

Youth Technology Academy Class Offerings



EET 1100: Intro to Robotic – 2 credit hour course

Introduction to direct current circuits, binary and hexadecimal numbering systems, signed numbers and elementary programming language statements (confined to programming a robot in laboratory component).

EET 1150: Basic Robotics with Math – 2 credit hour course

Course provides an introduction to robotic principles using C programming with an emphasis on math

EET 1180: Surface Mount Soldering – 1 credit hour course

Develop skills using surface mount technology (SMT), through hole technology (THT), and connectors using soldering equipment and techniques to facilitate design, construction and rework of circuit boards.

EET 1185: Single Board Computers & Applications – 3 credit hour course

An introductory course on Single Board Computers (SBC) with an emphasis on embedded applications. Topics include standard interface devices like keyboards, High-Definition Multimedia Interface (HDMI), Universal Serial Bus (USB), General Purpose Input and Output (GPIO) ports, conventional serial communications. Communicating with external sensors, like Global Positioning System (GPS), infrared transmission and detection, accelerometers, etc., are discussed from the aspect of programming. Lab work includes use of circuit stimulation software.

EET 1195: Unmanned Aerial Vehicles/Drones – 3 credit hour course

Addresses the emerging market for unmanned aerial vehicle (drones), their ethical use, safety issues, legal issues, electrical and mechanical components, on-board control systems, software and remote control.

MET 1100: Technology Orientation – 2 credit hour course

Orientation and exploration of technician's role as part of industrial team including technical careers, opportunities and job-hunting skills. Topics include use of the computer, basic

measurement and calculation skills and engineering drawing concepts. Introduction to oral technical writing and graphic methods of communication. Introduction to professional organizations, journals and tools for professional enhancement to provide a path for lifelong learning.

MET 1230: Drawing & AutoCAD – 3 credit hour course

Apply visualization skills in the interpretation of orthographic projections and pictorial drawings. Applied geometry, use of scales, sections, and auxiliary views are studied. Dimensioning standards and conventions as applied to detail and assembly drawings in manual drafting as well as use of CAD system to accomplish drafting tasks are emphasized. Includes overviews of computer terms and functions of the Windows Operating System. Covers special terms and definitions used in computer-assisted drafting, the roles technical drawings play in production, manufacturing and products design process.

MET 2601: 3D Solid Modeling – 3 credit hour course

Introduction to computer-aided engineering, design of mechanical component and system using computer-aided design technique, AutoCAD solid and surface model for product development, optimization of design and design documentation. Complete set of production drawings created using 3D drawing environments. Principles of parametric design, and functional assemblies directly applied. Emphasis tailored to 3D modeling for enhanced part description. Students work on individual design projects to stimulate spatial abilities and problem-solving techniques.

ISET 1300: Mechanical/Electrical Print Reading – 2 credit hour course

Introduction to fundamental theory and application of blueprint reading skills. Included material will cover electrical, mechanical, structural drawings with symbols and with diagrams, Safety Codes, basic troubleshooting techniques. Extensive guided instruction and practice provided.

ISET 1410: Applied Electricity I – 3 credit hour course

Fundamentals of electricity with emphasis on resistance, direct current voltage and current, electrical quantities and units of measurements. Ohm's Law, Kirchhoff's voltage and current laws will also be covered

ISET 1420: Applied Electricity II – 3 credit hour course

Principles and applications of electricity with emphasis on alternating current, inductors, capacitors, and phase relationships. Electrical quantities and units of measurements, Ohm's Law, Kirchhoff's voltage and current laws, single and three phase transformers will also be included. Extensive guided instruction and practice provided.

AIT 1010: Construction Measurements and Calculations – 4 credit hour course

Course covers fundamental measuring and calculation skills essential to the skilled craftsperson working in the construction industry. Provides a basic level of knowledge and understanding of practical measurements used to establish building, wall and equipment locations as well as material sizes and quantities. Field application and measurement conversions are stressed. Basic mathematical concepts are explained and applied in job situations.

AIT 1020: Comprehension and Communication for Construction – 2 credit hour course

Covers basic skills necessary for reading factual information used in construction with concentration on supporting details, clarifying information, and end results needed for success in the construction industry.

AIT 1030: Basic Construction Language – 2 credit hour course

Study of construction drawings to determine specifications, lines and line weights, measurements related to laying out, dimensioning, estimating and planning.

AIT 1040: Spatial and Mechanical Reasoning – 1 credit hour course

Introduces the student to spatial development skills and mechanical reasoning. Included are practical applications of orthographic projections, figure conceptualization and cubic translations. Also included are mechanical analysis of pulley and gear systems and simple machines including basic properties of physics.

To register or for more information contact Tracie Haynie at:

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