

KY Valid Course List

HOW TO USE THIS DOCUMENT

This document contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. The grade range and population information listed for each course are not absolute. Please choose the course that most closely represents the students in a given course.

EXAMPLE

John Q Middle School had 5th, 6th, and 7th grade students taking a Creative Art course. This course would be linked to course number **500711: Creative Art – Comprehensive**, which shows with a recommended grade range of 6th – 12th.

The courses listed in this document are not meant to replace the course titles and course numbers already in use at the school level. Schools will link their courses on the Infinite Campus “Course Master” tab OR in the “Course” tab to courses listed in this document.

Schools may have created courses that are very unique in order to meet students’ needs. If a course does not meet the definition or content of one contained in this document, please use course number **909999: School Defined Course**, and code the correct content through the LEAD report.

CERTIFICATIONS

It is important to note that the certificates listed are the ones that fit **ALL** of the parameters for a specific course – there may be other certificates that can teach it with slightly more restrictive parameters.

It is very important to note that not all of the certificates listed under a specific course will meet the Highly Qualified Teacher standards as defined by The No Child Left Behind Act of 2001. Please refer to the Highly Qualified guidance documents located on the Education Professional Standards Board (EPSB) website at <http://www.epsb.ky.gov/nclb.asp>.

In addition to Highly Qualified considerations, please take note of the following information from **The Kentucky Core Academic Standards** with regard to middle school courses that are offered for high school credit.

High School Credit Earned in Middle School

It is expected that most students will earn these credits during their high school years. However, local school districts may offer these courses to middle level students if the following criteria are met:

- the content and the rigor of the course is the same as established in the *Kentucky Core Academic Standards*
- the students demonstrate mastery of the middle level content as specified in the *Kentucky Core Academic Standards*
- the district has criteria in place to make reasonable determination that the middle level student is capable of success in the high school course
- **the middle level course is taught by teachers with either secondary or middle level certification with appropriate content specialization**

Although middle level courses list the Provisional and Standard Elementary Certificates, Grades 1-8 as allowable under the parameters of these courses, they will not meet the above requirements for courses that are offered for high school credit.

This document is a guide; therefore the EPSB disclaims any warranties as to the validity of the information in this document. Users of this document are responsible for verifying information received through cross-referencing the official record in the EPSB’s Division of Certification. The EPSB shall not be liable to the recipient, or to any third party using this document or information obtained therefrom, for any damages whatsoever arising out of the use of this document.

Please contact Robin Chandler, policy advisor for the Office of Next Generation Learners in KDE, at 502-564-2106 with any questions on content and curricula.

Please contact EPSB’s Division of Certification at 502-564-4606 with any questions on credentials or permissions.

Table of Contents

Table of Contents	3
Engineering and Technology Program Area (210000)	4
Engineering and Technology - Technology (210100)	5
Engineering and Technology - Engineering (219900).....	18

Engineering and Technology Program Area (210000)

The Engineering and Technology program is a study of technology, innovation, design, and engineering, which provides an opportunity for students to learn about the processes and knowledge related to technology that are needed to solve problems and extended human capabilities.

Engineering and Technology - Technology (210100)

Career Major: Technology courses derive content from the study of technology, innovation, design, and engineering, which provides an opportunity for students to learn about the processes and knowledge related to technology that are needed to solve problems and extend human capabilities. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

210101 - Invention and Innovation, Grades 6-8

Grade Level: 6 - 8

Credits:

Description: This course provides students with opportunities to apply the design process in the invention or innovation of a new product, process, or system. In this course, students will learn all about invention and innovation. They will have opportunities to study the history of invention and innovations, including their impact on society. They will learn about the core concepts of technology, and about the various approaches to solving problems, including engineering design and experimentation. Students will apply their creativity in the invention and innovation of new products, processes, or systems. Finally students learn about how various invention and innovations impact their lives. Students participate in engineering-design activities to understand how criteria, constraints, and processes affect design. Students are involved in activities where they learn about brainstorming, visualizing, modeling, constructing, testing, experimenting, and refining design. Students also develop skills in researching for information, communicating design information, and reporting results. This Course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
ELE	Endorsement For Elementary School Classroom Teaching, Grades 1-8
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
PEA	Provisional Elementary Certificate, Grades 1-8
PEB	Provisional Elementary Certificate, Grades 1-8
PEBF	Provisional Elementary Certificate, Grades 1-8
SEA	Standard Elementary Certificate, Grades 1-8
SEB	Standard Elementary Certificate, Grades 1-8
SEM	Standard Elementary Certificate, Grades 1-8
SEMF	Standard Elementary Certificate, Grades 1-8
TES	Endorsement For Elementary And Secondary Classroom Teaching
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12

TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210102 - Invention and Innovation, Grades 9

Grade Level: 9 - 9

Credits: 1

Description: This course provides students with opportunities to apply the design process in the invention or innovation of a new product, process, or system. In this course, students will learn all about invention and innovation. They will have opportunities to study the history of invention and innovations, including their impact on society. They will learn about the core concepts of technology, and about the various approaches to solving problems, including engineering design and experimentation. Students will apply their creativity in the invention and innovation of new products, processes, or systems. Finally students learn about how various invention and innovations impact their lives. Students participate in engineering-design activities to understand how criteria, constraints, and processes affect design. Students are involved in activities where they learn about brainstorming, visualizing, modeling, constructing, testing, experimenting, and refining design. Students also develop skills in researching for information, communicating design information, and reporting results. This Course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210103 - Technological Systems, Grades 6-8

Grade Level: 6 - 8

Credits:

Description: This course is intended to inform students how technological systems work together to solve problems and capture opportunities. A system can be as small as two components working together (technical system/device level) or can contain millions of interacting devices (use system/network level). We often break down the macro-systems into less complicated micro-systems in order to understand the entire system better. However, technology is becoming more integrated and systems are becoming more and more dependent upon each other than ever before. Electronic systems are interacting with natural (i.e. biological)

systems as humans use more and more monitoring devices for medical reasons. Electrical systems are interacting with mechanical and fluid-power systems as manufacturing establishments become more and more automated. This course will give students general background on the different types of systems but will concentrate more on the connections between these systems. This course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
ELE	Endorsement For Elementary School Classroom Teaching, Grades 1-8
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
PEA	Provisional Elementary Certificate, Grades 1-8
PEB	Provisional Elementary Certificate, Grades 1-8
PEBF	Provisional Elementary Certificate, Grades 1-8
SEA	Standard Elementary Certificate, Grades 1-8
SEB	Standard Elementary Certificate, Grades 1-8
SEM	Standard Elementary Certificate, Grades 1-8
SEMF	Standard Elementary Certificate, Grades 1-8
TES	Endorsement For Elementary And Secondary Classroom Teaching
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210104 - Technological Systems, Grade 9

Grade Level: 9 - 9

Credits: 1/2

Description: This course is intended to inform students how technological systems work together to solve problems and capture opportunities. A system can be as small as two components working together (technical system/device level) or can contain millions of interacting devices (use system/network level). We often break down the macro-systems into less complicated micro-systems in order to understand the entire system better. However, technology is becoming more integrated and systems are becoming more and more dependent upon each other than ever before. Electronic systems are interacting with natural (i.e. biological) systems as humans use more and more monitoring devices for medical reasons. Electrical systems are interacting with mechanical and fluid-power systems as manufacturing establishments become more and more automated. This course will give students general background on the different types of systems but will concentrate more on the connections between these systems. This course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210105 - Special Technology Topics, Grades 6-8

Grade Level: 6 - 8

Credits: 0

Description: Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This course will allow students to gain a more comprehensive knowledge of a particular technology topic or explore specialized technology careers. This can be accomplished in a laboratory environment through a variety of instructional strategies. Instruction can be enriched through participation in Kentucky Technology Student Association challenges and/or Project Lead the Way-Gateway to Technology program materials. This optional/additional course may be 6 to 18 weeks in duration and may be taught at any grade level as appropriate.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
ELE	Endorsement For Elementary School Classroom Teaching, Grades 1-8
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
PEA	Provisional Elementary Certificate, Grades 1-8
PEB	Provisional Elementary Certificate, Grades 1-8
PEBF	Provisional Elementary Certificate, Grades 1-8
SEA	Standard Elementary Certificate, Grades 1-8
SEB	Standard Elementary Certificate, Grades 1-8

SEM	Standard Elementary Certificate, Grades 1-8
SEMF	Standard Elementary Certificate, Grades 1-8
TES	Endorsement For Elementary And Secondary Classroom Teaching
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210106 - Special Technology Topics

