

E

Jay County • South Adams • Adams Central • Blackford
Norwell • Bluffton • Belmont • Huntington North • Southern Wells

Electronics

MANUFACTURING

POSSIBLE CAREERS:

- AEROSPACE ENGINEER
- COMPUTER HARDWARE ENGINEER
- ENGINEERING MANAGERS
- ELECTRICIANS
- SALES ENGINEERS
- ARCHITECTURAL/ENGINEERING MANAGERS



Jay County



Jay County



Jay County

Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment such as electric motors, radar and navigation systems, communications systems, and power generation equipment. Electronics engineers design and develop electronic equipment, such as broadcast and communications systems.



Jay County

COURSES:

INTRODUCTION TO MANUFACTURING
ELECTRONICS AND COMPUTER TECH I
ELECTRONICS AND COMPUTER TECH II

CTSO: ROBOTICS TEAM
State and National competitions
with scholarship opportunities

DUAL COLLEGE CREDITS
None at this time

ADVISORY BOARDS
with Area Manufacturers and Businesses

TECHNICAL HONORS DIPLOMA

JOB OUTLOOK

Employment of **Electrical and Electronics Engineers**, and **Electrical and Electronics Installers and Repairers** is expected to grow 6 percent from 2010 to 2020, slower than the average for all occupations.

Source: Bureau of Labor Statistics



CTE Cooperative Serving Adams • Blackford • Huntington • Jay • Wells Counties

For more information:
KEVIN KELLER, AREA 18 DIRECTOR
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See your school guidance counselor for assistance if your school currently does not offer the classes in which you are interested. There are shared programs among the nine high schools in Area 18's Career and Technical Education.

Indiana College and Career Pathway Plan – State Model									
Cluster: Manufacturing					Pathway: Electronics & Computer Technology				
Core 40 with Honors High School Graduation Plan*									
*This is a SAMPLE plan for schools to use in planning. Course sequences and grade level in which courses are offered may vary according to local policies, practices and resources.									
Students should enroll in Indiana Career Explorer, complete interest inventories, and investigate careers in clusters & pathways prior to or during the time they create their individual Pathway Plans.									
SECONDARY	Grade	English/ Language Arts	Math	Science	Health/PE Social Studies	CTE/Career Preparation Courses for this Pathway		Other Elective Courses for this Pathway	
	9	English 9	Algebra I	Biology	Health & Wellness/ Physical Ed	Preparing for College & Careers;	Southern Wells Bluffton	Digital Citizenship, Personal Financial Responsibility	World Language
	10	English 10	Geometry	Chemistry	Geography/History of the World or World History/Civilization	Introduction to Manufacturing or Introduction to Advanced Manufacturing	Computers in Design & Production or Intro to Engineering Design or Digital Electronics		World Language
	11	English 11	Algebra II	3 rd Core 40 Science	US History	** Electronics & Computer Technology I		Jay County	World Language
	12	English 12	Math or Quantitative Reasoning		Government Economics	** Electronics & Computer Technology II		Jay County	Fine Arts
State specified Pathway Assessment: Dual credit assessment from Ivy Tech or Vincennes University									
Industry Recognized Certification: Electronics Technician Association (ETA)- Associate Certified Electronics Technician; ESPA Certification									

Postsecondary Courses Aligned for Potential Dual Credit**	
**See individual Course Frameworks for alignment of high school course standards and postsecondary course objectives	
Ivy Tech Community College	Vincennes University
EECT 101 Intro to Electronics & Projects EECT 111 Intro to Circuits Analysis EECT 112 Digital Fundamentals EECT 121 Electronic Circuits Analysis	ELEC 100 Basic Electricity and Electronics ELEC 110 Basic Component & Circuit Analysis ELEC 130 Digital Electronics

Intro to Manufacturing is a course in how people use modern manufacturing systems with an introduction to manufacturing technology and its relationship to society, individuals, and the environment. An understanding of manufacturing provides a background toward developing engineering & technological literacy. Students will investigate the properties of engineered materials such as: metallics; polymers; ceramics; and composites.

Manufacturing and Computer Technology I introduces students to the fundamental electronic concepts necessary for entry into an electronic and computer systems career pathway, which will culminate with industry certifications or additional post-secondary education. Classroom and laboratory experiences will allow students begin their career preparation in the fundamental electronics concepts of Jobsite Skills,

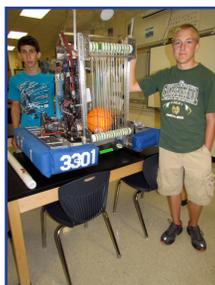
DC Basics, AC Basics, and Personal Computer Design, and will incorporate safety, technical writing, mathematical concepts, and customer service.

Electronics and Computer Technology II provides the opportunity for students to continue with foundational electronic concepts including circuit analysis and digital electronics modules. After completing the two additional foundational modules, student may choose to focus on one of the optional modules that can include more intense instruction, research, specialized projects, and internships. The optional modules include

industrial technology, emerging electronic technologies, residential and commercial electronic communication, and automation. The content of this class is designed to provide the State of Indiana with a trained workforce in emerging technologies career pathways that will make a significant contribution to the Indiana economy. Industry certifications and additional post-secondary education are critical components of

this pathway. Classroom, laboratory, and work-based experiences in the fundamental electronics concepts of circuit analysis and digital electronics as well as one of the optional modules will incorporate safety, technical writing, mathematics, and customer service.

ROBOTICS TEAM JAY COUNTY	DOUG TIPTON JAY COUNTY	FAST FACTS
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The Jay County Robotics team members work after school and often during summers to get ready for the year's competitions.

TWO COMPETITIONS
VEX Bot is one of two robotics team competitions. In VEX Bot the student team receives the task and the kit to create the robot. Since all teams use the same kit pieces, creativity is stressed, says team president Austin Wendel. The second type of robotics competition, **FIRST BOT**, allows teams to use all of the resources and people available to complete a task by planning and building a robot. This type of competition really emphasizes teamwork, according to sponsor Doug Tipton.

In his 19th year of teaching classes in electronics - most recently Electronics and Computer Technology I and Electronics and Computer Technology II, Jay County's Doug Tipton is enthused by the energy and industry the students have when he provides the resources and lets them discover their own answers. It's called "Project Based Learning."
 In the past two years, the Jay County Robotics team, the CTSO for Electronics, has qualified three teams for the Worlds Event.



Electronics & Computer Tech I and II

- DOE Code: 5684
- Recommended Grade Level: Grade 11-12
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2-3 credits per semester, 2 semesters maximum, 6 credits maximum.
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- This course is aligned with postsecondary courses for Dual Credit: **Ivy Tech** (not available at this time)
- EECT 101- Intro to Electronics & Projects
- EECT 111- Intro to Circuits Analysis