Vigo County School Corporation Non-Discrimination Statement

The policy of the Vigo County School Corporation is that there will be no discrimination made on the basis of race, color, religion, sex, national origin, age, disability, or handicap in the educational services or activities which it supports.

The School Corporation does not discriminate on the basis of disability or handicap in admission or access to, or treatment or employment in, its programs and activities. The School Corporation will comply with Section 504 of the Rehabilitation Act of 1973("Section 504"), 29 U.S.C. §794, and its implementing regulations at 34 C.F.R. Part 104, or Title II of the Americans with Disabilities Act of 1990 ("Title II"), 42 U.S.C. §§ 12131-12134, and its implementing regulations at 28 C.F.R. Part 35, in the operation of its schools and facilities.

Questions regarding implementation of this policy or regarding 504 or Title II should be directed to the School Corporation's Section 504/Title II Coordinator:

For Students, please contact:
Dr. Tom Balitewicz
Interim Superintendent
Vigo County School Corporation
501 W Olive St,
West Terre Haute, IN 47885

P.O. Box 3703
Terre Haute, IN 47803
Telephone: (812) 462-4224
Email: tfb@vigoschools.org

For Employees please contact:
Michael Cox
Chief Human Resource Officer
Vigo County School Corporation
501 W Olive St,
West Terre Haute, IN 47885

P.O. Box 3703
Terre Haute, IN 47803
Telephone: (812) 462-4404
Email: nmc2@vigoschools.org

For Title IX information please contact:
Matthew McClendon
Chief Diversity and Inclusion Officer, and
International Exchange Program
Vigo County School Corporation
501 W Olive St,
West Terre Haute, IN 47885

P.O. Box 3703
Terre Haute, IN 47803
Telephone: (812) 263-1141
Email: matthew.mcclendon@vigoschools.org

Helpful descriptions for parents & students

Introductory/Exploratory Courses- Classes that do not count for dual college credit and do not count as a main career pathway class. The purpose of these classes is to provide an initial experience for students that do not know what career path they want to pursue. These courses also allow students to gain additional experiences that are in other career pathways to help develop a more well-rounded education. All grades are eligible for these classes.

Career Pathway (NLPS)- A deliberate series of courses made up of a principles course, concentrator A, concentrator B, and capstone course that connect to post-secondary education/training and a career. Most of these pathways have embedded transferrable dual college credit and industry credentials as part of the pathway. Some result in a technical certificate or eliminating one year of post-secondary education. The Class of 2025 and Class of 2026 must use this system. The Class of 2024 can opt into this system.

Career Pathway (old)- A two level system of courses based on credits at each level that is being phased out by the State. The only courses that are still available are courses needed by Class of 2024 students that had started in this old system by the 2020-21 school year and have now earned at least 4 credits in the old system. No new students should register for classes in this old system.

Applied Courses- These courses are for students that are on a certificate track and credits are not awarded in these classes. Before a student moves to certificate track, they must have approval of the school.

Work-based Learning vs. Internship- Work-based learning is an experience, usually paid, that is directly linked to a career pathway a student has been studying so the student gains a deeper understanding of the chosen career path. An internship is typically not related to a career path being studied in school but still provides a student real-world experience to help them better make choices for the future. An internship can be paid or unpaid. Both happen during the senior year and students must work a minimum of 85 hours a semester.

What do the 4 numbers mean? The 4-number code is the Indiana Department of Education (IDOE) identifier for the course. If you add a "1" after the number, it will mean it is a first semester course in the VCSC and a "2" after the number it is a second semester course. If there are any letters included in the number, these are added to help counselors' sort various sections of classes and mean different things. In some cases, the IDOE requires a course be taken for both semesters and students must take the course for both semesters per State rules.

Student Selection Process for Courses- Students attempting to enroll in an introductory course will be evaluated based on attendance and previous CTE grades which could be student middle level specialty grades. Once a student participates in a "Principles" level class, continued participation in that pathway will be based on course completion, dual credit completion if applicable, and industry credential completion if applicable. Students that enroll in and complete dual college credit and/or earn industry credentials will get first option to take the next level of a pathway course.

Introductory/Exploratory Courses

4796 Introduction to Advanced Manufacturing and Logistics

INT ADV MFTG

Introduction to Advanced Manufacturing and Logistics focuses on manufacturing systems with an introduction to advanced manufacturing and logistics and their relationship to society, individuals, and the environment. Students apply the skills and knowledge of using modern manufacturing processes to obtain resources and change them into industrial materials, industrial products and consumer products. Students investigate the properties of engineered materials. Students study six major types of material processes: casting and molding; forming; separating; conditioning; finishing; and assembling. After gaining a working knowledge of these materials, students are introduced to advanced manufacturing, logistics, and business principles that are utilized in today's advanced manufacturing industry. Students gain a basic understanding of tooling, electrical skills, operation skills, inventory principles, MSDS's, chart and graph reading and MSSC concepts. There is also an emphasis placed on the flow process principles, material movement, safety, and related business operations. Students have the opportunity to develop the characteristics employers seek as well as skills that will help them in future endeavors.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5056 Introduction to Agriculture, Food, and Natural Resources

INT AGFNR

Introduction to Agriculture, Food and Natural Resources is a one or two semester course that is highly recommended as a prerequisite to and as a foundation for all other agricultural classes. Through hands-on learning activities, students are encouraged to investigate areas of agriculture. Students are introduced to the following areas of agriculture: animal science, plant and soil science, food science, horticultural science, agricultural business management, natural resources, agriculture power, structure, and technology, careers in agriculture, leadership, and supervised agricultural experience. An activity and project-based approach is used along with team building to enhance the effectiveness of the student learning activities.

- Recommended Grade(s): 9
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4792 Introduction to Construction

INT CONST

Introduction to Construction is a course that will offer hands-on activities and real-world experiences related to the skills essential in residential, commercial and civil building construction. During the course

students will be introduced to the history and traditions of construction trades. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students are introduced to blueprint reading, applied math, basic tools and equipment, and safety. Students will demonstrate building construction techniques, including concrete and masonry, framing, electrical, plumbing, dry walling, HVAC, and painting as developed locally in accordance with available space and technologies. Students learn how architectural ideas are converted into projects and how projects are managed during a construction project in this course. Students study construction technology topics such as preparing a site, doing earthwork, setting footings and foundations, building the superstructure, enclosing the structure, installing systems, finishing the structure, and completing the site. Students also investigate topics related to the purchasing and maintenance of structures, special purpose facilities, green construction and construction careers.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4790 Introduction to Communications

INT COMM

Introduction to Communications is a course designed to provide a foundational knowledge of identifying and using modern communication to exchange messages and information. This course explores the application of the tools, materials, and techniques used to design, produce, use, and assess systems of communication. Students will produce graphic and electronic media as they apply communication technologies. This course will also explore the various technical processes used to link ideas and people through the use of electronic and graphic media. Major goals of this course include an overview of communication technology; the way it has evolved, how messages are designed and produced, and how people may profit from creating information services and products. Students will explore mass media communication processes including radio and television broadcasting, publishing and printing activities, telecommunication networks, recording services, computer and data processing networks, and other related systems. Students will use the design process to solve design projects in each communication area.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5350 Introduction to Housing and Interior Design

INT HSINT DES

Introduction to Housing and Interior Design is an introductory course essential for those students interested in academic enrichment or a career within the housing, interior design, or furnishings industry. This course addresses the selection and planning of designed spaces to meet the needs, wants, values and lifestyles of individuals, families, clients, and communities. Housing decisions, resources and

options will be explored including factors affecting housing choices and the types of housing available. Developmental influences on housing and interior environments will also be considered. Basic historical architectural styling and basic furniture styles will be explored as well as basic identification of the elements and principles of design. Design and space planning involve evaluating floor plans and reading construction documents while learning to create safe, functional, and aesthetic spaces. Presentation techniques will be practiced to thoroughly communicate design ideas. Visual arts concepts including aesthetics, criticism, history and production, are addressed. Direct, concrete mathematics proficiencies will be applied. A project-based approach will be utilized requiring higher order thinking, communication, leadership and management processes as housing and interior design content is integrated into the design of interior spaces while meeting specific project criteria. This course provides the foundation for further study and careers in the architecture, construction, housing, interior design, and furnishings industries.

- Recommended Grade(s): 9,10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none

- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

5380 Introduction to Fashion & Textiles

FSHNTX

Introduction to Fashion and Textiles is an introductory course for those students interested in academic enrichment or a career in the fashion, textile, and apparel industry. This course addresses knowledge and skills related to design, production, acquisition, and distribution in the fashion, textile, and apparel arena. The course includes the study of personal, academic, and career success; careers in the fashion, textile, and apparel industry; factors influencing the merchandising and selection of fashion, textile, and apparel goods and their properties, design, and production; and consumer skills. A project-based approach integrates instruction and laboratory experiences including application of the elements and principles of design, aesthetics, criticism, history and production; selection, production, alteration, repair, and maintenance of apparel and textile products; product research, development, and testing; and application of technical tools and equipment utilized in the industry. Direct, concrete mathematics proficiencies will be applied. Service learning and other authentic applications are strongly recommended. This course provides the foundation for continuing and post-secondary education in fashion, textile, and apparel-related careers.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4518 Introduction to Business

INTO BUSS

Introduction to Business introduces students to the world of business, including the concepts, functions, and skills required for meeting the challenges of operating a business in the twenty- first century on a local, national, and/or international scale. The course covers business management, entrepreneurship, marketing fundamentals, and business ethics and law. The course develops business vocabulary and provides an overview of business and the role that business plays in economic, social, and political environments.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5967 Introduction to Entrepreneurship

INTO ENTR

Introduction to Entrepreneurship provides an overview of what it means to be an entrepreneur. Students will learn about starting and operating a business, marketing products and services, and how to find resources to help in the development of a new venture. This course is ideal for students interested in starting their own art gallery, salon, restaurant, etc.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4512 Business Math

BUS MATH

Business Math is a course designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. A solid understanding of math including algebra, basic geometry, statistics, and probability provides the necessary foundation for students interested in careers in business and skilled trade areas. The content includes mathematical operations related to accounting, banking and finance, marketing, and management. Instructional strategies should include simulations, guest speakers, tours, Internet research, and business experiences.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Algebra I
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas
- Fulfills a Mathematics requirement for the General Diploma or Certificate of Completion only.

- Qualifies as a quantitative reasoning course

5340 Advanced Nutrition and Wellness

ADV NTRN WEL

Advanced Nutrition and Wellness is a course which provides an extensive study of nutrition. This course is recommended for all students wanting to improve their nutrition and learn how nutrition affects the body across the lifespan. Advanced Nutrition and Wellness is an especially appropriate course for students interested in careers in the medical field, athletic training and dietetics. This course builds on the foundation established in Nutrition and Wellness, which is a required prerequisite. This is a project-based course; utilizing higher-order thinking, communication, leadership and management processes. Topics include extensive study of major nutrients, nutritional standards across the lifespan, influences on nutrition/food choices, technological and scientific influences, and career exploration in this field. Laboratory experiences will be utilized to develop food handling and preparation skills; attention will be given to nutrition, food safety and sanitation. This course is the second in a sequence of courses that provide a foundation for continuing and post-secondary education in all career areas related to nutrition, food, and wellness.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Nutrition and Wellness
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5360 Advanced Child Development

ADVCHLDDEV

Advanced Child Development is for those students interested in life foundations, academic enrichment, and/or careers related to knowledge of children, child development, and nurturing of children. This course addresses issues of child development from prenatal to age eight (grade three). It includes the Child Development content. Advanced Child Development includes the study of professional and ethical issues in child development; child growth and development; child development theories, research, and best practices; child health and wellness; teaching and guiding children; special conditions affecting children; and career exploration in child development and nurturing. A project-based approach that utilizes higher order thinking, communication, leadership, management, and fundamentals to college and career success is recommended in order to integrate these topics into the study of child development. Direct, concrete mathematics and language arts proficiencies will be applied.

- Recommended Grade(s): 9,10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5366 Human Development and Wellness

HUMAN DEV

Human Development and Wellness is valuable for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers impacted by individuals' physical, social, emotional, and moral development and wellness across the lifespan. Major topics include principles of human development and wellness; impacts of family on human development and wellness; factors that affect human development and wellness; practices that promote human development and wellness; managing resources and services related to human development and wellness; and career exploration in human development and wellness. Life events and contemporary issues addressed in this course include (but are not limited to) change; stress; abuse; personal safety; and relationships among lifestyle choices, health and wellness conditions, and diseases. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate the study of these topics. Authentic applications through service learning are encouraged.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement. To qualify for the Health and Wellness waiver, a student must take three of the approved courses.

5272 Introduction to Health Science Careers

INTRO HS CAREERS

Introduction to Health Science Careers is an exploratory course designed to provide students with an opportunity to investigate all aspects of the health science industry. Students will receive an introduction to healthcare systems and examine a variety of pathways in health science, and reflect on their own knowledge, skills and interests, to begin to narrow the areas within health science they want to continue exploring, in preparation for further study in Health Science I

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: Preparing for College and Careers
- Credits: 1 or 2 semester course, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

5438 Introduction to Culinary Arts and Hospitality

INT CUL HOS

Introduction to Culinary Arts and Hospitality is recommended for all students regardless of their career cluster or pathway, in order to build basic culinary arts knowledge and skills. It is especially appropriate for students with an interest in careers related to Hospitality, Tourism, and Culinary Arts. A project-based approach that utilizes higher order thinking, communication, leadership, and management

processes is recommended. Topics include basic culinary skills in the foodservice industry, safety and sanitation, nutrition, customer relations and career investigation. Students are able to explore this industry and examine their own career goals in light of their findings. Laboratory experiences that emphasize industry practices and develop basic skills are required components of this course.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: Nutrition and Wellness; Advanced Nutrition and Wellness
- Credits: 1-2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4794 Introduction to Design Processes

INT DES PRO

Introduction to Design Processes is a course that specializes in modern design and engineering processes with a focus on creative problem solving in developing, testing, communicating, and presenting post-evaluation of products. Students use the design process to analyze research, develop ideas, and produce products solutions. This process gives a framework through which they design, manufacture, test, and present their ideas. Students will demonstrate and utilize design principles and elements for visual presentation. Designing aspects will also cover aesthetics, ergonomics, the environment, safety, and production. The design process is a core-learning tool for many courses enabling the student to solve problems in a systematic, logical and creative manner. Students develop a good understanding of the way the process helps them think creatively and develop aesthetic ideas. The design process encourages the students to engage in higher level thinking to create solutions for many types of problems.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4800 Computers in Design & Production

COMP DES

Computers in Design and Production is a course that specializes in using modern technological processes, computers, design, and production systems in the production of products and structures through the use of automated production systems. Emphasis is placed on using modern technologies and on developing career related skills for electronics, manufacturing, precision machining, welding, and architecture career pathways. Students apply ingenuity using tools, materials, processes, and resources to create solutions as it applies in the electronics, manufacturing, precision machining, welding, and architecture. The content and activities should be developed locally in accordance with available advanced technologies in the school. Course content should address major technological content related to topics such as: Architectural drawing and print design, design documentation using CAD systems; assignments involving the interface of CAD, CNC, CAM, and CIM technologies; computer simulation of products and systems; publishing of various media; animation and related multimedia applications; 3-D modeling of products or structures; digital creation and editing of graphics and audio

files; control technologies; and automation in the modern workplace.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum

4803 Introduction to Computer Science

INTO CS

Introduction to Computer Science allows students to explore the world of computer science. Students will gain a broad understanding of the areas composing computer science. Additionally, there is a focus on the areas of computer programming, gaming/mobile development, and artificial intelligence/robotics.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4798 Introduction to Transportation

INT TRANS

Introduction to Transportation is an introductory course designed to help students become familiar with fundamental principles in modes of land, sea, air, and space transportation, including basic mechanical skills and processes involved in transportation of people, cargo, and goods. Students will gain and apply knowledge and skills in the safe application, design, production, and assessment of products, services, and systems as it relates to the transportation industries. Content of this course includes the study of how transportation impacts individuals, society, and the environment. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant transportation related activities, problems, and settings.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

NLPS Courses Mandatory for Class of 2025 and Class of 2026
(Optional for Class of 2024)

Career Cluster: Advanced Manufacturing

Pathway: Digital Manufacturing – Industry 4.0

Cluster: Advanced Manufacturing									
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Digital Manufacturing - Industry 4.0	7220	Principles of Industry 4.0 - Smart Manufacturing	4728	Robotics Design and Innovation	7100	Smart Manufacturing Systems	7222	Industry 4.0 - Smart Manufacturing Capstone

YASKAWA MOTOMAN ROBOTICS

SACA SMART AUTOMATION CERTIFICATION ALLIANCE

IVY TECH COMMUNITY COLLEGE
Center for Workforce Development in Terre Haute

7220 Principles of Industry 4.0 - Smart Manufacturing

PRIN DIG MANF

Principles of Industry 4.0 introduces students to the Industrial Internet of Things (IIoT). Students will explore Industry 4.0 technologies such as artificial intelligence (AI), human to robot collaboration, big data, safety, electrical, sensors, digital integration, fluid power, robot operation, measurement, CAD, CNC, additive manufacturing, print reading, and technical mathematics. Students will complete hands-on labs, virtual simulations, projects, and critical thinking assignments to help prepare for SACA C-101 Certified Industry 4.0 Associate I - Basic Operations certification exam.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