Grade Level: 9 - 9

Credits: 1/2

Description: Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This course will allow students to gain a more comprehensive knowledge of a particular technology topic or explore specialized technology careers. This can be accomplished in a laboratory environment through a variety of instructional strategies. Instruction can be enriched through participation in Kentucky Technology Student Association challenges and/or Project Lead the Way-Gateway to Technology program materials. This optional/additional course may be 6 to 18 weeks in duration and may be taught at any grade level as appropriate.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210107 - Foundations of Technology

Grade Level: 9 - 12

Credits: 1

Description: This course provides the "foundation" for students to understand and apply technological concepts and processes that are the cornerstone for the high school technology program. Group and individual activities engage students in creating ideas, developing innovations, and engineering practical solutions. Technology content, resources, and laboratory activities encourage student applications of Kentucky Core Content. This course will focus on the three dimensions of technological literacy: 1) knowledge, 2) ways of thinking and acting, and 3) technological capabilities. The goal being that students

develop the characteristics of a technologically literate citizen. The course will employ teaching/learning strategies that enable students to build their understanding of new ideas. It is designed to engage students in exploring and deepening their understanding of "big ideas" regarding technology. This can be accomplished through modular or other instructional strategies. Instruction should be enriched through participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210108 - Technological Design

Grade Level: 9 - 12

Credits: 1

Description: This course contributes to the development of each high school student's capability to understand how technology's development, control and use are based on design constraints and human wants and needs. The structure of the course challenges students to use technological design processes so that they can think, plan, design and create solutions to engineering and technological problems. Students are actively involved in the organized and integrated application of technological resources, engineering concepts, and scientific procedures. Students address the complexities of technology that stem from designing, developing, using and assessing technological systems. The goals of this course can be accomplished through various laboratory instructional strategies utilizing the seven contexts of technological literacy. Instruction should be enriched through the participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12

KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210109 - Technological Issues and Impacts

Grade Level: 9 - 12

Credits: 1

Description: This course addresses the positive and negative impacts of technology and the intended and unintended results of its implementation. Students investigate and analyze critical historical and emerging issues affecting the creation, development, use and control of contemporary and future technology. Laboratory activities will allow students to propose and implement alternative solutions. Students will measure, quantify, assess, and communicate the impacts of these proposals and the issues that accompany them. The goals of this course can be accomplished through various classroom and laboratory instructional strategies. Instruction should be enriched through participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210110 - Engineering Design (Capstone)

Grade Level: 9 - 12

Credits: 1

Description: Engineering scope, content, and professional practices are presented through practical applications in this capstone course. Students in engineering teams apply technology and Kentucky Core

Content and skills to solve engineering design problems and create innovative designs. Students research, develop, test and analyze engineering designs using criteria such as design effectiveness, public safety, human factors and ethics. Instruction should be enriched through participation Kentucky technology Student Association challenges. This course may be 18-36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210111 - Special Problems in Technology

Grade Level: 9 - 12

Credits: 1-4

Description: This independent-study course is designed to allow a high school student to study in-depth a technology topic or issue. The experience will enable the student to gain a more comprehensive knowledge of a particular technological context. A variety of instructional strategies using multiple resources, specialized laboratories, and collaboration with mentoring experts should be encouraged. Independent studies and/or internships could be utilized. Instruction should be enhanced through participation in Kentucky Technology Student Association challenges. This course may be 18 to 36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8

TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210112 - Special Topics, Technology Education

Grade Level: 9 - 12

Credits: 1-4

Description: Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This is a laboratory-based course designed to study a technological system or topic, and/or a recent technological advancement. This study should include how this advancement affects society and/or the environment. A culminating project integrating one or more of the seven contexts of technological literacy and the Kentucky Core Content is encouraged. It should include research, design, construction, analysis, writing, and presenting. Instruction should be enriched through participation in Kentucky Technology Student Association. This course may be 18 to 36 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210116 - Foundations of Energy

Grade Level: 9 - 12

Credits: 1

Description: This course provides an overview of renewable and nonrenewable energy resources reflecting how energy impacts the environment and the economy from regional, state, national and global perspectives. Extensive hands-on laboratory activities are vital components of the curriculum. This course can provide a basis for students working toward career pathways in energy such as Engineering/Technology, Construction and Manufacturing Technology.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210117 - Advanced Design Applications

