200

Grade Placement: 9-12

Prerequisite: None

Credit: .5

This course provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will use a variety of computer hardware and software application to complete assignments and projects.

Engineering Design and Presentation

PEIMS: 13036500

Grade Placement: 10-12

Prerequisite: Concepts of Engineering and Technology *or* Principles of Architecture & Construction

Credit: 1

Students will demonstrate knowledge and skills of the process of design as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes.

The following courses will be available upon the opening of the HCTC in 2011-2012

Advanced Engineering Design and Presentation

PEIMS: 13036600

Grade Placement: 11-12

Prerequisite: Engineering Design and Presentation

Credit: 3

This course is designed to provide students the opportunity to master computer software application in a variety of engineering and technical fields. This course further develops the process of engineering thought and application of the design process.

Practicum in Science, Technology, Engineering and Mathematics

PEIMS: 13037400

Grade Placement: 12

Prerequisite: Advanced Engineering Design and Presentation

Credit: 3

The practicum is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

Electronics

PEIMS: 13036800

Grade Placement: 11-12

Prerequisite: Electrical Technology

Credit: 3

This course will demonstrate knowledge and applications of circuits, electronic measurement, and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software applications to complete assignments and projects.

Electronics II (Advanced Electronics)

PEIMS: 13036900

Grade Placement: 12

Prerequisite: Electronics I

Credit: 3

This course will demonstrate knowledge and applications of advanced circuits, electronic measurement, and electronic implementation used in the electronics and computer industries. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software application to complete assignments and projects.