4728 Robotics Design and Innovation

RDI

The Robotics Design and Innovation course is designed to introduce students to technology that is revolutionizing modern manufacturing and logistic centers across global markets. Students will explore careers that are related to the fourth industrial revolution and be introduced to the emerging technologies that make the manufacturing world ever changing. These technologies include; mechatronics, CAD/CAM, robots, programmable automation, cloud technologies, networking, big data and analytics. Students will design a part to be mass produced using processes such as additive and subtractive manufacturing, while utilizing lean manufacturing concepts. The course will prepare students for the SACA, C-102 Certified Industry 4.0 Associate

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Industry 4.0 - Smart Manufacturing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7100 Smart Manufacturing Systems

DIG MAN SYS

Smart Manufacturing Systems will deepen students' technical skills by studying the electrical system required to support an Industry 4.0 manufacturing system and building on skills learned in Principles of Industry 4.0 and Robotics Design and Innovation. Topics include Industry 4.0 technologies such as data analytics, cyber security, and smart sensors. Students will work on a 4-6 student team to build a working prototype of an Industry 4.0 system. Highlights include: Variable Frequency Drives, PLC troubleshooting, Cyber Security, Smart Sensors, and Smart network communications.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Industry 4.0 - Smart Manufacturing; Robotics Design and Innovation
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7222 Industry 4.0 - Smart Manufacturing Capstone

DIG MANF CAP

Industry 4.0 - Smart Manufacturing Capstone introduces the basic theory, operation, and programming of industrial robots and their applications through simulations and hands-on laboratory activities. Basic theory, operation, and programming of Programmable Logic Controllers (PLC) will be emphasized in this course along with how automation devices may be integrated with other machines. Multiple industry standard certifications in the field of robotics and automation will be available depending on the length of the course. As a capstone course, students are encouraged to participate in an intensive, embedded work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Industry 4.0 - Smart Manufacturing; Robotics Design and Innovation; Smart Manufacturing Systems
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Industrial Automation and Robotics

Cluster: Advanced Manufacturing								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Industrial Automation and Robotics	7108	Principles of Advanced Manufacturing	7103	Advanced Manufacturing Technology	7106	Mechatronics Systems	7224	Automation and Robotics Capstone

7108 Principles of Advanced Manufacturing

PRIN ADV MAN

Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7103 Advanced Manufacturing Technology

ADV MAN TECH

Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7106 Mechatronics Systems

MECH SYS

Mechatronics Systems covers the basic electrical and mechanical components and functions of a complex mechatronics system. Through a systems approach, students will learn about mechanical components which lead and support the energy through a mechanical system to increase efficiency and to reduce wear and tear. By understanding the complete system, students will learn and apply troubleshooting strategies to identify, localize and (where possible) to correct malfunctions. Preventive maintenance of mechanical elements and electrical drives as well as safety issues within the system will also be discussed.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7224 Industrial Automation and Robotics Capstone

AUTO ROB CAP

The Automation and Robotics Capstone course focuses on the installation, maintenance, and repair of industrial robots. Students will also learn the basics of pneumatic, electro pneumatic and hydraulic control circuits as well as the basic theory, fundamentals of digital logic, and programming of programmable logic controllers (PLCs) in a complex mechatronic system. Students will learn to identify malfunctioning robots and to apply troubleshooting strategies to identify and localize problems caused by pneumatic and hydraulic control circuits and PLC hardware. Completing the capstone course will provide students the opportunity to earn a postsecondary certificate and will prepare students to take nationally recognized industry certification exams. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Extended work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Mechatronics Systems
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Industrial Maintenance Technician - Electrical

Cluster: Advanced Manufacturing							
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Industrial Maintenance Technician - Electrical	7108	Principles of Advanced Manufacturing	7103	Advanced Manufacturing Technology	7102	Industrial Electrical Fundamentals	7260	Industrial Electrical Capstone

7108 Principles of Advanced Manufacturing

PRIN ADV MAN

Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7103 Advanced Manufacturing Technology

ADV MAN TECH

Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7102 Industrial Electrical Fundamentals

IND ELC FUN

The Industrial Electrical Fundamentals course will introduce students to the National Electric Code and its application in designing and installing electrical circuits, selecting wiring materials and devices, and choosing wiring methods. Students will also gain a general understanding of common types of electric motors.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7260 Industrial Electrical Capstone

IND ELEC CAP

The Industrial Electrical Capstone course is designed to provide an understanding of circuits using alternating current and the motor operation as well as the operation and programming of programmable logic controllers (PLC). The course will also examine the electrical components in a complex mechatronic system. This course will give each student a general understanding of common types of electric motors, extending from the small shaded pole fan motors to the large three-phase motors. This course will use lecture, lab, online simulation and programming to prepare students for the C-207 Programmable Controller Systems 1 Certification through Smart Automation Certification Alliance (SACA).

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Industrial Electrical Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Industrial Maintenance Technician - Mechanical

Cluster: Advanced Manufacturing									
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)		
Industrial Maintenance Technician - Mechanical		Principles of Advanced Manufacturing		Advanced Manufacturing Technology		Industrial Mechanical Fundamentals		Industrial Maintenance Capstone	
	7108		7103		7104		7261		

7108 Principles of Advanced Manufacturing

PRIN ADV MAN

Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7103 Advanced Manufacturing Technology

ADV MAN TECH

Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing

Skill Standards Council (MSSC).

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7104 Industrial Maintenance Fundamentals

IND MAIN FUN

Industrial Maintenance Fundamentals introduces students to fundamental Welding and Machining skills. Students will be introduced to basic skills in welding, cutting and brazing, and machine tooling that are applicable in a wide variety of trade professions. Specifically, students will learn safe practices in oxy-fuel and Arc welding processes along with experience in using turning, milling, and grinding applications.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7261 Industrial Maintenance Capstone

IND MAINT CAP

The Industrial Maintenance Capstone course examines the procedures for the removal, repair and installation of machine components. The methods of installation, lubrication practices, and maintenance procedures for industrial machinery are analyzed. Additionally the course may cover the mechanical components and electrical drives in a complex mechatronic system. By understanding the inner workings of the complete system, students will learn and apply troubleshooting strategies to identify, localize and (where possible) to correct malfunctions. Preventive maintenance of mechanical elements and electrical drives as well as safety issues within the system will be discussed. This course will use lecture, lab, online simulation and programming to prepare students for C-210 Mechanical Power Systems I Certification through Smart Automation Certification Alliance (SACA).

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Industrial Maintenance Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Precision Machining

Cluster: Advanced Manufacturing							
Pathway	Principles (1 hour)		Concentrator A Concentrator B (2 hour block)			Capstone (2 hours)	
Precision Machining	7109	Principles of Precision Machining	7105	Precision Machining Fundamentals	7107	Advanced Precision Machining	7219	Precision Machining Capstone

Center for Workforce Development in Terre Haute

7109 Principles of Precision Machining

PRIN PREC MACH

Principles of Precision Machining will provide students with a basic understanding of the processes used to produce industrial goods. Classroom instruction and labs will focus on shop safety, measurement, layout, blueprint reading, shop math, metallurgy, basic hand tools, milling, turning, grinding, and sawing operations. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Measurement, Materials, & Safety certification that may be required for college dual credit.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7105 Precision Machining Fundamentals

MACH FUN

Precision Machining Fundamentals will build a foundation in conventional milling and turning. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations. Lab work will consist of the setup and operation of vertical and/or horizontal milling machines and engine lathes. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Milling I certification that may be required for college dual credit.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Precision Machining
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course
- It is recommended that Precision Machining program of study be taught in a 2-3 period block of time. VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently

7107 Advanced Precision Machining

PREC MACH

Advanced Precision Machining will build upon the Turning and Milling processes learned in Precision Machining Fundamentals and will build a foundation in abrasive process machines. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations associated with abrasives. Lab work will consist of the setup and operation of bench grinders and surface grinders. Additionally students will be introduced to Computerized Numeric Controlled (CNC) setup, operations and programming. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Grinding I certification that may be required for college dual credit.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Precision Machining; Precision Machining Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course
- It is recommended that Precision Machining program of study be taught in a 2-3 period block of time.
- VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently

7219 Precision Machining Capstone

PREC MACH CAP

Precision Machining Capstone is an in-depth study of skills learned in Precision Machining I, with a stronger focus on CNC setup/operation/programming. Students will be introduced to two axis CNC lathe programming and three axis CNC milling machine programming. Develops the theory of programming in the classroom with applications of the program accomplished on industry-type machines. Studies terminology of coordinates, cutter paths, angle cutting, and linear and circular interpolation. Classroom activities will concentrate on precision set-up and inspection work, as well as machine shop calculations. Students will develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry. A continued focus on safety will also be presented.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Precision Machining; Precision Machining Fundamentals; Advanced Precision Machining
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Welding Technology

Cluster: Advanced Manufacturing							
Pathway	Principles (1 hour)		Concentrator A Concentrator B (2 hour block)			Capstone (2 hours)	
Welding Technology	7110	Principles of Welding Technology	7111	Shielded Metal Arc Welding	7101	Gas Welding Processes	7226	Welding Technology Capstone

7110 Principles of Welding Technology

PRIN WEL TCH

Principles of Welding Technology includes classroom and laboratory experiences that develop a variety of skills in oxy-fuel cutting and basic welding. This course is designed for individuals who intend to make a career as a Welder, Technician, Designer, Researcher, or Engineer. Emphasis is placed on safety at all times. OSHA standards and guidelines endorsed by the American Welding Society (AWS) are used. Instructional activities emphasize properties of metals, safety issues, blueprint reading, electrical principles, welding symbols, and mechanical drawing through projects and exercises that teach students how to weld and be prepared for postsecondary and career success.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7111 Shielded Metal Arc Welding

SHLD MAW

Shielded Metal Arc Welding involves the theory and application of the Shielded Metal Arc Welding process. Process theory will include basic electricity, power sources, electrode selection, and all aspects pertaining to equipment operation and maintenance. Laboratory welds will be performed in basic weld joints with a variety of electrodes in the flat, horizontal and vertical positions. Emphasis will be placed on developing the basic skills necessary to comply with AWS industry standards.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Welding Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7101 Gas Welding Processes

GAS WEL PRC

Gas Welding Processes is designed to cover the operation of Gas Metal Arc Welding (MIG) equipment. This will include all settings, adjustments and maintenance needed to weld with a wire feed system. Instruction on both short-arc and spray-arc transfer methods will be covered. Tee, lap, and open groove joints will be done in all positions with solid, fluxcore, and aluminum wire. Test plates will be made for progress evaluation. Schools may choose to offer the course as a comprehensive MIG Welding course or a combination of introductory MIG and TIG Welding operations.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Welding Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Schools may choose to cover both introductory MIG and TIG Welding. This configuration is available for dual credit through ITCC.

7226 Welding Technology Capstone

WELD TECH CAP

The Welding Technology Capstone course builds upon the knowledge and skills developed in Welding Fundamentals, Shielded Metal Arc Welding, and Gas Metal Arc Welding by developing advanced welding skills in Gas Tungsten Arc Welding (TIG), Pipe Welding, and Fabrication. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Welding Technology; Shielded Metal Arc Welding; Gas Welding Processes
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Agriculture

Pathway: Ag Mechanical and Engineering

Cluster: Agriculture								
Pathway		Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Ag Mechanical and Engineering	7117	Principles of Agriculture	5088	Agriculture Power, Structure, and Technology	7112	Agriculture Structures Fabrication and Design	7228	Agriculture Mechanization and Technology Capstone

IVY TECH COMMUNITY COLLEGE

Center for Workforce Development in Terre Haute

7117 Principles of Agriculture

PRIN AG

Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

5088 Agriculture Power, Structure, and Technology

AG POW

Agriculture Power, Structure and Technology is a two semester, lab intensive course in which students develop an understanding of basic principles of tool selection, operation, maintenance, and management of agricultural equipment in concert with the utilization of technology. Topics covered include: safety, problem-solving/troubleshooting, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture power, structure, and technology.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

7112 Agriculture Structures Fabrication and Design

AG ST FAB DES

Agricultural Structures Fabrication and Design is a two-semester course that focuses on metal work, and agricultural structures. This course will allow students to develop skills in welding and metalworking, construction, fabrication, machine components and design while incorporating the engineering design process. Students will also cover safety topics for each area while demonstrating appropriate health and safety standards.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas
- *Principles course is not required until 24-25 school year because this course is included in Perkins V pathways.

7228 Agriculture Mechanization and Technology Capstone

AG MECH CAP

The Agriculture Mechanization and Technology Capstone course builds upon the knowledge and skills developed in the Principles, Ag Power, Structures and Technology, Agricultural Structures Fabrication and Design courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in lab activities involving agricultural equipment such as fueled power engines, electrical motors, pneumatic and hydraulic systems, etc. Students will be instructed on the operation, maintenance, repair, engineering and design of the agricultural mechanics and technology systems. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Ag Power, Structures and Technology; Ag Structures Fabrication and Design (-or- Precision Ag)
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective credits for all diplomas

Pathway: Agri-Science – Plants or Animals (Technical Certificate option)

Cluster: Agriculture							
Pathway	Principles (1 hour)		Concentrator A (1 hour) Concentrator B (1 hour) (2 hour block remote site option for technical certificate)			Capstone (3 hour block remote site option TC)	
Agri-Science - Plants or Animals	7117	Principles of Agriculture	5008	Animal Science	5070	Advanced Life Science, Animals (L)	7262	Agricultural Research Capstone
			5170	Plant and Soil Science	5074	Advanced Life Science, Plants and Soils (L)		

Center for Workforce Development in Terre Haute

Can double up on Plants and Animals: Student must earn dual college credit in Principles of Agriculture prior to scheduling into the General Ag. Technical Certificate program. Students will complete four college classes each year. Class meets two-three days a week at Ivy Tech and two-three days with their high school. Class time 1st, 2nd period, and SRT. The capstone block will be 5th, 6th, and 7th period. Students will return to school prior to the end of the day.

7117 Principles of Agriculture

PRIN AG

Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

5008 Animal Science

ANML SCI

Animal Science is a two-semester course that provides students with an overview of the animal agriculture industry. Students participate in a large variety of activities and laboratory work including real and simulated animal science experiences and projects. All areas that the students study may be applied to both large and small animals. Topics to be covered in the course include: history and trends in animal agriculture, laws and practices relating to animal agriculture, comparative anatomy and physiology of animals, biosecurity threats and interventions relating to animal and human safety, nutrition, reproduction, careers, leadership, and supervised agricultural experiences relating to animal agriculture.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Fulfills a physical science requirement for General Diploma
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

5170 Plant and Soil Science

PLT SL SCI

Plant and Soil Science a two semester course that provides students with opportunities to participate in a variety of activities including laboratory and field work. Coursework includes hands-on learning activities that encourage students to investigate areas of plant and soil science. Students are introduced to the following areas of plant and soil science: plant growth, reproduction and propagation, photosynthesis and respiration, diseases and pests of plants and their management, biotechnology, the basic components and types of soil, soil tillage, and conservation.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Fulfills a Physical Science requirement for the general diploma
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

5074 Advanced Life Science, Plants and Soils (L)

ALS PLT/SL

Advanced Life Science: Plants and Soils is a two semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students study concepts, principles, and theories associated with plants and soils. Knowledge gained enables them to better understand the workings of agricultural and horticultural practices. They recognize how plants are classified, grow, function, and reproduce. Students explore plant genetics and the use of plants by humans. They examine plant evolution and the role of plants in ecology. Students investigate, through laboratories and fieldwork, how plants function and how soil influences plant life.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources; Plant and Soil Science; Biology; Chemistry
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as an elective or directed elective for all diplomas.
- Fulfills a science requirement for all diplomas.
- Qualifies as a quantitative reasoning course
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

5070 Advanced Life Science, Animals (L)

ALS ANIML

Advanced Life Science: Animals is a two-semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to history and trends in animal agriculture as related to animal welfare, husbandry, diseases and parasites, laws and practices relating to handling, housing, environmental impact, global sustainable practices of animal agriculture, genetics, breeding practices, biotechnology uses, and comparative knowledge of anatomy and physiology of animals used in animal agriculture.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Agriculture*; or Principles of Veterinary Science*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources; Animal Science; Biology; Chemistry; Integrated Chemistry Physics
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas.
- Fulfills a science requirement for all diplomas.
- Qualifies as a quantitative reasoning course
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

7262 Agricultural Research Capstone

AG RES CAP

Agricultural Research Capstone course includes extended laboratory, field, and literature investigations in one or more specialized agricultural science disciplines, such as animal, plant, food, natural resources, biotechnology, engineering, etc. Students enrolled in this course will apply scientific applications, concepts, principles, and design process to solve complex, real-world issues in agriculture. Students will become familiar with laboratory procedures used in an educational, research, or industrial setting. Students will complete an end-of-course project and presentation, such as a scientific research paper, agriscience fair project, or some other suitable presentation of their findings.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Any Agriculture Concentrator Sequence
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective credits for all diplomas

Pathway: Precision Agriculture (Technical Certificate)

Cluster: Agriculture							
Pathway		Principles (1 hour)	Concentrator A Concentrator B (2 hour block remote site)				Capstone (3 hour block remote site)
Precision Agriculture	7117	Principles of Agriculture	7116	Precision Agriculture	7113	Crop Management	7236 Precision Agriculture Capstone
			Courses will take place first & second period with SRT included in Travel time.				7238 Agribusiness Capstone

IVY TECH COMMUNITY COLLEGE

TECH LAB in Terre Haute

Student must earn dual college credit in Principles of Agriculture prior to scheduling into the Precision Ag. Technical Certificate program. Students will complete four college classes each year. Class meets two-three days a week at Ivy Tech and two-three days with their high school. Concentrator A & B will be 1st, 2nd period, and SRT. The capstone block will be 5th, 6th, and 7th period. Students will return to school prior to the end of the day.