Grade Level: 11 - 12

Credits: 1

Description: This course consists of the first four units of the ProBase curriculum. These units are Manufacturing, Energy and Power, Construction and Transportation. The Manufacturing unit examines the advance that maintain manufacturing efficiency, how human consumption affects manufacturing, how manufacturing affects the standard of living of various peoples, and how processing and changing raw materials can produce more desirable products. The Construction unit examines a number of the factors influencing the design and construction of permanent and semi-permanent structures. The practice related to construction maintenance, alterations, and renovation, and the functions of the primary systems installed in those structures. The Energy and Power unit explores the relationship between energy and power system impact cultures, societies and the environment. It also offers an examination of how energy and power systems can be made more efficient and how they may be utilized in problem solving. The Transportation unit examines the complex networks of interconnected subsystems that each transportation system comprises and the roles of these components in the overall functional process of the system. It also analyzes the improvements and the impacts of transportation technologies on the environment, society, and culture. Each of the four units is approximately 9 weeks in length. If the course is scheduled for 18 weeks, only 2 units can be completed. Completion of all four units requires a 36 week course.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210118 - Advanced Technological Applications

Grade Level: 11 - 12

Credits: 1

Description: This course consists of the first four units of the ProBase curriculum. These units are: Information Technology, Agriculture and Bio-Related Technologies, Medical and Entertainment/Recreation Technology. The Information Technologies unit examines how technology facilitates the gathering, manipulation, storage and transmission of data and how this data can be used to create useful products. It also provides students with opportunities for developing communication systems that can solve technological problems. The Agriculture and Biorelated Technologies unit explores how agriculture technologies provide increased crop yields and allow adaptation to changing and harsh environments, enabling the growth of plant and animals for various uses. It also offers an analysis of the various uses of biotechnology and the ethical considerations of those uses. The Medical Technologies unit provides and analysis of how medical technologies are used to increase the quality and length of human life, and require public debate. Students will also examine tools and devices used to repair and replace organs, prevent disease and rehabilitate the human body. The Entertainment/Recreation unit provides a study of technological entertainment and recreation systems, with an examination of the differences between these technologies, of how their use enhances human leisure-time performance and of the social, cultural and environmental implications of their usage. Each of the four units is approximately 9 weeks in length. If the course is scheduled for 18 weeks, only 2 units can be completed. Completion of all four units requires a 36 week course.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210127 - Exploring Technology, Grades 6-8

Grade Level: 6 - 8

Credits:

Description: Students develop and understanding of the progression and scope of technology through exploratory experiences. In group and individual activates, student experience ways in which technological knowledge and processes contribute to effective design and solutions criteria, constraints, and processes affect designs. Brainstorming, visualizing, modeling, constructing, testing, and refining designs provide first hand opportunities for students to understand the uses and impacts of innovations. Students develop skills in communications design information and reporting results. Instructional design may utilize modular or other instructional strategies. Participation in Kentucky Technology Student Association will greatly enhance instruction. This course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
ELE	Endorsement For Elementary School Classroom Teaching, Grades 1-8
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
PEA	Provisional Elementary Certificate, Grades 1-8
PEB	Provisional Elementary Certificate, Grades 1-8
PEBF	Provisional Elementary Certificate, Grades 1-8
SEA	Standard Elementary Certificate, Grades 1-8
SEB	Standard Elementary Certificate, Grades 1-8
SEM	Standard Elementary Certificate, Grades 1-8
SEMF	Standard Elementary Certificate, Grades 1-8
TES	Endorsement For Elementary And Secondary Classroom Teaching
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210128 - Exploring Technology, Grade 9

Grade Level: 9 - 9

Credits: 1/2

Description: Students develop an understanding of the progression and scope of technology through exploratory experiences. In group and individual activates, student experience ways in which technological knowledge and processes contribute to effective design and solutions to technological problems. Students participate in design activities to understand how criteria, constraints, and processes affect designs. Brainstorming, visualizing, modeling, constructing, testing, and refining designs provide first hand opportunities for students to understand the uses and impacts of innovations. Students develop skills in communications design information and reporting results. Instructional design may utilize modular or other

instructional strategies. Participation in Kentucky Technology Student Association will greatly enhance instruction. This course may be 6 to 18 weeks in duration.

Content: Engineering and Technology

Population: General

729	Engineering Technology
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
X98	Emergency Certificate For Teaching Engineering and Technology

210316 - Leadership Dynamics, Engineering and Technology

Grade Level: 9 - 12

Credits: 1/2-1

Description: This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. The student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

Content: Leadership Dynamics

Population: General

Due to the large number of certificates permitted to teach this course, no certificates are listed. Please check the certificate permissions on the EPSB website to verify a teacher's permission to teach this course. (Must be a CTE certified teacher)

Engineering and Technology - Engineering (219900)

Career Major: Engineering is a four year sequence of courses which, when combine with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering. Any course not found under this career major/sub code may be found in another career major/sub code with in this program area.

219901 - Introduction to Engineering Design

Grade Level: 9 - 12

Credits: 1

Description: Students explore technology systems and engineering processes to find out how math, science, and technology help people.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12

CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219902 - Principles of Engineering

Grade Level: 9 - 12

Credits: 1

Description: Using computer modeling software, students learn the design process. They solve design problems as they develop, create, and analyze product models.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12

KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219903 - Digital Electronics

Grade Level: 9 - 12

Credits: 1

Description: Students use computer simulations to learn about the logic of electronics as they design, test, and actually construct circuits and devices.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts

A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology

QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219904 - Computer Integrated Manufacturing

Grade Level: 9 - 12

Credits: 1

Description: Students learn concepts of robotics and automated manufacturing by creating three-dimensional designs with modeling software and producing models of their designs.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science

B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12

TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219905 - Civil Engineering and Architecture

Grade Level: 9 - 12

Credits: 1

Description: Teams of students collaborate on the development of community -based building projects and conceptual design for project presentations.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12

CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12

WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219906 - Engineering Design and Development (Capstone)

Grade Level: 9 - 12

Credits: 1

Description: Teams of students, guided by community mentors, work together to research, design, and construct solutions to engineering problems.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12

KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Provisionary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Provisionary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219907 - Aerospace Engineering

Grade Level: 11 - 12

Credits: 1

Description: This course will introduce students to aerospace information systems, star sailing or astronautics rocketry, propulsion, and the physics of space science, space life sciences (BioSpace) that includes looking at habitat and crew systems with life support, and the biology of space science, principles of

aeronautics, structures and materials, and systems engineering.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12

KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219908 - Biotechnical Engineering

Grade Level: 11 - 12

Credits: 1

Description: This course includes experiences from the diverse fields of Bio-technology, Bio-engineering, Bio-medical engineering, and Bio-molecular engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting related to biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocess engineering, forensics, and bio-ethics.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12

AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health
B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics

R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219917 - Special Topics, Engineering

Grade Level: 9 - 12

Credits: 1-4

Description: Special Technology topics allows the teacher to develop a course for in-depth exploration of technological topics. This is a laboratory-based course designed to study a technological system or topic, and/or a recent technological advancement. This study should include how this advancement affects society and/or the environment. A culminating project integrating one or more of the seven contexts of technological literacy and the Kentucky Core Content is encouraged. It should include research, design, construction, analysis, writing, and presenting. Instruction should be enriched through participation in Kentucky technology Student Association. This course may be 18 to 36 weeks in duration.

Content: Pre-Engineering

Population: General

A50	Area Specialization: Science
A70	Area Specialization: Mathematics-Physical Science
A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJBI	Adjunct Instructor For Biology, Grades 8-12
AJCH	Adjunct Instructor For Chemistry, Grades 8-12
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
AJMA	Adjunct Instructor For Math, Grades 8-12
AJPH	Adjunct Instructor For Physics, Grades 8-12
APLW	Approval for Project Lead the Way
B50	Teaching Major: Science
B51	Teaching Major: Biology
B52	Teaching Major: Chemistry
B53	Teaching Major: Physics
B54	Teaching Major: Biology-Health