7117 Principles of Agriculture

PRIN AG

Principles of Agriculture is a two-semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7116 Precision Agriculture

PREC AG

Precision Agriculture describes the purpose and concepts of precision agriculture and precision farming through classroom and lab-based instruction. It involves understanding and operation of the various precision agriculture tools including GPS, GIS, and VRT. Students will learn how to collect data, analyze data and use the information to make decisions. Provides an understanding and justifications that demonstrate the economic and environmental benefits of precision agriculture. The Precision Agriculture course also incorporates the use of UAVs. Students will demonstrate UAV competency and handling in order to achieve the Part 107 UAS certification.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture

- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7113 Crop Management

CROP MAN

Crop Management will provide an understanding of plant nutrient requirements and how to provide for those needs to achieve efficient crop production through classroom and lab-based instruction. Students will understand proper fertilizer materials, application methods and techniques. Instruction on soil analysis by demonstrating proper soil testing techniques which will be used to create fertility plans for proposed crops. Integrated pest management and the evaluation of various pest controls with minimal impact on the environment will also be an emphasis of the course.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7236 Precision Agriculture Capstone

PREC AG CAP

The Precision Agriculture Capstone course builds upon the knowledge and skills developed in the Principles, Precision Agriculture and Crop Management by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Agriculture; Precision Agriculture; Crop Management
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective credits for all diplomas

7238 Agribusiness Capstone

AG BUS CAP

Agribusiness Management Capstone course is a two semester course that introduces students to the Principles of agribusiness management and leadership from a local and global perspective, with the utilization of technology. The course will help students build a strong knowledge base of the agribusiness industry as they study agribusiness types, communications, agricultural law, leadership, and teamwork, ethics, and agricultural economics. Additionally, students will understand the role of selling in the agricultural economy, stressing the points and terminology necessary in today's agriculture. Students will demonstrate principles and techniques for planning, development, application and management of agribusiness systems through project-based learning and a supervised agriculture experience (work-based learning) programs.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Any Agriculture Concentrator Sequence
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective for all diplomas

Career Cluster: Architecture and Construction

Pathway: Construction Trades - Carpentry

Cluster: Architecture and Construction								
Pathway	Principles Concentrator A Concentrator B (3 hour block) Remote site						Capstone (3 hours) Remote site	
Construction Trades - Carpentry	7130	Principles of Construction Trades	7123	Construction Trades: General Carpentry	7122	Construction Trades: Framing and Finishing	7242	Construction Trades Capstone

Carpenters Union admittance scholarship program available. Financial scholarship also available for students pursuing construction degree.

7130 Principles of Construction Trades

PRIN CON TR

Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7123 Construction Trades: General Carpentry

CON TRD GC

Construction Trades: General Carpentry builds upon the skills learned in the Principles of Construction Trades and examines the basics of framing. This includes studying the procedures for laying out and constructing floor systems, wall systems, ceiling joist and roof framing, and basic stair layout. Additionally, students will be introduced to building envelope systems.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Principles of Construction Trades; or Principles of Architecture, Engineering and Construction
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7122 Construction Trades: Framing and Finishing

CON TRD FR FIN

Construction Trades: Framing and Finishing prepares students with advanced framing skills along with interior and exterior finishing techniques. Topics include roofing applications, thermal and moisture protection, exterior finishing, cold-formed steel framing, drywall installation and finishing, doors and door hardware, suspended ceilings, window, door, floor, and ceiling trim, and cabinet installation.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Principles of Construction Trades; Construction Trades: General Carpentry
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7242 Construction Trades Capstone

CSTR TR CAP

The Construction Trades Capstone course covers the basics of electricity and working with concrete. Electrical topics include the National Electric Code, electrical safety, electrical circuits, basic electrical construction drawings, and residential electrical services. Students may also gain an understanding of concrete properties, foundations, slab-on-grades, and vertical and horizontal formwork. The course prepares students for the NCCER Carpentry Forms Level 3 and Electrical Level 1 certificates.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Construction Trades; Construction Trades: General Carpentry; and Construction Trades: Framing and Finishing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Building and Facilities Maintenance

Cluster: Architecture and Construction							
Pathway		Principles (1 hour)		Concentrator A (1 hour)	Concentrator B (1 hour)		Capstone (2 hours)
Facilities Maintenance	7130	Principles of Construction Trades	7285	Building and Facilities Maintenance Fundamentals	7286	Advanced Building and Facilities Maintenance	7287	Building and Facilities Maintenance Capstone

7130 Principles of Construction Trades

PRIN CON TR

Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Recommended Grade(s): 9, 10
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7285 Building and Facilities Maintenance Fundamentals

BLDG FAC MAINT FUND

Building and Facilities Maintenance Fundamentals prepares students to complete basic maintenance tasks like minor construction repairs and be able to repair and/or replace various building materials including flooring, wall covering, hardware, lighting and plumbing fixtures.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Principles of Construction Trades
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7286 Advanced Building and Facilities Maintenance

ADV BLDG FAC MAINT

Advanced Building and Facilities Maintenance prepares students to complete more advanced repairs involving a buildings mechanical system including electrical, HVAC, and plumbing.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Construction Trades; Building and Facilities Maintenance Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7287 Building and Facilities Maintenance Capstone

BLDG FAC MAINT CAP

Building and Facilities Maintenance Capstone will continue to develop students maintenance skills ideally through a work-based learning experience. Students will also explore additional topics like

processing work orders, fair housing regulation compliance, environmental and regulation compliance, reporting and documentation of maintenance activities, and implementation of a preventive maintenance schedule.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Construction Trades; Building and Facilities Maintenance Fundamentals; and Advanced Building and Facilities Maintenance
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Arts, AV Tech, and Communications

Pathway: Digital Design

Cluster: Arts, AV Tech and Communications								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Digital Design	7140	Principles of Digital Design	7141	Digital Design Graphics	7136	Professional Photography and Videography	7246	Digital Design Capstone
					5550	Graphic Design and Layout		
					7138	Interactive Media Design		

7140 Principles of Digital Design

PRIN DIG DES

Principles of Digital Design introduces students to fundamental design theory. Investigations into design theory and color dynamics will provide experiences in applying design theory, ideas and creative problem solving, critical peer evaluation, and presentation skills. Students will have the opportunity to apply the design theory through an understanding of basic photographic theory and technique. Topics will include image capture, processing, various output methods, and light.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7141 Digital Design Graphics

DIG DES GRAPH

Digital Design Graphics will help students to understand and create the most common types of computer graphics used in visual communications. Skills are developed through work with professional vector-based and page layout software used in the industry. Additionally, students will be introduced to a full range of image input technology and manipulation including conventional photography, digital imaging, and computer scanners. Students will learn to communicate concepts and ideas through various imaging devices.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Digital Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5550 Graphic Design and Layout

GRAPH DES LT

Graphic Design and Layout teaches design process and the proper and creative use of type as a means to develop effective communications for global, corporate and social application. Students will create samples for a portfolio, which may include elements or comprehensive projects in logo, stationery, posters, newspaper, magazine, billboard, and interface design.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Principles course is not required until 24-25 school year because this course is included in Perkins V pathways.
- Schools wishing to offer this course for multiple credits should utilize Next Level Programs of Study courses.

7138 Interactive Media Design

IN MED DES

Interactive Media Design focuses on the tools, strategies, and techniques for interactive design and emerging technologies, like web and social media. Students will learn the basics of planning, shooting, editing and post-producing video and sound. Additionally, students will explore the process of integrating text, graphics, audio and video for effective communication of information.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7136 Professional Photography & Videography

PRO PHOTO/VID

Professional Photography & Videography further develops advanced camera skills and photographic vision. The course introduces special techniques and digital processes while refining printing and processing skills. It will also emphasize good composition and the use of photography as a communication tool. Students will also learn the basics of planning, shooting, editing and post-producing video and sound.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7246 Digital Design Capstone

DIG DES CAP

The Digital Design Capstone course provides students the opportunity to dive deeper into advanced concepts of Visual Communication including user experience/user interface design, video production editing, animation and/or web design. Depending on the length of the course, students may focus their efforts on one area or explore multiple aspects.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Digital Design Concentrator Sequence

- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Textiles, Apparel, and Merchandising (TAM)

Cluster: Arts, AV Tech and Communications								
Pathway		Principles (1 hour)	Concentrator A Concentrator B (2 hour block)				Capstone (2 hours)	
TAM-Textiles, Apparel, and Merchandising	7301	Principles of Fashion and Textiles		7302	Textiles, Apparel, and Merchandising	7303	Advanced Textiles	7304	Fashion and Textiles Capstone

Indiana State University

7301 Principles of Fashion and Textiles

PRIN FASH TEXT

Principles of Fashion and Textiles prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the fashion industry. This course builds a foundation that prepares students for all aspects of the fashion creation process. Major topics include: Basic clothing construction techniques, pattern alterations, and use of commercial patterns.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7302 Textiles, Apparel, and Merchandising

TEXT APP MERCH

Textiles, Apparel, and Merchandising provides a comprehensive overview of the textiles, apparel and merchandising industry specific to fashion related goods including the nature of fashion, raw materials and production, designers, retailers, and supporting services.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Fashion and Textiles
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7303 Advanced Textiles

ADV TEXT

Advanced Textiles will focus on the study of textiles concerning fiber, yarn, fabric construction, and finishes which affect the selection, use, and care of textiles.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Fashion and Textiles; Textiles, Apparel, and Merchandising
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7304 Fashion and Textiles Capstone

FASH TEXT CAP

Fashion Textile Capstone studies the evolution of Western dress from ancient times to the twentieth century. Emphasis on representative style and change over time. Additionally, this course will focus on the Identification of physical features which affect apparel quality. Analysis of ready-to-wear apparel to identify features which produce desirable aesthetic and functional performance is also covered.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Fashion and Textiles; Textiles, Apparel, and Merchandising; Advanced Textiles
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Radio and Television Broadcasting

Cluster: Arts, AV Tech and Communications							
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Radio and Television	7139	Principles of Broadcasting	7306	Audio and Video Production Essentials	7307	Mass Media Production	7308	Radio& TV Broadcasting Capstone

NLPS changed the dual credit crosswalk starting in 2022-23 and at the time the guide was published, no dual credit had been identified for 7306, 7307, or 7308 by the State. This is a change from previous years.

7139 Principles of Broadcasting

PRIN BROAD

The purpose of the Principles of Broadcasting course is to provide entry-level fundamental skills for students who wish to seek or pursue opportunities in the field of broadcasting or mass media. Students will explore the technical aspects of audio and sound design for radio production and distribution, as well as, the technical aspects of video production and distribution.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7306 Audio and Video Production Essentials

AUD VID PROD

Audio and Video Production Essentials provides an in-depth study on audio and video production techniques for radio, television, and digital technologies. Students will learn skills necessary for audio production and on-air work used in radio and other digital formats. Additionally, experience will be gained in the development of the video production process; including skills in message development, directing, camera, video switcher, and character generator operations.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Broadcasting

- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7307 Mass Media Production

MASS MED PROD

Mass Media Production will focus on the study of theory and practice in the voice and visual aspects of radio and television performance. In addition, this course introduces the skills used to acquire and deliver news stories in a digital media format. Students will learn how to research issues and events, interview news sources, interact with law enforcement and government officials, along with learning to write in a comprehensive news style.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Broadcasting; Audio and Video Production Essentials
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7308 Radio & TV Broadcasting Capstone

RAD TV BROAD CAP

This course will cover a variety of domains further building on skills in video production, and broadcast industry practices specific to radio, television, and digital media. Attention will be given to cross-industry synergies, emerging technologies, and the global market for media. Students are highly encouraged to do a video newscast or radio practicum to gain real world experience. In most cases this practicum may be completed through a school-based enterprise.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Broadcasting; Audio and Video Production Essentials; Mass Media Production
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Business Management, Marketing, and Finance

Pathway: Business Administration

Cluster: Business Management and Administration							
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Business Administration	4562	Principles of Business Management	7143	Management Fundamentals	4524	Accounting Fundamentals	7256	Business Administration Capstone
			5914	Marketing Fundamentals			

4562 Principles of Business Management

PRIN BUS

Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7143 Management Fundamentals

MGMT FUND

Management Fundamentals describes the functions of managers, including the management of activities and personnel. Describes the judicial system and the nature and sources of law affecting business. Studies contracts, sales contracts with emphasis on Uniform Commercial Code Applications, remedies for breach of contract and tort liabilities. Examines legal aspects of property ownership, structures of business ownership, and agency relationships.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

5914 Marketing Fundamentals

PRN MRKT

Marketing Fundamentals provides a basic introduction to the scope and importance of marketing in the global economy. Course topics include the seven functions of marketing: promotion, channel management, pricing, product/service management, market planning, marketing information management, and professional selling skills. Emphasis is marketing content but will involve use of oral and written communications, mathematical applications, problem-solving, and critical thinking skills through the development of an integrated marketing plan and other projects.

- Recommended Grade(s): 11,12
- Required Prerequisites: Principles of Business Management*
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- *Formerly Principles of Marketing; Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

4524 Accounting Fundamentals

INTO ACCT

Accounting Fundamentals introduces the language of business using Generally Accepted Accounting Principles (GAAP) and procedures for proprietorships and partnerships using double-entry accounting. Emphasis is placed on accounting principles as they relate to both manual and automated financial systems. This course involves understanding, analyzing, and recording business transactions and preparing, analyzing, and interpreting financial reports as a basis for decision-making.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective all diplomas
- Principles course is not required until 24-25 school year because this course is included in Perkins V pathways.
- Formerly Introduction to Accounting

7256 Business Administration Capstone

BUS ADMIN CAP

The Business Administration Capstone course will allow students to explore advanced topics in business leadership including Human Resources and International Business. Additionally students will have the chance to complete Managerial Accounting. Throughout the course students will develop business communication skills through work on projects, labs, and simulations. All of these courses represent key business competencies required by nearly all postsecondary Business schools.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Business Management; Management Fundamentals; Accounting Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Accounting

Cluster: Finance								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Accounting	4562	Principles of Business Management	4524	Accounting Fundamentals	4522	Advanced Accounting	7252	Accounting Capstone

4562 Principles of Business Management

PRIN BUS

Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4524 Accounting Fundamentals

INTO ACCT

Accounting Fundamentals introduces the language of business using Generally Accepted Accounting Principles (GAAP) and procedures for proprietorships and partnerships using double-entry accounting. Emphasis is placed on accounting principles as they relate to both manual and automated financial systems. This course involves understanding, analyzing, and recording business transactions and preparing, analyzing, and interpreting financial reports as a basis for decision-making.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective all diplomas
- Principles course is not required until 24-25 school year because this course is included in Perkins V pathways.
- Formerly Introduction to Accounting

4522 Advanced Accounting

ADV ACC

Advanced Accounting expands on the Generally Accepted Accounting Principles (GAAP) and procedures for various forms of business ownership using double-entry accounting covered in Accounting Fundamentals, including an emphasis on payroll accounting. Topics covered include calculating gross pay, withholdings, net pay, direct deposits, journalizing payroll transactions and preparing individual earnings records and payroll registers. Emphasis is placed on applying Generally Accepted Accounting Principles through hands-on practice with popular commercial accounting software packages that are currently used in business.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management; Accounting Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

7252 Accounting Capstone

ACCT CAP

The Accounting Capstone course will emphasize Managerial Accounting concepts and Income Tax Accounting for individuals and sole proprietorships. Topics include general versus cost accounting systems, cost behavior, cost-volume profit analysis, budgeting, standard cost systems, responsibility accounting, incremental analysis, and capital investment analysis. Offers an overview of federal and state income tax law for individuals including taxable income, capital gains and losses, adjustments, standard and itemized deductions, tax credits and appropriate tax forms. When offered for multiple credits per semester, the Accounting Capstone may be used to provide students the opportunity to participate in an intensive work-based learning experience and/or to complete additional coursework in using spreadsheets to solve accounting cases and to complete a postsecondary credential from ITCC or VU.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Business Management; Accounting Fundamentals; Advanced Accounting
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Marketing and Sales

Cluster: Business Marketing								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Marketing and Sales	4562	Principles of Business Management	5914	Marketing Fundamentals	5918	Strategic Marketing	7201	Business Management Capstone
					7145	Digital Marketing		

4562 Principles of Business Management

PRIN BUS

Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5914 Marketing Fundamentals

PRN MRKT

Marketing Fundamentals provides a basic introduction to the scope and importance of marketing in the global economy. Course topics include the seven functions of marketing: promotion, channel management, pricing, product/service management, market planning, marketing information management, and professional selling skills. Emphasis is marketing content but will involve use of oral and written communications, mathematical applications, problem-solving, and critical thinking skills through the development of an integrated marketing plan and other projects.

- Recommended Grade(s): 11,12
- Required Prerequisites: Principles of Business Management*
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

- *Formerly Principles of Marketing; Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

7145 Digital Marketing

DGTL MARK

Digital Marketing provides an introduction to the world of e-commerce and digital marketing media. The course covers how to integrate digital media and e-commerce into organizational and marketing strategy. Students will explore e-commerce applications and the most popular digital marketing tactics and tools. Emphasizes familiarity with executing digital media, understanding the marketing objectives that digital media can help organizations achieve, and establishing and enhancing an organization's digital marketing presence.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management; Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5918 Strategic Marketing

STRT MRKT

Strategic Marketing builds upon the foundations of marketing and applies the functions of marketing at an advanced level. Students will study the basic principles of consumer behavior and examine the application of theories from psychology, social psychology, and economics. The relationship between consumer behavior and marketing activities will be reviewed.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management*; Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-2 credits per semester, 4 credits maximum
- Counts as a directed elective or elective for all diplomas
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

7201 Business Management Capstone

BUS MGMT CAP

The Business Management Capstone is designed to provide any student with the Business Management skills necessary to run their own business or to serve in upper level management. Students will explore Management Theory, Accounting, and Business Law. The Business Management Capstone can be used with any career pathway except Business Administration. Completion of the course may allow students the opportunity to earn a CT or TC through ITCC.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Any CTE Business Concentrator Sequence except Business Administration
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Recommended Capstone course for Entrepreneurship, Insurance, and Marketing Programs of Study

Pathway: Entrepreneurship

Cluster: Marketing									
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)		
Entrepreneurship	7154	Principles of Entrepreneurship	7148	New Venture Development	7147	Small Business Operations	7201	Business Management Capstone

7154 Principles of Entrepreneurship

PRIN ENTR

Principles of Entrepreneurship focuses on students learning about their own strengths, character and skills and how their unique abilities can apply to entrepreneurship, as well as how an entrepreneurial mindset can serve them regardless of their career path. Students will learn about the local, regional and state resources and will begin to understand and apply the entrepreneurial process. The course helps students to identify and evaluate business ideas while learning the steps and competencies required to launch a successful new venture. The course helps students apply what they have learned from the content when they write a Personal Vision Statement, a Business Concept Statement, and an Elevator Pitch.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7148 New Venture Development

ENT MAR MAN

New Venture Development is targeted to students interested in creating and growing their own businesses. The course will focus on key marketing strategies particularly relevant for new ventures. Students will apply marketing concepts to entrepreneurial company challenges, which include creating and nurturing relationships with new customers, suppliers, distributors, employees and investors; and understand the special challenges and opportunities involved in developing marketing strategies "from the ground up."

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Entrepreneurship
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7147 Small Business Operation

ENT FIN MAN

Small Business Operations will help students identify and evaluate the various sources available for funding a new enterprise; demonstrate an understanding of financial terminology; read, prepare, and analyze basic financial statements; estimating capital requirements and risk, exit strategies; and prepare a budget for their business, including taxes and personnel costs. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs, and prepare sales forecasts.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Entrepreneurship; New Venture Development
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7201 Business Management Capstone

BUS MGMT CAP

The Business Management Capstone is designed to provide any student with the Business Management skills necessary to run their own business or to serve in upper level management. Students will explore Management Theory, Accounting, and Business Law. The Business Management Capstone can be used with any career pathway except Business Administration. Completion of the course may allow students the opportunity to earn a CT or TC through ITCC.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Any CTE Business Concentrator Sequence except Business Administration
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Recommended Capstone course for Entrepreneurship, Insurance, and Marketing Programs of Study

Pathway: Business Operations and Technology

Cluster: Business Management and Administration							
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Business Operations and Technology	7153	Principles of Business Operations and Technology	7144	Business Office Communications	7146	Digital Data Applications	7254	Business Operations and Technology Capstone

7153 Principles of Business Operations and Technology

PRIN BUS OP TECH

The Principles of Business Operations and Technology course will prepare students to plan, organize, direct, and control the functions and processes of a firm or organization and be successful in a work environment. Students are provided opportunities to develop attitudes and apply skills and knowledge in the areas of business, management, Microsoft office, and finance. Individual experiences will be based upon the student's career and educational goals.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7144 Business Office Communications

BUS OFF COMM

The Business Office Communications course emphasizes the analysis of communication to direct the choice of oral and written methods and techniques. It includes practice in writing a variety of messages used to communicate in business and industry with an emphasis on the potential impact of the message on the receiver as a basis for planning and delivering effective business communications. Through projects and the development of messages students will develop their knowledge and skills for the use of Microsoft Word and Microsoft PowerPoint.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Operations and Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7146 Digital Data Applications

DGTL REC KEEP

Students will use Microsoft Excel to sort and search records, combine files, produce reports, and to extract data from a file. This course is designed to include creating and formatting worksheets, using formulas and basic functions, creating charts, and printing professional-looking reports. Additionally students will use Microsoft Access to create a database and to manage a database through the creation and modification of a query. Students will also be expected to produce reports from the information.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Operations and Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7254 Business Operations and Technology Capstone

BUS OPER CAP

Digital literacy has become increasingly important to the business environment. Technological advances provide opportunities for businesses to survey inclusion of new innovations. This course discusses, identifies, researches, and applies emerging technologies. Discussing new technology and understanding the importance of updating skills is necessary for today's business operations.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Business Operations and Technology; Business Office Communications; Digital Data Applications
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Education and Training

Pathway: Early Childhood Education

Cluster: Education and Training							
Pathway	Principles Concentrator A (2 hour block)				Concentrator B Capstone (3 hour block)		
Early Childhood Education	7160	Principles of Early Childhood Education	7158	Early Childhood Education Curriculum	7159	Early Childhood Education Guidance	7259	Early Childhood Education Capstone

7160 Principles of Early Childhood Education

PRIN EAR CH ED

This course provides students with an overview of skills and strategies necessary to successfully complete a certificate. Additionally, it provides an overview of the history, theory, and foundations of early childhood education as well as exposure to types of programs, curricula and services available to young children. This course also examines basic principles of child development, Developmentally Appropriate Practices (DAP), importance of family, licensing, and elements of quality care of young children with an emphasis on the learning environment related to health, safety, and nutrition. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7158 Early Childhood Education Curriculum

EAR CHD ED CUR

Early Childhood Education Curriculum examines developmentally appropriate environments and activities in various childcare settings while exploring the varying developmental levels and cultural backgrounds of children. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: Principles of Early Childhood Education
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7159 Early Childhood Education Guidance

EAR CHD ED GD

This course allows students to analyze developmentally appropriate guidance, theory and implementation for various early care and education settings. It also provides a basic understanding of the anti-bias/multicultural emphasis in the field of early childhood. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Early Childhood Education
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7259 Early Childhood Education Capstone

ERLY CHILD CAP

This course will prepare students to complete the application, CDA exam, and verification process for the Child Development Associate (CDA) credential. Students may also study the physical, social, emotional, cognitive, and moral development of children from conception to age twelve. Theories of child development, biological and environmental foundations, prenatal development, the birth process, and the newborn baby will be discussed. Additionally, students will explore the aspects of early literacy skill development in young children from birth through third grade. Students will explore techniques, technological tools and other learning opportunities that encourage positive attitudes in children regarding listening, speaking, reading and writing activities. In the course, students will research, examine and explore the use of observation in screening and assessment to promote healthy literacy development in early childhood education. Finally, students will be provided an introduction to caring for each exceptional child. This includes theories and practices for producing optimal developmental growth. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Early Childhood Education; Early Childhood Curriculum; Early Childhood Guidance
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diploma

Pathway: Education Careers

Cluster: Education and Training							
Pathway	Principles Concentrator A (2 hour block for observations)			Concentrator B (1 hour) Capstone (2 hours) Remote Site			
Education Careers	7161	Principles of Teaching	7157	Child and Adolescent Development	7162	Teaching and Learning	7267	Education Professions Capstone

Students must earn all prior dual college credit to qualify for the capstone. The capstone will take place on the ISU campus. Students will declare elementary or secondary education for second semester of the capstone. Capstone will take place 5th, 6th, and 7th periods. Students will return to school prior to the end of the day.

Indiana State University

Bayh College of Education in University Hall

7161 Principles of Teaching

PRIN TEACH

This course provides a general introduction to the field of teaching. Students will explore educational careers, teaching preparation, and professional expectations as well as requirements for teacher

certification. Current trends and issues in education will be examined. A minimum 20 hour classroom observation experience is required for successful completion of this course.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7157 Child and Adolescent Development

CHLD ADL DEV

Child and Adolescent Development examines the physical, social, emotional, cognitive, and moral development of the child from birth through adolescence with a focus on the middle years through adolescence. Basic theories of child development, biological and environmental foundations of development, and the study of children through observation and interviewing techniques are explored. The influence of parents, peers, the school environment, culture and the media are discussed. An observation experience up to 20 hours may be required for completion of this course. This course has been approved to be offered for dual credit. Students pursuing this course for dual credit are still required to meet the minimum prerequisites for the course and pass the course with a C or better in order for dual credit to be awarded.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Principles of Teaching
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7162 Teaching and Learning

TEACH LRN

Teaching and Learning provides students the opportunity to apply many of the concepts that they have learned throughout the Education Professions pathway. In addition to a focus on best practices, this course will provide an introduction to the role that technology plays in the modern classroom. Through hands-on experience with educational software, utility packages, and commonly used microcomputer hardware, students will analyze ways to integrate technology as a tool for instruction, evaluation, and management.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Teaching;
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7267 Education Professions Capstone

ED PROF CAP

The Education Professions Capstone provides an extended opportunity for field experience to further apply concepts that have been presented throughout the pathway. Students will also have the opportunity to explore the topics of the exceptional child and literacy development through children's literature. Students will gain a deeper understanding of inclusive teaching techniques along with policies,theories, and laws related to special education. Students interested in pursuing a career in Elementary Education are encouraged to also study the benefits of using children's literature in the classroom. This course may be further developed to include specific content for students interested in pursuing a careerin secondary education. The course should include a significant classroom observation and assisting experience.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Teaching; Child and Adolescent Development, Teaching and Learning
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diploma

Career Cluster: Health Sciences

Pathway: Pre-Nursing (CNA)

Cluster: Health Sciences								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B Capstone (3 hour block) Remote site			
Pre-Nursing (CNA)	7168	Principles of Healthcare	5274	Medical Terminology	7166	Healthcare Specialist: CNA	7255	Healthcare Specialist Capstone

Students work capstone classroom/lab is in a hospital and all rules that hospitals must follow must be followed by participants. Students will work with patients at various facilities including long term care facilities.

7168 Principles of Healthcare

PRIN HLCR

Principles of Healthcare content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none

- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5274 Medical Terminology

MED TERMS

Medical Terminology prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

7166 Healthcare Specialist: CNA

HC SPEC CNA

The Healthcare Specialist: CNA prepares individuals desiring to work as nursing assistants with the knowledge, skills and attitudes essential for providing basic care in extended care facilities, hospitals and home health agencies under the direction of licensed nurses. The course will introduce students to the disease process and aspects of caring for a long-term care resident with dementia. Individuals who successfully complete this course are eligible to apply to sit for the Indiana State Department of Health (ISDH) certification exam for nursing assistants. This course meets the minimum standards set forth by the ISDH for Certified Nursing Assistant training and for health care workers in long-term care facilities.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7255 Healthcare Specialist Capstone

HC SPEC CAP

The capstone course will provide Healthcare students acquire additional knowledge and skills necessary to work in a variety of health care settings beyond a long term care facility, including hospitals, doctor's offices and clinics. Students can accomplish this goal by completing coursework that will cover topics

such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant or Phlebotomy along with the coursework or in place of the coursework.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare; Medical Terminology; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Medical Assistant

Cluster: Health Sciences							
Pathway		Principles (1 hour)		Concentrator A (1 hour)		Concentrator B Capstone (3 hour block) Remote site	
Medical Assistant	7168	Principles of Healthcare	5274	Medical Terminology	7164	Certified Clinical Medical Assistant (CCMA)	7255	Healthcare Specialist Capstone

7168 Principles of Healthcare

> Concentrator B and Capstone will be offered in 2023-24 and includes remote site clinicals.

PRIN HLCR

Principles of Healthcare content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5274 Medical Terminology

MED TERMS

Medical Terminology prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

7164 Certified Clinical Medical Assistant (CCMA)

CERT CL MED AST

The Certified Clinical Medical Assistant course will prepare students for the National Healthcare Association CCMA exam. Instruction includes taking and recording vital signs, preparing patients for examination, patient education, and assisting the physician during the exam. The collecting and preparation of laboratory specimen and basic laboratory test will be covered. Prepares for the administration of medication, venipuncture, ECG, and wound care. Provides a basic understanding of the clinical and administrative duties and responsibilities pertinent to medical offices. Includes instruction in medical correspondence and records, case histories of patients, filing, telephone procedures, appointment scheduling, receptionist duties, and processing mail. Written, verbal and nonverbal communications according to patient needs are covered as well as documentation and associated legal and ethical boundaries.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare; Medical Terminology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7255 Healthcare Specialist Capstone

HC SPEC CAP

The capstone course will provide Healthcare students acquire additional knowledge and skills necessary to work in a variety of health care settings beyond a long term care facility, including hospitals, doctor's offices and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant or Phlebotomy along with the coursework or in place of the coursework.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare; Medical Terminology; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Emergency Medical Services

Cluster: Health Sciences							
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B Capstone (3 hour block) Remote site evening class		
Emergency Medical Services	7168	Principles of Healthcare	5274	Medical Terminology	7165	Emergency Medical Tech	7255	Healthcare Specialist Capstone

Classes meet on Tuesday and Thursday evenings. Certification includes required ambulance shifts.

7168 Principles of Healthcare

PRIN HLCR

Principles of Healthcare content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5274 Medical Terminology

MED TERMS

Medical Terminology prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits

- Counts as a directed elective or elective for all diplomas

7165 Emergency Medical Tech

EMT

This course is based on the training program developed by the Department of Transportation and the Emergency Medical Services Commission of Indiana. It covers theories, techniques and operational aspects of pre-hospital emergency care within the scope and responsibility of the emergency medical technician (EMT). It requires laboratory practice and clinical observation in a hospital emergency room and ambulance. Successful completion of the course meets national requirements to test for certification as an NREMT.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare; and Medical Terminology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7255 Healthcare Specialist Capstone

HC SPEC CAP

The capstone course will provide Healthcare students acquire additional knowledge and skills necessary to work in a variety of health care settings beyond a long term care facility, including hospitals, doctor's offices and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant or Phlebotomy along with the coursework or in place of the coursework.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Healthcare; Medical Terminology; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Hospitality

Pathway: Culinary Arts – Baking and Pastry

Cluster: Hospitality and Tourism							
Pathway	Principles Concentrator A (2 hour block)				Concentrator B Capstone (2 hour block)		
Culinary Arts - Baking and Pastry	7173	Principles of Culinary and Hospitality	7171	Nutrition	7169	Culinary Arts	7235	Baking and Pastry Capstone

7173 Principles of Culinary and Hospitality

PRIN HOSP

Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service and lodging industry. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.

- Recommended Grade(s): 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7171 Nutrition

FD THRY NUT

Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient dense meals or examining nutritional needs of student athletes

- Recommended Grade(s): 10, 11
- Required Prerequisites: Principles of Culinary and Hospitality
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7169 Culinary Arts

CUL ARTS

Culinary Arts teaches students how to prepare the four major stocks, the five mother sauces (in addition to smaller sauces) and various soups. Additional emphasis is placed on the further development of the classical cooking methods. This course will also present the fundamentals of baking science including terminology, ingredients, weights and measures, and proper use and care of equipment. Students will produce yeast goods, pies, cakes, cookies, and quick breads.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Culinary and Hospitality
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7235 Baking and Pastry Capstone

BAKE PSTRY CAP

The objective of this course is to help students understand the science of baking and the different reactions that take place based on the ingredients, temperatures, and equipment in relation to the final product. The course requires students to produce and finish a variety of cakes. The course emphasizes application techniques, color coordination, and the flavor and texture of fillings. Students will practice the techniques of basic cake decorating. This course will also address classical French and European desserts, including the preparation of goods such as Napoleons, Gateau St. Honoré, petit fours and petit fours sec, ganaches, pastry creams and fillings, sauces, flans and tarts, and European sponges. The course also includes instruction in tempering of chocolates, molding, and chocolate plastique, preparation of truffles, pastillage and marzipan, short doughs, and meringues. The student will be instructed in the latest preparation methods, innovative ideas for impressive plate presentations, and techniques that utilize specialized equipment and tools to make high-tech, novel creations

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Culinary and Hospitality; Nutrition; Culinary Arts
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Human Services

Pathway: Human and Social Services

Cluster: Human Services									
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Human and Social Services	7176	Principles of Human Services	7174	Understanding Diversity	7177	Relationships and Emotions	7241	Human Services Capstone

Dual credit can only be earned in capstone. Course will take place at Ivy Tech two-three days per week and at high school the other days. Capstone will be 1st, 2nd, and SRT periods. All dual credit requirements for the pathway will be completed in the capstone.