B56	Teaching Major: Earth Science
B57	Teaching Major: Geology
B71	Teaching Major: Mathematics
B74	Teaching Major: Computer Science And Mathematics
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C50	Teaching Minor: Science
C51	Teaching Minor: Biology
C52	Teaching Minor: Chemistry
C53	Teaching Minor: Physics
C56	Teaching Minor: Earth Science
C57	Teaching Minor: Geology
C71	Teaching Minor: Mathematics
C94	Teaching Minor: Industrial Arts
CBI	Professional Certificate For College Faculty, Biology, Grades 8-12
CBII	Provisional Internship Certificate For College Faculty, Biology, Grades 8-12
CCH	Professional Certificate For College Faculty, Chemistry, Grades 8-12
CCHI	Provisional Internship Certificate For College Faculty, Chemistry, Grades 8-12
CEA	Professional Certificate For College Faculty, Earth Science, Grades 8-12
CEAI	Provisional Internship Certificate For College Faculty, Earth Science, Grades 8-12
CMA	Professional Certificate For College Faculty, Mathematics, Grades 8-12
CMAI	Provisional Internship Certificate For College Faculty, Mathematics, Grades 8-12
COMA	Conditional One-Year Certificate For Math, Grades 8-12
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
CPH	Professional Certificate For College Faculty, Physics, Grades 8-12
CPHI	Provisional Internship Certificate For College Faculty, Physics, Grades 8-12
KBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
KBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
KCH	Professional Certificate For Teaching Chemistry, Grades 8 Through 12
KCHI	Provisional Internship Certificate For Teaching Chemistry Grades 8 Through 12
KEA	Professional Certificate For Teaching Earth Science, Grades 8-12
KEAI	Provisional Internship Certificate For Teaching Earth Science, Grades 8-12
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
KMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
KMAL	Certificate For Teaching Kentucky Math Limited, Grades 8-12
KPH	Professional Certificate For Teaching Physics, Grades 8-12
KPHI	Provisional Internship Certificate For Teaching Physics, Grades 8 Through 12
KPHL	Certificate for Teaching Kentucky Physics Limited, Grades 8-12
KPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
KPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
QBI	Teaching Field: Biology
QMA	Teaching Field: Mathematics
R51	Area Specialization: Science Limited To Biology
R52	Area Specialization: Science Limited To Chemistry
R53	Area Specialization: Science Limited To Physics
R56	Area Specialization: Science Limited To Earth Science
T8BI	Temporary Provisional Certificate For Teaching Biological Science, Grades 8-12 (Option 8)
T8CH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8-12 (Option 8)
T8EA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12 (Option 8)
T8MA	Temporary Provisional Certificate For Teaching Mathematics, Grades 8-12 (Option 8)
T8PH	Temporary Provisional Certificate For Teaching Physics, Grades 8-12 (Option 8)
TEMA	Temporary Certificate For Mathematics, Grades 8-12
TEPH	Temporary Certificate for Physics, Grades 8-12
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12

TPBI	Temporary Provisional Certificate For Biology, Grades 8-12
TPCH	Temporary Provisional Certificate For Teaching Chemistry, Grades 8 Through 12
TPEA	Temporary Provisional Certificate For Teaching Earth Science, Grades 8-12
TPMA	Temporary Provisional Certificate For Math, Grades 8-12
TPPH	Temporary Provisional Certificate For Physics, Grades 8-12
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WBI	Professional Certificate For Teaching Biological Science, Grades 8 Through 12
WBII	Provisional Internship Certificate For Teaching Biological Science, Grades 8 Through 12
WCH	Professional Certificate For Teaching Chemistry, Grades 8-12
WCHI	Provisional Internship Certificate For Teaching Chemistry, Grades 8-12
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WMA	Professional Certificate For Teaching Mathematics, Grades 8 Through 12
WMAI	Provisional Internship Certificate For Teaching Mathematics, Grades 8 Through 12
WPH	Professional Certificate For Teaching Physics, Grades 8-12
WPHI	Provisional Certificate For Internship For Teaching Physics, Grades 8-12
WPS	Professional Certificate For Teaching Physical Science, Grades 8 Through 12
WPSI	Provisional Internship Certificate For Teaching Physical Science, Grades 8 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12

219999 - Gateway to Engineering Grade 6-8 (Project Lead The Way)

Grade Level: 6 - 8

Credits:

Description: This course is "activity oriented" to show students how technology is used in engineering to solve everyday problems. The four instructional units excite and motivate students to use their imagination and teach them to be creative and innovative, while gaining the skills they need to develop, produce and use products and services.