7176 Principles of Human Services

PRIN HUM SERV

Principles of Human Services explores the history of human services, career opportunities, and the role of the human service worker. Focuses on target populations and community agencies designed to meet the needs of various populations. The course includes a required job shadowing project in a Human Services setting (a suggested four-hour minimum to meet Ivy Tech requirements). This course will also encourage cultural awareness and appreciation of diversity. Focuses on cultural variations in attitudes, values, language, gestures, and customs. Includes information about major racial and ethnic groups in the United States.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7174 Understanding Diversity

DIS SERV

Understanding Diversity encourages cultural awareness and appreciation of diversity. Focuses on cultural variations in attitudes, values, language, gestures, and customs. Includes information about major racial and ethnic groups in the United States.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Human Services
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7177 Relationships and Emotions

REL EMO

Relationship & Emotions examines the key elements of healthy relationships. Explores the main problems that damage relationships. Presents research findings on successful and unsuccessful relationships, and emotional connections. Explores the impact of one's emotional and relationship history on current and future romantic relationships. Presents practical, scientific-based skills for improving relationships. Additionally, this course offers practical and useful information for people who have experienced loss. Students have the opportunity to evaluate their own experiences and attitudes toward loss and grief.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Human Services
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7241 Human Services Capstone

HUM SRV CAP

This course provides opportunities to increase effectiveness in helping people. Examines the helping process in terms of skills, helping stages, and issues involved in a helping relationship. This course also introduces and develops basic interviewing skills. Includes assessment strategies and treatment planning. This course provides basic information about the problems of alcohol and other drug abuse. Explores symptoms and effects of abuse and dependence on individuals, families, and society Additionally, this course studies group dynamics, issues and behavior. Includes group functioning and leadership, guidelines on working effectively with a co-leader, and practical ways of evaluating the group processes. It provides an overview of legal and ethical aspects in the field of human services with implications for the human service worker. Includes topics such as confidentiality, rights of clients, client records, equal protection for staff and clients, and discrimination. The Human Service Ethical Code and related codes are covered with an overview of ethical dimensions of practice.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Relationships & Emotions; Understanding Diversity
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Information Technology

Pathway: Information Technology Operations

Cluster: Information Tech								
Pathway		Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Information Technology Operations	7183	Principles of Computing	7180	Information Technology Fundamentals	7181	Networking and Cybersecurity Operations	7245	IT Operations: IT Support Capstone

7183 Principles of Computing

PRIN COMP INFO

Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Computer Science; Completed or Co-Enrolled in Algebra I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7180 Information Technology Fundamentals

INFO TECH FUN

Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTia A+ Certification Exam.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7181 Networking and Cybersecurity Operations

INFO TEC SUP SER

Advanced Information Technology will provide students with the fundamental concepts in networking and cybersecurity. Students are introduced to the principles and concepts of computer networking, covering the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to troubleshoot routers and switches and resolve common issues. The students will also explore the field of Cyber Security/Information Assurance focusing on the technical and managerial aspects of the discipline. Students will be introduced to the basic terminology, concepts, and best practices of computer/network security and the roles and responsibilities of management/security personnel. The students will learn the technologies used and techniques involved in creating a secure computer

networking environment including authentication and the types of attacks against an organization.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing; Information Technology Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7245 IT Operations: IT Support Capstone

IT SUPP CAP

IT Support Capstone students will acquire the skills and knowledge needed to provide tier 1 technical support services. The student will learn troubleshooting and problem solving in working with end users using various digital tools such as helpdesk software, knowledge bases, ticket management systems, and other tier 1 computer related support services. Students will also learn to implement, administer, and troubleshoot Information systems using the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a Windows active directory environment. Additionally students have the chance to understand and apply Linux and Virtualization concepts.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Computing; Information Technology Fundamentals; Networking and Cybersecurity Operations
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Software Development

Cluster: Information Tech							
Pathway		Principles (1 hour)		Concentrator A (1 hour)	Concentrator B (1 hour)		Capstone (2 hours)
Software Development	7183	Principles of Computing	7185	Website and Database Development	7184	Software Development	7253	Software Development Capstone

7183 Principles of Computing

PRIN COMP INFO

Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.

- Recommended Grade(s): 9, 10, 11

- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Computer Science; Completed or Co-Enrolled in Algebra I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7185 Website and Database Development

WEB DATA DEV

Website and Database Development will provide students a basic understanding of the essential Web and Database skills and business practices that directly relate to Internet technologies used in Web site and Database design and development. Students will learn to develop Web sites using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Additionally students will be introduced to the basic concepts of databases including types of databases, general database environments, database design, normalization and development of tables, queries, reports, and applications. Students will be familiarized with the use of ANSI Standard Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, and BIG Data. Students will develop a business application using database software such as Microsoft Access.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7184 Software Development

SOFT DEV

Software Development introduces students to concepts and practices of programming languages and software development. Students are introduced to algorithms and development tools used to document/implement computer logic. Discusses the history of software development, the different types of programming such as real time processing, web/database applications, and different program development environments. Concepts will be applied using different programming languages, and students will develop and test working programs in an integrated system.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7253 Software Development Capstone

SW DEV CAP

Software Development Capstone provides a basic understanding of the fundamental concepts involved when using an object oriented programming language. The emphasis is on logical program design using

a modular approach involving task-oriented program functions. Object-oriented concepts such as methods, attributes, inheritance, exception handling, and polymorphism are utilized. Applications are developed using these concepts and include developing a graphical user interface, selecting forms and controls, assigning properties and writing code. Students will also build upon their web design experiences in previous courses by taking an in-depth look into client- and server-side scripting aspects including Java Script and PHP: hypertext preprocessor along with other scripting tools.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Computing; Website and Database Development; Software Development
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Career Cluster: Science, Technology, Engineering, & Math (STEM)

Pathway: Engineering

Cluster: STEM (Science, Technology, Engineering and Math)								
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Engineering	4802	Introduction to Engineering Design	5644	Principles of Engineering	5538	Digital Electronics	5698	Engineering Design and Development
					5650	Civil Engineering and Architecture		
					5534	Computer Integrated Manufacturing		

4802 Introduction to Engineering Design

INT ENG DES

Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues

related to professional practice and product development are also presented. NOTE: This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.

5644 Principles of Engineering

PRNC ENG

Principles of Engineering is a course that focuses on the process of applying engineering, technological, scientific and mathematical principles in the design, production, and operation of products, structures, and systems. This is a hands-on course designed to provide students interested in engineering careers to explore experiences related to specialized fields such as civil, mechanical, and materials engineering. Students will engage in research, development, planning, design, production, and project management to simulate a career in engineering. The topics of ethics and the impacts of engineering decisions are also addressed. Classroom activities are organized to allow students to work in teams and use modern technological processes, computers, CAD software, and production systems in developing and presenting solutions to engineering problems. Schools may use the PLTW curriculum to meet the standards for this course. NOTE: This course aligns with the PLTW Principles of Engineering curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Qualifies as a quantitative reasoning course

5650 Civil Engineering and Architecture

CIVIL ENG

Civil Engineering and Architecture introduces students to the fundamental design and development aspects of civil engineering and architectural planning activities. Application and design principles will be used in conjunction with mathematical and scientific knowledge. Computer software programs should allow students opportunities to design, simulate, and evaluate the construction of buildings and communities. During the planning and design phases, instructional emphasis should be placed on related transportation, water resource, and environmental issues. Activities should include the preparation of cost estimates as well as a review of regulatory procedures that would affect the project design. NOTE: This course aligns with the PLTW Civil Engineering and Architecture curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5534 Computer Integrated Manufacturing

COMP INT MFG

Computer Integrated Manufacturing is a course that applies principles of rapid prototyping, robotics, and automation. This course builds upon the computer solid modeling skills developed in Introduction of Engineering Design. Students will use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs. Students will also be introduced to the fundamentals of robotics and how this equipment is used in an automated manufacturing environment. Students will evaluate their design solutions using various techniques of analysis and make appropriate modifications before producing their prototypes. NOTE: This course aligns with the PLTW Computer Integrated Manufacturing curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5538 Digital Electronics

DIG ELEC

Digital Electronics is a course of study in applied digital logic that encompasses the design and application of electronic circuits and devices found in video games, watches, calculators, digital cameras, and thousands of other devices. Instruction includes the application of engineering and scientific principles as well as the use of Boolean algebra to solve design problems. Using computer software that reflects current industry standards, activities should provide opportunities for students to design, construct, test, and analyze simple and complex digital circuitry software will be used to develop and evaluate the product design. This course engages students in critical thinking and problem-solving skills, time management and teamwork skills.

NOTE: This course aligns with the PLTW Digital Electronics curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design (-or- Principles of Engineering Technology)
- Recommended Prerequisites: Electronic Fundamentals
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5698 Engineering Design and Development

ENG DES DEV

Engineering Design and Development is an engineering research course in which students work in teams to research, design, test, and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide the team to reach a solution to the problem. The team and/or individual(s)communicates their solution to a panel of stakeholders at the conclusion of the course. As the capstone course in the Engineering Pathway, EDD engages students in critical thinking, problem-solving, time management, and teamwork skills. NOTE: This course aligns with the PLTW Engineering Design and Development curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 12
- Required Prerequisites: Introduction to Engineering Design; Principles of Engineering; and one pre-engineering specialty course
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Design Technology

Cluster: STEM (Science, Technology, Engineering and Math)									
Pathway	Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Design Technology	4802	Introduction to Engineering Design	7196	Mechanical and Architectural Design	7202	Manufacturing Principles and Design	7225	Architectural Design Capstone
					7197	BIM Architecture	7223	Mechanical Design Capstone

IVY TECH
COMMUNITY COLLEGE

Center for Workforce Development in Terre Haute

4802 Introduction to Engineering Design

INT ENG DES

Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on

projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented. NOTE: This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.

7196 Mechanical and Architectural Design

ARCT DES

Mechanical and Architectural Design provides students with a basic understanding of creating working drawings related to manufacturing detailing and assembly as well as a survey of Architectural design focused on the creative design of buildings. Topics include fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, and the use of parts lists, title blocks and revision blocks. From an Architecture perspective, this course covers problems of site analysis, facilities programming, space planning, conceptual design, proper use of materials, and selection of structure and construction techniques.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7202 Manufacturing Principles and Design

PRIN DES TECH

Manufacturing Principles and Design will challenge students will use 2D and 3D CAD skills to explore topics related to manufacturing principles and design. Students will gain an understanding of solid modeling and parametric solid modeling and use 3D printers to create industry part prints. Additionally, students will compare manufacturing practices like Lean Manufacturing, design and program CNC processes, and use metrology tools and practices to evaluate an object.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7197 BIM Architecture

COMP A DSGN

BIM Architecture will introduce students to Building Information Modeling (BIM) which is an intelligent 3D model-based process that gives architecture, engineering, and construction professionals the insight and tools to better plan, design, and construct buildings. Students will deepen their skills in 3D CAD and learn to use BIM software to capture and analyze concepts and to prepare client presentations for Commercial Construction.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7225 Architectural Design Capstone

ARCH DES CAP

Architectural Design Capstone covers residential design and drafting. Topics include interior space planning, structural design and development of working drawings. The course provides opportunity for students to design a residence using accepted building standards and introduces various construction materials. Students will also learn advanced CAD design topics in architectural design. Completion of the entire course may also provide students the opportunity to understand basic surveying equipment and surveying techniques.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals; BIM Architecture
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7223 Mechanical Design Capstone

MECH DES CAP

Mechanical Design Capstone covers a broad range of design techniques that are critical for the Manufacturing industry. Students will have the chance to study solid modeling techniques and design, fundamental principles of geometric dimensioning and tolerancing, Solidworks design software, and an introduction to additive manufacturing.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design; Mechanical and Architectural Design Fundamentals; Manufacturing Principles and Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Computer Science

Cluster: STEM (Science, Technology, Engineering and Math)								
Pathway		Principles (1 hour)		Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)
Computer Science		7183	Principles of Computing	7351	Topics in Computer Science	7352	Computer Science	7353	Computer Science Capstone

7183 Principles of Computing

PRIN COMP INFO

Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Computer Science; Completed or Co-Enrolled in Algebra I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7351 Topics in Computer Science

TOP COMP SCI

Topics in Computer Science is designed for students to investigate emerging disciplines within the field of computer science. Students will use foundational knowledge from 7183 Principles of Computing to study the areas of data science, artificial intelligence, app/game development, and security. Students will utilize knowledge related to these areas and programming skills to develop solutions to authentic problems.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7352 Computer Science

COMP SCI

Computer Science introduces the fundamental concepts of procedural programming. Topics include

data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging. The course also offers an introduction to the historical and social context of computing and an overview of computer science as a discipline.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- The AP Computer Science A curriculum may be used to complete the competencies required for this course.

7353 Computer Science Capstone

COMP SCI CAP

Computer Science Capstone provides a working understanding of the fundamentals of procedural and object-oriented program development using structured, modular concepts and modern object-oriented programming languages. Reviews control structures, functions, data types, variables, arrays, and data file access methods. The course is a second level computer science course introducing object oriented computer programming, using a language such as Java or C++. Object-oriented concepts studied include classes, objects, inheritance, polymorphism, operator overloading, exception handling, recursion, abstract data types, streams and file I/O. Students will explore programming concepts such as software reuse, data abstraction and event-driven programming.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Computing; Topics in Computer Science; Computer Science
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Electronics and Computer Technology

Cluster: STEM (Science, Technology, Engineering and Math)								
Pathway		Principles (1 hour)	Concentrator A (1 hour)		Concentrator B (1 hour)		Capstone (2 hours)	
Electronics and Computer Technology	4802	Introduction to Engineering Design	7361	Electronic Fundamentals	5538	Digital Electronics	7362	Electronics and Computer Technology Capstone

IVY TECH COMMUNITY COLLEGE

Center for Workforce Development in Terre Haute

4802 Introduction to Engineering Design

INT ENG DES

Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented. NOTE: This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.

7361 Electronic Fundamentals

ELEC FUND

Electronic Fundamentals will concentrate on the physical world of electricity and electronics. Practical techniques for proper and safe use of basic hand and machine tools are introduced. Techniques for connecting various types of circuits are also covered. The process of fabricating printed circuit boards is presented.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5538 Digital Electronics

DIG ELEC

Digital Electronics is a course of study in applied digital logic that encompasses the design and application of electronic circuits and devices found in video games, watches, calculators, digital cameras, and thousands of other devices. Instruction includes the application of engineering and scientific principles as well as the use of Boolean algebra to solve design problems. Using computer software that reflects current industry standards, activities should provide opportunities for students to design, construct, test, and analyze simple and complex digital circuitry software will be used to develop and evaluate the product design. This course engages students in critical thinking and problem-solving skills, time management and teamwork skills.

NOTE: This course aligns with the PLTW Digital Electronics curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design (-or- Principles of Engineering Technology)
- Recommended Prerequisites: Electronic Fundamentals
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

7362 Electronics and Computer Technology Capstone

ECT CAP

Electronics and Computer Technology Capstone provides the opportunity for students to continue with foundational electronic concepts including circuit analysis and digital electronics modules. This course incorporates classroom, laboratory, and work-based experiences in the fundamental electronics concepts of circuit analysis and digital electronics as well as optional modules focused on industrial technology, emerging electronic technologies, residential and commercial electronic communication, and automation. Industry certifications and additional post-secondary education are critical components of this pathway.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design; Electronic Fundamentals; Digital Electronics
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Transportation, Distribution, and Logistics

Pathway: Automotive Services

Cluster: Transportation, Distribution, and Logistics							
Pathway	Principles (1 hour)		Concentrator A Concentrator B (2 hour block)			Capstone (2 hours)	
Automotive Services	7213	Principles of Automotive Services	7205	Brake Systems	7212	Steering and Suspensions	7375	Automotive Service Capstone

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7213 Principles of Automotive Services

PRIN AUTO SER

This course gives students an overview of the operating and general maintenance systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the automotive industry. Students will study the maintenance and light repair of automotive systems. Also, this course gives students an overview of the electrical operating systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7205 Brake Systems

AUTO BRK ELE

This course gives students an in-depth study of vehicle electrical systems. Students will study the fundamentals of electricity and automotive electronics in various automotive systems. Additionally it teaches theory, service and repair of automotive braking systems. This course provides an overview of various mechanical brake systems used on today's automobiles. This course will emphasize professional diagnosis and repair methods for brake systems.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Automotive Services
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block.