Content: Pre-Engineering

Population: General

A94	Area Specialization: Industrial Arts
A95	Area Specialization: Industrial Education-- Orientation And Exploration Levels
A99	Area Specialization: Technology Education
AJG5	Adjunct Instructor for Middle Grades Science
AJKT	Adjunct Instructor For Teaching Engineering and Technology, Grades 5-12
APLW	Approval for Project Lead the Way
B94	Teaching Major: Industrial Arts
B95	Teaching Major: Industrial Education -- Orientation And Exploration Levels
C94	Teaching Minor: Industrial Arts
CG50	Professional Certificate For College Faculty, Middle School Science, Grades 5-9
CG5I	Provisional Internship Certificate For College Faculty, Middle School Science, Grades 5-9
COTE	Conditional One-Year Certificate For Engineering and Technology, Grades 5-12
D50	Approval For Teaching Middle School Science, Grades 5-9
ELE	Endorsement For Elementary School Classroom Teaching, Grades 1-8
G50	Middle School Teaching Field: Science
G71	Middle School Teaching Field: Mathematics
J50	Junior High Major: Science
J51	Junior High Major: Biology
J52	Junior High Major: Chemistry
J54	Junior High Major: Biology-Health
J71	Junior High Major: Mathematics
K51	Junior High Semi-Major: Biology
K52	Junior High Semi-Major: Chemistry
K53	Junior High Semi-Major: Physics
K56	Junior High Semi-Major: Earth Science
K71	Junior High Semi-Major: Mathematics

KG50	Professional Certificate For Middle Grades Science, Grades 5-9
KG5I	Provisional Internship Certificate For Middle Grades Science, Grades 5-9
KG71	Professional Certificate For Middle Grades Mathematics, Grades 5-9
KG7I	Provisional Internship Certificate For Middle Grades Mathematics, Grades 5-9
KIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
KITR	Probationary Certificate For Teaching Industrial Technology, Grades 5 Through 12
KTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
KTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
KTER	Probationary Certificate For Teaching Engineering and Technology, Grades 5 Through 12
M50	Endorsement For Teaching Science, Grades 5-8
M50R	Probationary Certificate For Teaching Middle School Science, Grades 5-9
M71	Endorsement For Teaching Mathematics, Grades 5-8
M71R	Probationary Certificate For Teaching Middle School Math, Grades 5-9
M95	Endorsement For Teaching Industrial Education Orientation And Exploration Levels, Grades 5-8
MS50	Endorsement For Teaching Middle School Science, Grades 5-9
MS71	Endorsement For Teaching Middle School Math, Grades 5-9
PEA	Provisional Elementary Certificate, Grades 1-8
PEB	Provisional Elementary Certificate, Grades 1-8
PEBF	Provisional Elementary Certificate, Grades 1-8
QG71	Teaching Field: Middle Grades Mathematics
SEA	Standard Elementary Certificate, Grades 1-8
SEB	Standard Elementary Certificate, Grades 1-8
SEM	Standard Elementary Certificate, Grades 1-8
SEMF	Standard Elementary Certificate, Grades 1-8
T8G5	Temporary Provisional Certificate For Teaching Middle Grades Science, Grades 5-9 (Option 8)
T8G7	Temporary Provisional Certificate For Teaching Middle Grades Mathematics, Grades 5-9 (Option 8)
TE50	Temporary Certificate For Middle School Science, Grades 5-9
TE71	Temporary Certificate For Middle School Mathematics, Grades 5-9
TES	Endorsement For Elementary And Secondary Classroom Teaching
TETE	Temporary Certificate For Engineering and Technology, Grades 5-12
TPG5	Temporary Provisional Certificate For Middle Grades Science, Grades 5-9
TPG7	Temporary Provisional Certificate For Middle Grades Mathematics, Grades 5-9
TPTE	Temporary Provisional Certificate For Engineering and Technology, Grades 5-12
WG50	Professional Certificate for Middle Grades Science, Grades 5-9
WG5I	Provisional Internship Certificate For Middle Grades Science, Grades 5-9
WIT	Professional Certificate For Teaching Industrial Technology, Grades 5 Through 12
WITI	Provisional Internship Certificate For Teaching Industrial Technology, Grades 5 Through 12
WTE	Professional Certificate For Teaching Engineering and Technology, Grades 5 Through 12
WTEI	Provisional Internship Certificate For Teaching Engineering and Technology, Grades 5-12
XM50	Emergency Certificate For Middle School Science