7212 Steering and Suspensions

ENG PERF

This course takes an in-depth look at engine performance, including concepts in the diagnosis and repair of ignition, fuel, emission and related computer networks. This course presents engine theory and operation and studies the various engine designs utilized today. This course also takes an in-depth look at engine performance, including advanced concepts in the diagnosis and repair of ignition, fuel, emission and related computer networks. This course presents engine theory and operation and studies the various engine designs utilized today. Hybrid/Alternative fuel technology will also be introduced.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Automotive Services
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Schools partnering with Vincennes University must offer the program of study as part of a 2-3 period block.

7375 Automotive Service Capstone

AUTO SRV CAP

This course further explores important skills and competencies within the Automotive Service Technology Pathway. Topics such as Steering & Suspension, Engine Repair, Climate Control, and Driveline Service. Additionally, Co-Op and Internship opportunities will be available for students.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Automotive Services; Brake Systems; Steering and Suspensions
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Pathway: Automotive Collision Repair

Cluster: Transportation, Distribution, and Logistics								
Pathway		Principles (1 hour)		Concentrator A Concentrator B (2 hour block)			Capstone (2 hours)	
Automotive Collision Repair		Principles of Collision Repair		Automotive Body Repair		Plastic Body Repair and Paint Fundamentals		Collision Repair Capstone
			7215		7204		7206		7380

Entry-Level
Certification Program

Center for Workforce Development in Terre Haute

7215 Principles of Collision Repair

PRIN COL REP

Principles of Collision Repair provides students an overview of the operating, electrical, and general maintenance systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the automotive collision industry. Students will study the basics of collision repair, along with learning to perform basic service and maintenance, including the car's starting and charging system.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

7204 Automotive Body Repair

AUTO BDY REP

Automotive Body Repair provides students with an understanding of the materials, measuring, welding, and information resources applicable to collision repair. Students will study steel and aluminum dent repair, including the welding practices commonly performed within an automotive repair environment. Students will gain basic skills and knowledge in oxy-fuel welding, cutting, brazing and plasma cutting, gas metal arc welding, squeeze type resistance welding, exterior panel welding and I-CAR welding test preparation. Students will also learn the installation of moldings, ornaments, and fasteners with emphasis on sheet metal analysis and safety.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Collision Repair
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7206 Plastic Body Repair and Paint Fundamentals

AUTO PT WELD

Plastic Body Repair and Paint Fundamentals introduces the types of fiberglass and plastic materials used in auto body repair and considerations for automotive painting. Students will explore methods for repairing fiberglass and plastic damage, like welding, reinforcing, repairing holes, and retexturing plastic. Students will be asked to demonstrate the proper use of primers and sealers, spraying techniques, and an understanding of various paint finishes.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Collision Repair; Automotive Body Repair
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7380 Collision Repair Capstone

COLL RPR CAP

This course further explores important skills and competencies within the Automotive Body Technology Pathway. Topics such as Automotive Painting Technology, Collision Damage Appraising, and Fiberglass Plastic Repair. Additionally, Co-Op and Internship opportunities will be available for students.

- Recommended Grade(s): 11,12
- Required Prerequisites: Principles of Collision Repair; Plastic Body Repair and Paint Fundamentals; Automotive Body Repair
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

Certificate Track Courses:

4512 Applied Business Math

BUS MATH

Applied Business Math is a course designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. A solid understanding of application of money management skills, navigating industry specific technology and apps, establishing and managing budgets, and maintaining inventory for products and other necessary skills that provides the foundation for students interested in careers in business related fields and everyday life. The content includes basic mathematical operations related to accounting, banking and finance, marketing, management, and retail. Instructional strategies should include simulations, guest speakers, tours, Internet research, and business experiences

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an elective for the Certificate of Completion
- Fulfills a Mathematics requirement for the Certificate of Completion
- Qualifies as a quantitative reasoning course

4540 Applied Personal Financial Responsibility

PRS FIN RSP

Applied Personal Financial Responsibility addresses the identification and management of personal financial resources to meet the financial needs and wants of individuals and families, considering a broad range of economic, social, cultural, technological, environmental, and maintenance factors. This course helps students build and apply skills in financial literacy and responsible decision making. Content includes analyzing personal standards, needs, wants, and goals; identifying sources of income, and navigating technology for money management. A project based approach and applications through authentic settings such as work based observations, service learning experiences and community-based instruction are appropriate. Direct, concrete applications of basic mathematics proficiencies in projects are encouraged.

- Recommended Grade(s): 9,10,11,12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an elective for the Certificate of Completion
- Qualifies as an Applied Math course for the Certificate of Completion

5330 Applied Adult Roles and Responsibilities

ADULTROLES

Applied Adult Roles and Responsibilities is recommended for all students as life foundations and academic enrichment for students with interest in family and community services, personal and family finance, and similar areas. This course builds knowledge, skills, attitudes, and behaviors that students will need as they complete high school and prepare to take the next steps toward adulthood in today's society. The course includes the study of interpersonal standards, lifespan roles and responsibilities, individual and family resource management, and financial responsibility and resources. A project or community-based approach that utilizes problem solving skills, communication, leadership, self-determination skills, management processes, and fundamentals to college, career and community membership success. Service learning and other authentic applications are strongly recommended.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an elective or Employability Requirement for the Certificate of Completion

5342 Applied Nutrition and Wellness

NTRN WLNS

Applied Nutrition and Wellness is an introductory course valuable for all students as a life foundation and academic enrichment. This is a nutrition class that introduces students to only the basics of food preparation so they can become self- sufficient in accessing healthy and nutritious foods. Major course topics include nutrition principles and applications; influences on nutrition and wellness; food preparation, safety, and sanitation; and science, technology, and careers in nutrition and wellness. A project-based approach that utilizes higher order thinking, communication, leadership, self-determination, and management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of nutrition, food, and wellness. Food preparation experiences are a required component. Direct, concrete mathematics and language arts proficiencies will be applied.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an Employability Requirement or elective for the Certificate of Completion

5364 Applied Interpersonal Relationships

INTRP RLT

Applied Interpersonal Relationships is an introductory course that is relevant for students interested in careers that involve interacting with people and for everyday life relationships. This course addresses knowledge and skills needed for positive and productive relationships in career, community, and family settings. Major course topics include communication skills; leadership, self-determination, teamwork, and collaboration; conflict prevention, resolution, and management; building and maintaining

relationships; and individual needs and characteristics and their impacts on relationships. A project or community-based approach is recommended in order to apply these topics of interpersonal relationships. This course provides a foundation for all careers and everyday life relationships that involve interacting with people both inside and outside of a business/organization, including team members, clients, patients, customers, the general public, family and friends.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an Employability Requirement or elective for the Certificate of Completion

5366 Applied Human Development and Wellness

HUMAN DEV

Applied Human Development and Wellness is valuable for all students as a life foundation and academic enrichment. Course content includes individuals' physical, social, emotional, and moral development and wellness across the lifespan. Major topics include principles of human development and wellness; impacts of family on human development and wellness; factors that affect human development and wellness; practices that promote human development and wellness; managing resources and services related to human development and wellness; and career exploration in human development and wellness. Life events and contemporary issues addressed in this course include (but are not limited to) change; stress; abuse; personal safety; and relationships among lifestyle choices, health and wellness conditions, and diseases. A project or community-based approach that utilizes problem solving skills, communication, leadership, self-determination skills, and management processes is recommended in order to apply and generalize these skills in authentic settings.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an Employability Requirement or elective for the Certificate of Completion

5394 Applied Preparing for College and Careers

PREP CC

Applied Preparing for College and Careers addresses the knowledge, skills, and behaviors all students need to be prepared for success in college, career, and life. The focus of the course is the impact of today's choices on tomorrow's possibilities. Topics to be addressed include twenty-first century life and career skills; higher order thinking, communication, leadership, and management processes; exploration of personal aptitudes, interests, values, and goals; examining multiple life roles and responsibilities as individuals and family members, planning and building employability skills; transferring school skills to life and work, and managing personal resources. This course includes reviewing the 16 national career clusters and Indiana's College and Career Pathways, in- depth investigation of one or more pathways, reviewing graduation plans, developing career plans, and developing personal and career portfolios. A project-based approach, including computer and technology applications, cooperative ventures between school and community, simulations, and real life experiences, is recommended.

- Recommended Grade(s): 9,10,11,12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an elective or Employability for the Certificate of Completion

5974 Applied Work Based Learning Capstone

WBL

Applied Work Based Learning Capstone is an instructional strategy that can be implemented as a stand-alone course or a component of any CTE course that prepares students for college and career. This strategy builds individual students' skills and knowledge within the area of interest. A standards based training plan is developed by the student, teacher, and workplace mentor to guide the student's work based learning experiences and assist in evaluating progress and performance, whether WBL is a stand-alone course or a component of a discipline-specific CTE course.

- Recommended Grade(s): 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an Employability Requirement, Capstone Course or elective for the Certificate of Completion

0530 Applied Career Exploration Internship

CARR EXP

The Applied Career Exploration Internship course is a paid or unpaid work experience in the public or private sector that provides for workplace learning in an area of student career interest. Unlike a cooperative education program in which students gain expertise in a specific occupation, the career exploration internship is intended to expose students to broad aspects of a particular industry or career cluster area by rotating through a variety of work sites or departments. In addition to their workplace learning activities, students participate in 1) regularly scheduled meetings with their classroom teacher, or 2) a regularly scheduled seminar with the teacher for the purpose of helping students make the connection between academic learning and their work-related experiences. Specific instructional standards tied to the career cluster or pathway and learning objectives for the internship must be written to clarify the expectations of all parties – the student, parent, employer, and instructor.

- Recommended Grade(s): 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an Employability Requirement or elective for the Certificate of Completion
- This course is exploratory in nature and, as such, does not qualify for reimbursement under the career and technical education funding formula.

4528 Applied Digital Applications and Responsibility

DIG APPS RESP

Applied Digital Applications and Responsibility prepares students to use technology in an effective and appropriate manner in school, in a job, or everyday life. Students develop skills related to word processing, spreadsheets, presentations, and communications software and may use highly specialized or individualized technology or software. Students learn what it means to be a good digital citizen and how to use technology, including social media, responsibly. Students expand their knowledge of how to use digital devices and software to build decision-making and problem-solving skills. Students may be provided with the opportunity to seek industry-recognized digital literacy certifications.

- Recommended Grade(s): 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits:
- Counts as an elective or Employability requirement for the Certificate of Completion

Career Exploration

0530 Career Exploration Internship

CARR EXP

The Career Exploration Internship course is a paid or unpaid work experience in the public or private sector that provides for workplace learning in an area of student career interests. Unlike the work-based Learning capstone course in which students gain expertise in a specific occupation, the career exploration internship is intended to expose students to broad aspects of a particular industry or career cluster area by rotating through a variety of work sites or departments. In addition to their workplace learning activities, students participate in 1) regularly scheduled meetings with their classroom teacher, or 2) a regularly scheduled seminar with the teacher for the purpose of helping students make the connection between academic learning and their work-related experiences. Specific instructional standards tied to the career cluster or pathway and learning objectives for the internship must be written to clarify the expectations of all parties – the student, parent, employer, and instructor.

- Recommended Grade(s): 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Preparing for College and Careers; Career Information and Exploration
- Credits: 1 semester course, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

- This course is exploratory in nature and, as such, does not qualify for reimbursement under the career and technical education funding formula.

0509 Jobs for America's Graduates

JAG

Jobs for America's Graduates (JAG) is a state-based, national non-profit organization dedicated to preventing dropouts among young people who are most at-risk. JAG's mission is to keep young people in school through graduation and provide work-based learning experiences that will lead to career advancement opportunities or to enroll in a postsecondary institution that leads to a rewarding career. JAG students receive adult mentoring while in school and one year of follow-up counseling after graduation. The JAG program is funded through grants provided by the Indiana Department of Workforce Development.

- Recommended Grade: 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 1 credits per semester, 4 credits maximum
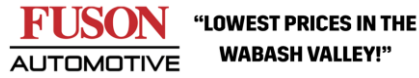- Counts as an elective for all diplomas

5974 Work Based Learning Capstone

WBL

Work Based Learning Capstone is a stand-alone course that prepares students for college and career. Work-Based Learning means sustained interactions with industry or community professionals in real workplace settings, to the extent practicable, or simulated environments at an educational institution that foster in-depth, first hand engagement with the tasks required of a given career field, that are aligned to curriculum and instruction. Work Based Learning Capstone experiences occur in workplaces and involve an employer assigning a student meaningful job tasks to develop his or her skills, knowledge, and readiness for work. A clear partnership agreement and training plan is developed by the student, teacher, and workplace mentor/supervisor to guide the student's work-based experiences and assist in evaluating achievement and performance. Related Instruction shall be organized and planned around the activities associated with the student's individual job and career objectives in a pathway and shall be taught during the same semester the student is participating in the work-based experience. For a student to become employable, the related instruction should cover: (a) employability skills, and (b) specific occupational competencies.

- Recommended Grade(s): 12
- Required Prerequisites: Complete at least one advanced career and technical education course from a program or program of study. Worksite placement must align to the student pathway.
- Recommended Prerequisites: none
- Credits: 1 semester course, 1-3 credits per semester, 6 credits maximum
- A minimum of 85 hours of workplace and classroom activities are required for one credit; 170 hours are required for the two credits; 255 hours are required for the three credits.
- A minimum of one hour per week must be scheduled to develop employability skills.
- Counts as a directed elective or elective for all diplomas
- Course is funded at a flat rate; No longer counts toward concentrator status.

Some 2023-2024 Work-Based Learning Partners

MI MARION MANUFACTURING

FUSON AUTOMOTIVE — "LOWEST PRICES IN THE WABASH VALLEY!"

CUSTOM STONE PRODUCTS

Culver's ButterBurgers & Frozen Custard

DORSETT AUTOMOTIVE — NISSAN • HYUNDAI • MITSUBISHI

BRAMPTON BRICK

goodwill

Great Dane

Joink TRUSTED TECHNOLOGY SOLUTIONS

PILONI'S Italian RESTAURANT

NORTH AMERICAN LIGHTING A Koito Group Company

TOYOTA of TERRE HAUTE

FORSYTH PUTTMANN

J. FORD'S Black Angus FINEST OF FOOD & SPIRITS

Finzel's ASE MASTER TECH

TERRE HAUTE Children's Museum Explore Science & Technology

McALISTER'S DELI

J & N Metal Products, LLC

SUPERIOR KITCHEN and BATH

GAVILON

HYDRITE

sodexo

MARK CLINKENBEARD CONSTRUCTION

BOXUP

The Arc.
Vigo County

TH CVB
TERRE HAUTE
CONVENTION & VISITORS BUREAU

NRK INC

GATX Rail

JLG

STABLES STEAKHOUSE

BARRETT'S GYM

O'Reilly AUTO PARTS

Arby's

Sycamore Engineering

meijer

DEDICATED DH HEALTH

MONICAL'S PIZZA RESTAURANT

Kroger

five BEL°W

MENARDS

FRESH THYME MARKET

WABASH · VALLEY FAMILY SPORTS CENTER

BR BASKIN · ROBBINS

Baesler's MARKET

S & G Excavating, Inc.

SUBWAY

General Career Focuses

Manufacturing	Construction	Automotive Services	Information Technology
Nursing/Health Careers	Education	Early Childhood	Robotics
Pre-Engineering	Marketing	Agriculture	Culinary Arts/Hospitality
Welding	Drafting& Design	Human Services	Emergency Medical Services
Machining	Business	Radio & Television	Automotive Collision Repair

Work-Based Learning gives high school seniors an opportunity to apply skills they have learned from the Career Pathway they have chosen. Students can earn dual college credit, industry credentials, and valuable work experience while in high school and participating in this program and be able to attend post-secondary training with previously earned credits. This can save a considerable amount of college tuition money. The number of credits available depends on the student's class schedule. They may earn 1-3 credits per semester. In some cases, they may be able to work after school hours or on weekends. For example, a minimum of 85 hours a semester earns 1 credit.

ENROLLMENT

1. Must have completed 4 credits in their career pathway
2. Must be enrolled in a pathway class or be a pathway completer
3. Meet with counselor to work on class schedule
4. Have good attendance and a GPA that shows commitment
5. Any discipline actions must be reviewed
6. Have reliable transportation to and from work, have proof of insurance or be part of the JAG program
7. Follow all safety rules taught in class and on the job as well as school rules
8. Demonstrate honesty, reliability, courtesy, cooperative attitude, and willingness to learn
9. If these qualifications are met, then pick up an enrollment application from the counselor
10. Complete application and return to counselor
11. Meet with student, counselor and Work-Based Liaison to discuss appropriate placement
12. Student can use list of potential companies that traditionally hire WBL students, find a company that fits their pathway, fill out application, have an interview. They must be hired and have an appropriate job placement by end of second week of school year. (Friday, August 18, 2023)

Can be released for WBL:
3 credits = 5th, 6th and 7th hrs. or 1st, 2nd, and 3rd hrs. Must work 15-20 hours per week
2 credits= 6th and 7th hrs. or 1st and 2nd hour. Must work 10-14 hours per week
1 credit= 7th hr. Must work 5-9 hours per week
8th & 9th hrs. Schools can schedule WBL after school for students wishing to take additional classes.
Students whose schedule does not permit or wish to take additional classes may work after school or

☐ **Terre Haute North Vigo High School**
☐ **Terre Haute South Vigo High School**
☐ **West Vigo High School**
☐ **Booker T. Washington High School**

Work-Based Learning Training Plan

The policy of the Vigo County School Corporation is that there will be no discrimination made on the basis of race, color, religion, sex, national origin, age, disability, or handicap in the educational services or activities which it supports.

The School Corporation does not discriminate on the basis of disability or handicap in admission or access to, or treatment or employment in, its programs and activities. The School Corporation will comply with Section 504 of the Rehabilitation Act of 1973("Section 504"), 29 U.S.C. §794, and its implementing regulations at 34 C.F.R. Part 104, or Title II of the Americans with Disabilities Act of 1990 ("Title II"), 42 U.S.C. §§ 12131-12134, and its implementing regulations at 28 C.F.R. Part 35, in the operation of its schools and facilities.

CONTACT INFORMATION

Student Information

Student Name: _____ Date of Birth: _____ Age: _____

Student Address: _____

Student Cell Phone: _____

Student E-mail Address: _____

Parent / Guardian Information:

Parent/Guardian Name: _____

Parent/Guardian Address: _____

Parent/Guardian Cell Phone: _____

Parent/Guardian E-mail: _____

Work-Based Learning Coordinator / School Liaison Information:

WBL Coordinator / School Liaison Name: _____ WBL

Coordinator / School Liaison Cell Phone: _____

WBL Coordinator / School Liaison E-mail: _____

WBL Coordinator / School Liaison Work Location: _____

Employer Information:

Employer / Organization Name: _____

Employer / Organization Address: _____

Worksite Mentor / Supervisor Name: _____

Worksite Mentor / Supervisor Cell Phone: _____

Worksite Mentor / Supervisor E-mail: _____

WORK-BASED LEARNING EXPERIENCE INFORMATION

Work-Based Learning Position: _____

WBL Job Description:

WBL Essential Duties / Responsibilities:
   1.

   2.

   3.

   4.

   5.

   WBL Hourly Wage or Payment Amount: _____

Course sequence of related classes taken
(Please List all related coursework to WBL position)

1. _____
2. _____
3. _____
4. _____

Type of Work Based Learning Experience

o   Registered Apprenticeship
o   Cooperative
o   Internship
o   Pre-Apprenticeship/Youth Apprenticeship
o   On-the-job training
o   School-based enterprise
o   Employment
o   Other

WORK-BASED LEARNING EXPERIENCE INFORMATION

Career Cluster (Choose one)

o Agriculture, Food and Natural Resources	o Education and Training	o Manufacturing
o Architecture and Construction	o Health Science	o Public Safety
o Arts, A/V Technology and Communications	o Hospitality and Human Services	o STEM
o Business and Marketing	o Information Technology	o Transportation

Hazardous Equipment	Equipment	Use or purpose of equipment

WORK-BASED LEARNING EXPERIENCE INFORMATION

Content Standards			
The student completes the following portion of the content standards-based training plan in collaboration with the mentor and teacher. Each standard should be related to the content of the chosen career pathway. Standards from related course frameworks in the chosen career pathway can be utilized. For each standard, please list methods to develop the skill at the work-based learning site along with how the mentor and teacher will assess the skill. Mentors and teachers need to initial to approve.			
Standard / Skill #1			
What can I do at the host site to develop this skill? 1.	How will the standard be assessed by the mentor?	Mentor's Initials	
	How will the standard be assessed by the teacher?	Teacher's Initials	
Standard / Skill #2			
What can I do at the host site to develop this skill? 2.	How will the standard be assessed by the mentor?	Mentor's Initials	
	How will the standard be assessed by the teacher?	Teacher's Initials	
Standard / Skill #3			
What can I do at the host site to develop this skill? 3.	How will the standard be assessed by the mentor?	Mentor's Initials	
	How will the standard be assessed by the teacher?	Teacher's Initials	
Standard / Skill #4			
What can I do at the host site to develop this skill? 4.	How will the standard be assessed by the mentor?	Mentor's Initials	

	How will the standard be assessed by the teacher?	Teacher's Initials
Standard / Skill #5		
What can I do at the host site to develop this skill? 5.	How will the standard be assessed by the mentor?	Mentor's Initials
	How will the standard be assessed by the teacher?	Teacher's Initials

WORK-BASED LEARNING EXPERIENCE RESPONSIBILITIES AND SIGNATURES

Worksite Mentor / Supervisor

1. The supervisor at the training site will complete evaluations as scheduled by the WBL Coordinator.
2. If the student is employed, the student employment will be within the provisions of all state and federal child labor laws and existing labor management agreements. The employer agrees to comply with all WBL regulations and if utilizing cooperative education follow all student-learner applicable state and federal regulations, will provide student trainees equal opportunity employment and will not discriminate on the basis of race, color, national origin, including limited English proficiency, sex or handicapping conditions.
3. The term of agreement should be for an agreed upon length. Either party shall have the right to terminate this agreement upon written notice.
4. The employer/facility will provide adequate staffing in the instructional areas so that no student will be expected to perform duties without supervision.
5. The employer/facility will provide an opportunity for the student to keep up to date with policies and new technology by notifying the school of changes in policies and technology.
6. To assure that the employer/facility has sufficient resources to meet its obligations under the agreement, both parties shall confer prior to the start of each semester regarding the students who will participate in the program at the facility and their approximate schedule for the semester.
7. It is the responsibility of the student, parent and the employer/facility to notify the coordinator in writing of any accident that occurred while at the training site.
8. Determine all liability insurance issues prior to student participation.

Teacher / WBL Coordinator

1. The coordinator will visit and/or contact the training site at regular intervals to assess the student learner, to discuss the student's progress and find out what related instruction is needed.
2. Safety orientation and procedures instruction pertaining to the training site will be supplied by the employer. General Work-Based Learning instructions to the student will be covered in the related class by the teacher.
3. The employer and the school will provide instruction and experience at the training site and in the classroom.
4. The school assumes full responsibility for offering an accredited education program.
5. The instructor will plan the schedule and assist with assigning students to training sites.
6. Students and faculty will abide by existing rules and regulations of the facility pertaining to their activities while in the facilities building. The facility supervisor and/or coordinator will remove students immediately that are believed to not be conducting their behavior in the best interest of the safety of themselves or others.
7. The school will require students and faculty to maintain current health records and immunizations. 8. Determine all liability insurance issues prior to student participation.

Student

1. Complete designated instructional time and curriculum while maintaining academic grades, attendance and graduation requirements to progress to work based learning experience.
2. Complete the designated minimum hours of supervised training at the assigned facility as directed by the school program.
3. Maintain minimum dress standards determined by your training site and/or program coordinator for professionalism and safety expectations.

4. Perform skills at the training facility that are appropriate and within the training instructions.

5. Contact the following prior to their scheduled time: a) the school (parent or guardian) b) training facility (student) c) instructor (parent or student) if they will be absent from or tardy to the school or training facility for any reason.

6. Provide his/her own transportation to and from the training site.

7. Remain at the training site unless a request to transfer is approved by the teacher-coordinator. All training sites must be approved by the teacher-coordinator.

8. Be removed from the program or prevented from returning to an advanced class if students are released from the training site by the facility for a justified reason.

9. Report a worksite related injury to the coordinator by the end of the next school day.

10. Follow the provisions of the state and federal child labor laws.

11. Not be required, or recommended, to drive to, or report to, any internship site during any part of a day covered by an announced school delay or school cancellation due to extreme inclement weather. However, we will not interfere with individual student decisions to drive to, or report to, any internship site during any such period if the student, the student's parents (if the student is under the age of 18) and the student's internship site supervisor/mentor conclude that such travel can take place without undue risk to student safety.

I have read the above training plan and understand my responsibilities and relationship to the program as outlined by the agreement.

Student's Signature:_____

Date:_____

I have read the above training plan and understand the responsibilities assigned to my child and the relationship to the program.

Parent's Signature:_____

Date:_____

I have read the above training plan and understand the responsibilities to the program.

WBL Coordinator's Signature:_____

Date:_____

I have read the above training plan and understand the responsibilities to the program.

Worksite Mentor/Supervisor Signature:_____

Date:_____

Only the Class of 2024 are eligible to take the below old course titles. The following courses will NO longer be offered after the 2023-2024 school year. Only the Class of 2024 students can schedule in these courses and must complete during the 2023-24 year. These courses may be stacked with new advanced level NLPS courses.

Career Cluster: Advanced Manufacturing

Pathway: Manufacturing

5606 Advanced Manufacturing II

ADV MFTG II

Advanced Manufacturing II builds on classroom and lab experiences students experienced in Advanced Manufacturing I. Domains include safety and impact, drafting principles, manufacturing programming, CAD/CAM and CNC technologies, automation and robotics, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Students continue this course with the goal of being a skilled machine operator, repair technician, or management at any company that produces goods and services using advanced manufacturing techniques. Work based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 12
- Required Prerequisites: Advanced Manufacturing I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Robotics

5612 Industrial Automation and Robotics II

AUTO ROB II

Industrial Automation and Robotics II, focuses on industrial robots, programming PLC's, automating cells, advanced programming, and designing/building task-oriented robots. Students will engage in active learning, critical thinking, and problem solving through advanced robotic procedures and processes. Students will learn industrial robotic programming languages, as well as strategies for improving efficiency through automation. Students will study basic computer numerical controlled (CNC) machining and will combine automation and CNC machining to perform common industrial tasks.

They will also apply knowledge to real world situations to create working solutions.

- Recommended Grade(s): 12
- Required Prerequisites: Industrial Automation and Robotics I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Welding

5778 Welding Technology II

WELD TECH II

Welding Technology II builds on the skills covered in Welding Technology I. Emphasis is placed on safety at all times. OSHA standards and guidelines endorsed by the American Welding Society (AWS) are used. Instructional activities emphasize properties of metals, safety issues, blueprint reading, electrical principles, welding symbols, and mechanical drawing through projects and exercises that teach students how to weld and be prepared for college and career success.

- Recommended Grade(s): 12
- Required Prerequisites: Welding Technology I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Precision Machining

5784 Precision Machining II

PCSN MACH II

Precision Machining II is a more in-depth study of skills learned in Precision Machining I, with a stronger focus in CNC setup/operation/programming. Classroom activities will concentrate on precision set-up and inspection work as well as machine shop calculations. Students will develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry. A continued focus on safety will also be included.

- Recommended Grade(s): 12
- Required Prerequisites: Precision Machining I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Career Cluster: Agriculture

Pathway: Agribusiness

5002 Agribusiness Management

AG BUS MGMT

Agribusiness Management provides foundation concepts in agricultural business. It is a two semester course that introduces students to the principles of business organization and management from a local and global perspective, with the utilization of technology. Concepts covered in the course include accounting and record keeping, business planning and management, food and fiber, forms of business, finance, management, sales and marketing, careers, and leadership development. Students will demonstrate principles and techniques for planning, development, application and management of agribusiness systems through a supervised agriculture experience (work based learning) programs.

- Recommended Grade(s): 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas.
- Qualifies as a quantitative reasoning course

5180 Natural Resources

NAT RSS

Natural Resources is a two semester course that provides students with a background in environmental science and conservation. Course work includes hands-on learning activities that encourage students to investigate areas of environmental concern. Students are introduced to the following areas of natural resources: soils, the water cycle, air quality, outdoor recreation, forestry, minerals, interrelationships between humans and natural systems, wetlands, wildlife, safety, careers, leadership, and supervised agricultural experience programs.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture*
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas.
- Fulfills a science requirement for all diplomas.
- *Principles course is not required until 2024-25 school year because this course is included in Perkins V pathways.

Pathway: Building and Facilities Maintenance

5594 Building and Facilities Maintenance II

BF MANT II

Building and Facilities Maintenance II builds on skills learned in Building and Facilities Maintenance I and

encompasses instruction in basic upkeep and repair skills related to the mechanical systems within structures. Emphasis should be placed on the use of hand and power tools and the selection and use of appropriate supplies needed for care, repair and maintenance. Students will reinforce their mathematical skills through the practical study of measurement units, ratios, area, and volume calculations. Scientific knowledge will be enhanced through the emphasis on environmental concerns and chemical and electrical safety instruction. Language skills will be strengthened through oral and written work intended to improve students' abilities to communicate with supervisors, colleagues, and clients.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Building and Facilities Maintenance I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Web Design/Interactive Media

5232 Interactive Media

INT MEDIA

Interactive Media prepares students for careers in business and industry working with interactive media products and services which includes the entertainment industries. This course emphasizes the development of digitally-generated or computer-enhanced products using multimedia technologies. Students will develop an understanding of professional business practices including the importance of ethics, communication skills, and knowledge of the "virtual workplace."

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Communications; Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Schools wishing to offer this course for multiple credits should utilize Next Level Programs of Study courses.

Pathway: Fashion and Textiles

5421 Fashion & Textiles Careers II

FSHNTX II

Fashion and Textiles Careers II prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the fashion industry. This course builds a foundation that prepares students to enter into higher education programs of study related to the entire spectrum of the career clusters that encompass careers in fashion, apparel, and other textiles management, production, and services. Major topics include: fashion design, application of design elements and principles, the business of fashion designers, evaluating manufacturing processes, reviewing distribution processes in the fashion industry, garment costs and business math, reviewing the processes from fiber production to items of clothing being worn, overall review of the textile and apparel industry, fashion

promotion, dynamics of fashion demand, writing fashion copy, investigation of fashion designers, customer relations and best practices, fashion merchandising, operational costs, forecasting trends, use of technology in the fashion industry, and career exploration and experience. A project-based approach with commercial/industry applications is a key component of this course of study. Student experiences may be either school-based or "on-the-job" or a combination of the two. Work based experiences in the fashion industry are strongly encouraged. A standards-based plan guides the students' experiences. This course is a core component of four-year career plans for the career clusters of Personal & Commercial Services; Manufacturing & Processing; and Art, A/V Technology & Communications. It is recommended for students with interests in apparel, textiles, and fashion career pathways and provides the foundation for continuing study. Students are monitored in their experiences by the Fashion Careers II teacher. Articulation with post- secondary programs is encouraged.

- Recommended Grade(s): 12
- Required Prerequisites: Fashion and Textiles Careers I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Visual Communications
5572 Graphic Imaging Technology

GRAPH TECH

Graphic Imaging Technology will include organized learning experiences that focus on theory and laboratory activities in pre-press, press and finishing operations. Emphasis will be placed on elements of design and layout leading to computerized electronic image generation, plate preparation, pressroom operations, and finishing techniques. Instructional activities will enhance student's language arts skills through the use of proofreading, spelling, and punctuation exercises. The course will include actual production processes in conjunction with classroom assignments embracing the technologies of printing, publishing, packaging, electronic imaging, and their allied industries.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Computer Illustration and Graphics
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Radio Television

5992 Radio and Television II

RAD TV II

Radio and Television II prepares students for admission to television production programs at institutions of higher learning. Students train on professional equipment creating a variety of video projects. During this second-year program students integrate and build on first-year curriculum while mastering advanced concepts in production, lighting and audio.

- Recommended Grade(s): 12

- Required Prerequisites: Radio and Television I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Business Management, Marketing, and Finance

Pathway: Office Management

5268 Administrative and Office Management

ADV BUS

Administrative and Office Management prepares students to plan, organize, direct, and control the functions and processes of a firm or organization and to perform business-related functions. Students are provided opportunities to develop aptitudes and apply skills and knowledge in the areas of business administration, management, and finance. Individual experiences will be based upon the student's career and educational goals.

- Recommended Grade(s): 12
- Required Prerequisites: Principles of Business Management or Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5966 Entrepreneurship and New Ventures Capstone

ENT VENT CAP

Entrepreneurship and New Ventures Capstone introduces entrepreneurship and develops skills and tools critical for starting and succeeding in a new venture. The entrepreneurial process of opportunity recognition, innovation, value proposition, competitive advantage, venture concept, feasibility analysis, and "go to" market strategies will be explored through mini-case studies of successful and unsuccessful entrepreneurial start-ups. Additionally, topics of government and legal restrictions, intellectual property, franchising location, basic business accounting, raising startup funding, sales and revenue forecasting, and business plan development will be presented through extensive use of word processing, spreadsheet and presentation software.

- Recommended Grade(s): 12
- Required Prerequisites: Any CTE Concentrator Sequence except Entrepreneurship
- Recommended Prerequisites: Earn CTE Concentrator Status in any CTE program or program of study.
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Marketing
5962 Merchandising

MERCH

Merchandising is a specialized marketing course providing instruction of marketing practices that support the sale of products to retail consumers. Emphasis is placed on oral and written communications, problem solving and critical thinking skills as they relate to product design, selling, pricing, distribution, retail promotion, visual merchandising, retail cycles, retail theories, and career opportunities in the retail industry. This course can focus on a specific retail sector, such as fashion, sporting goods, or electronics.

- Recommended Grade(s): 12
- Required Prerequisites: Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5982 Marketing in Hospitality and Tourism

MKT HOSP

Marketing in Hospitality and Tourism is a specialized course that develops student understanding of marketing in the hospitality, travel, and tourism industry. Students gain experiences marketing-information management, pricing, product/service management, promotion, and selling in the hospitality, travel, and tourism

- Recommended Grade(s): 12
- Required Prerequisites: Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5984 Sports and Entertainment Marketing

SPRT ENT MRK

Sports and Entertainment Marketing is a specialized marketing course that develops student understanding of the sport/event industries, their economic impact, and products, distribution systems and strategies, pricing considerations, product/service management, and promotion. Students acquire an understanding and appreciation for planning. Throughout the course, students are presented problem-solving situations for which they must apply academic and critical-thinking skills. Participation in cooperative education is an optional instructional method, giving students the opportunity to apply newly acquired marketing skills in the workplace.

- Recommended Grade(s): 12
- Required Prerequisites: Marketing Fundamentals
- Recommended Prerequisites: none
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Education and Training

Pathway: Education Professions

5404 Education Professions II

ED PROF II

Education Professions II prepares students for employment in education and related careers and provides the foundation for study in higher education in these career areas. An active learning approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of education and related careers. The course of study includes, but is not limited to: the teaching profession, the learner and the learning process, planning instruction, learning environment, and instructional and assessment strategies. Extensive field experiences in one or more classroom settings, resumes, and career portfolios are required components. A standards-based plan guides the students' field experiences. Students are monitored in their field experiences by the Education Professions II teacher. Articulation with post-secondary programs is encouraged.

- Recommended Grade(s): 12
- Required Prerequisites: Education Professions I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Early Childhood Education

5406 Early Childhood Education II

ECE II

Early Childhood Education II prepares students for employment in early childhood education and related careers that involve working with children from birth to 8 years (3rd grade) and provides the foundations for study in higher education that leads to early childhood education and other child-related careers. ECE II is a sequential course that builds on the foundational knowledge and skills of Early Childhood Education I, which is a required prerequisite. In ECE II students further refine, develop, and document the knowledge, skills, attitudes, and behaviors gained in the foundational course. Major topics of ECE II include: overview of the Child Development Associate (CDA) credential, safe and healthy learning environment, physical and intellectual competence, social and emotional development, relationships with families, program management, and professionalism. The course standards parallel the expectations and documentation required for Child Development Associate (CDA) credentialing. These include rigorous levels of self-critique and reflection, performance assessments by instructors, parents, and other professionals, comprehensive assessment of knowledge through a standardized exam, and other professional documentation. Extensive experiences in one or more early childhood education settings are required: a minimum total of 480 hours must be accrued in ECE I and ECE II. These experiences may be either school-based or "on-the-job" in community- based early childhood education centers, or in a combination of the two. A standards-based plan for each student guides the early childhood education experiences. Students are monitored in these experiences by the Early

Childhood Education II teacher. Dual credit agreements with post-secondary programs are encouraged.

- Recommended Grade(s): 12
- Required Prerequisites: Early Childhood Education I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Health Sciences

Pathway: Health Sciences

5284 Health Science Education II: Nursing

HSE II NURS

Health Science Education II: Nursing is an extended laboratory experience designed to provide students with the opportunity to assume the role of nurse assistant. Student have the opportunity to learn, and then to practice those technical skills previously learned in the classroom at qualified clinical sites while under the direction of licensed nurses. These sites may include extended care facilities, hospitals and home health agencies. Throughout the course, students will focus on learning about the healthcare system and employment opportunities at a variety of entry levels of the healthcare field; an overview of the healthcare delivery systems, healthcare teams and legal and ethical considerations; and obtaining the knowledge, skills and attitudes essential for providing basic care in a variety of healthcare settings. Additionally, students will build their essential job related skills such as providing appropriate personal care to patients; reporting necessary information to nursing staff; operating and monitoring medical equipment; teaching and assisting patients and families with the management of their illness or injury; and performing general health screenings. This course provides students with the knowledge, attitudes, and skills needed to make the transition from high school, to post-secondary opportunities, and to work in a variety of health science careers. Students are encouraged to focus on self-analysis to aid in their career selection. Job seeking and job maintenance skills, personal management skills, and completion of the application process for admission into a post-secondary program are also areas of focus. Participation in HOSA encourages the development of leadership, communication and career related skills, and opportunities for community service.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Health Science Education I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

5286 Health Science Education II: Special Topics

HSE II ST

Health Science Education II: Special Topics is an extended laboratory experience designed to address the advancement and specialization of healthcare careers through the provision of a specialized course for a specific healthcare workforce need in the school's region. Practicum is at a qualified clinical site, and is

designed to give the student the opportunity to practice technical skills previously learned in the classroom; all while working under the direction of the appropriately licensed healthcare professional. Throughout the course, students will focus on learning about the healthcare system and employment opportunities at a variety of entry levels; an overview of the healthcare delivery systems, healthcare teams, and legal and ethical considerations; and obtaining the knowledge, skills and attitudes essential for providing basic care in a variety of healthcare settings. Additionally, students will build their essential job related skills for providing basic care appropriate for their healthcare setting and audience. Course standards and curriculum must be tailored to the specific healthcare profession, preparing students to advance in this career field, and where applicable, provide students with opportunities for certification or dual credit. This course also provides students with the knowledge, attitudes, and skills needed to make the transition from high school, to post- secondary opportunities, and to work in a variety of health science careers. Students are encouraged to focus on self-analysis to aid in their career selection. Job seeking and job maintenance skills, personal management skills, and completion of the application process for admission into a post-secondary program are also areas of focus. Participation in HOSA encourages the development of leadership, communication and career related skills, and opportunities for community service.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Health Science Education I; CTE courses that would help prepare the student for success in this area.
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 62 credits.
- Counts as a directed elective or elective for all diplomas
- Schools must have an approved Nonstandard Course Waiver on file to be eligible for CTE Funding.

Career Cluster: Hospitality

Pathway: Hospitality Management

5346 Culinary Arts and Hospitality II: Culinary Arts

CUL HOSP II: CUL ARTS

Culinary Arts and Hospitality II: Culinary Arts prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the food industry, including (but not limited to) food production and services; food science, dietetics, and nutrition; and baking and pastry arts. Major topics for this advanced course include: basic baking theory and skills, introduction to breads, introduction to pastry arts, nutrition, nutrition accommodations and adaptations, cost control and purchasing, and current marketing and trends. Instruction and intensive laboratory experiences include commercial applications of principles of nutrition, aesthetic, and sanitary selection; purchasing, storage, preparation, and service of food and food products; using and maintaining related tools and equipment; baking and pastry arts skills; managing operations in food service, food science, or hospitality establishments; providing for the dietary needs of persons with special requirements; and related research, development, and testing. Intensive laboratory experiences with commercial applications are a required component of this course of study. Student laboratory experiences may be

either school-based or "on-the-job" or a combination of the two. Advanced Culinary Arts builds upon skills and techniques learned in Culinary Arts and Hospitality Management, which must be successfully completed before enrolling in this advanced course. Work based experiences in the food industry are strongly encouraged. A standards-based plan guides the students' laboratory and work based experiences. Students are monitored in these experiences by the Advanced Culinary Arts teacher. Articulation with post-secondary programs is encouraged.

- Recommended Grade(s): 12
- Required Prerequisites: Culinary Arts and Hospitality I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5458 Culinary Arts and Hospitality II: Hospitality Management

CUL HOSP II: HOS MGMT

Culinary Arts and Hospitality II: Hospitality Management prepares students for employment in the hospitality industry. It provides the foundations for study in higher education that leads to a full spectrum of hospitality careers. This is a broad-based course that introduces students to all segments of hospitality, what it includes, and career opportunities that are available; provides a survey of management functions, highlighting basic theories and facts; and exposes students to current trends and current events within the industry. Three major goals of this course are for students to be able to: Identify current trends in hotel and restaurant management, distinguish the difference between hospitality and tourism, and state differences in front of the house versus back of the house. Intensive experiences in one or more hospitality industry settings are a required component of the course. A standards-based plan for each student guides the industry experiences. Students are monitored in their industry experiences by the Advanced Hospitality Management teacher. Industry experiences may be either school-based or "on the job" in community-based hospitality settings, or in a combination of the two.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Nutrition and Wellness; Introduction to Culinary Arts and Hospitality
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Human Services

Pathway: Human Services

5462 Human and Social Services II

HUMN SRVS II

Human and Social Services II is a core component of the Family and Human Services pathway. The course prepares students for occupations and higher education programs related to assisting individuals

and families in meeting their potential. Through work based experiences, students apply the knowledge and skills developed in the Human Services Foundations course. Concentration areas include family and social services, youth development, and adult and elder care. Ethical, legal, and safety issues, as well as helping processes and collaborative ways of working with others, will be addressed. Learning experiences will involve analysis of the influence of culture and socioeconomic factors on individual choices and opportunities, service delivery models, and theoretical perspectives. Intensive laboratory/field experiences in one or more human social service agencies are a required component of this course. Student laboratory/field experiences may be either school-based, if available, or "on the job" in community-based agencies, or a combination of the two. A standards-based plan guides the students' laboratory/field experiences. Students are monitored in their laboratory/field experiences by the Human and Social Services II teacher. Achievement of applicable standards will be documented through a student portfolio. Articulation with post-secondary programs is encouraged.

- Recommended Grade(s): 12
- Required Prerequisites: Human and Social Services I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Information Technology

Pathway: Interactive Media/Web Design

4574 Web Design

WEB DESIGN

Web Design is a course that provides instruction in the principles of web design using HTML/XHTML and current/emerging software programs. Areas of instruction include audience analysis, hierarchy layout and design techniques, software integration, and publishing. Instructional strategies should include peer teaching, collaborative instruction, project-based learning activities, and school community projects.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Communications; Digital Applications and Responsibility
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum Credits:
- Counts as a directed elective or elective for all diplomas

Pathway: PC Support

5231 Information Technology Support II

INTO ENTR

Information Technology Support II, Capstone is designed for students to showcase the knowledge gained from the Information Technology Pathway. Through troubleshooting hardware, software, and networks, students solve problems through a variety of real-world IT problems. Throughout the course, students communicate with other team members and document progress to fix a variety of devices

- Recommended Grade(s): 12
- Required Prerequisites: Information Technology Support
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Career Cluster: Public Safety

Pathway: Emergency Medical Services

5210 Emergency Medical Services

EMS

Emergency Medical Services prepares students for a state certification which may lead to a career in Emergency Medical Services. Examples of those careers include Emergency Medical Technician and Paramedic. This course is designed for persons desiring to perform emergency medical care. Theories, techniques, and operational aspects of pre-hospital emergency care, within the scope and responsibility of the basic emergency medical technician are covered in this course. Students will learn to recognize the seriousness of the patient's condition, use the appropriate emergency care techniques and equipment to stabilize the patient, and safely transport them to the hospital. The handling of victims of hazardous materials accidents is also addressed in this course. Opportunities for laboratory practice and clinical observation in a hospital emergency room and ambulance are also included to provide occasions for students to further develop clinical skills and the appropriate ethical behavior. Leadership skills are developed and community service opportunities are provided through participation in HOSA. Students have the opportunity to compete in a number of competitive events at both the state and national level.

- Recommended Grade(s): 12
- Required Prerequisites: none
- Recommended Prerequisites: Health Science Education I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

Career Cluster: Science, Technology, Engineering, & Mathematics

Pathway: Computer Programming

5236 Computer Science II

CS II PROG

Computer Science II explores and builds skills in programming and a basic understanding of the fundamentals of procedural program development using structured, modular concepts. 67 Indiana Department of Education High School Course Titles and Descriptions Coursework emphasizes logical program design involving user-defined functions and standard structure elements. Discussions will include the role of data types, variables, structures, addressable memory locations, arrays and pointers,

and data file access methods. An emphasis on logical program design using a modular approach, which involves task-oriented program functions.

- Recommended Grade(s): 12
- Required Prerequisites: Computer Science I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Qualifies as a quantitative reasoning course
- Schools wishing to offer this course for multiple credits should utilize Next Level Programs of Study courses.

5249 Computer Science III: Software Development Capstone

CS III SD

Computer Science III: Software Development focuses on gaining knowledge and acquiring competencies in the processes, techniques and tools used to develop production quality software. The course framework aligns with professional standards and situates software development within the context of a software project, providing focus on requirements development and management, project scheduling, project success metrics, code design, development and review principles, testing procedures, release and revision processes, and project archival. An additional topic provides exposure to career opportunities within the software development field. The final product of this capstone experience is a working software product that adheres to industry standards.

- Recommended Grade(s): 12
- Required Prerequisites: Computer Science I
- Recommended Prerequisites: Computer Science II
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Qualifies as a quantitative reasoning course
- Schools wishing to offer this course for multiple credits should utilize Next Level Programs of Study courses.

Pathway: Drafting (Mechanical)

4838 Mechanical Drafting and Design II

MECH DD II

Mechanical Drafting and Design II covers working drawings both in detailing and assembly. Topics include: fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits, and the use of parts lists, title blocks and revision blocks. This course will also focus on advanced CAD features, including fundamentals of three-dimensional modeling for design. An overview of modeling, graphical manipulation, part structuring, coordinate system, and developing strategies of modeling will also be included. Advanced CAD will enable the student to make the transition from 2D drafting to 3D modeling. Students will draw and calculate three-dimensional problems. Theory and methods include

graphic developments and the relationships between points, lines and planes, curved lines and surfaces, intersections, and development. Computer software and hardware experiences, as they relate to drafting and design, will be covered.

- Recommended Grade(s): 12
- Required Prerequisites: Mechanical Drafting and Design I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credits per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Pathway: Drafting (Architectural)

5652 Architectural Drafting and Design II

ARCH DDII

Architectural Drafting and Design II builds on the concepts of Architectural Drafting and Design I and presents a history and survey of architecture with a focus on the creative design of buildings in a studio environment. This course covers site analysis, facilities programming, space planning, conceptual design, and the proper use of materials. Students will develop presentation drawings, give oral presentations, and critique works. Generation of form and space is addressed through basic architectural theory,

related architectural styles, design strategies, and a visual representation of the student's design process. This course will focus on advanced Computer Aided Design (CAD) techniques. It includes an overview of modeling, graphical manipulation, parts-structuring, and modeling strategies. Advanced CAD will enable students to make the transition from 2D drafting to 3D modeling. Various Architectural software packages and applications may be used.

- Recommended Grade(s): 12
- Required Prerequisites: Architectural Drafting and Design I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 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
- Qualifies as a quantitative reasoning course

Pathway: Electronics

5694 Electronics and Computer Technology II

ELECT TECH II

Electronics and Computer Technology II provides the opportunity for students to continue with foundational electronic concepts including circuit analysis and digital electronics modules. This course focuses on applying electronic concepts to real-world solutions in the fields of: industrial technology, emerging electronic technologies, residential and commercial electronic communication, and automation. 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.

- Recommended Grade(s): 12
- Required Prerequisites: Electronics and Computer Technology I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

Career Cluster: Transportation

Pathway: Automotive Services

5546 Automotive Services Technology II

AUTO TECH II

Automotive Services Technology II is a one year course that encompasses the sub topics of the NATEF/ASE identified areas of Electrical Systems and Engine Performance. This one year course offering may be structured in a series of two topics per year offered in any combination of instructional strategies of semester based or yearlong instruction. Additional areas of manual transmissions /differentials, automatic transmissions, air conditioning, and engine repair should be covered as time permits. This one-year offering must meet the NATEF program certifications for the two primary areas offered in this course. Mathematical skills will be reinforced through precision measuring activities and cost estimation/calculation activities.

Scientific principles taught and reinforced in this course include the study of viscosity, friction, thermal expansion, and compound solutions. Written and oral skills will also be emphasized to help students communicate with customers, colleagues, and supervisors.

- Recommended Grade(s): 12
- Required Prerequisites: Automotive Services Technology I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credits per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

Pathway: Automotive Collision Repair

5544 Automotive Collision Repair II

ACR TECH II

Automotive Collision Repair Technology II introduces concepts in automotive painting with an emphasis on the handling of materials and equipment in modern automotive technologies. Instruction should build on concepts learned in Automotive Collision Repair Technology I. Additional academic skills taught in this course include precision measurement and mathematical calibrations as well as scientific principles related to adhesive compounds, color- mixing, abrasive materials, metallurgy, and composite materials.

- Recommended Grade(s): 12
- Required Prerequisites: Automotive Collision Repair Technology I
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas