# Century Career Center
# Course Offerings
# 2024-2025 School Year

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| | Credits: | Periods: |
|---|---|---|
| **Agriculture** | | |
| • Principles of Agriculture | 1 | 1 |
| • Horticulture Science | 1 | 1 |
| • Landscape Management and Turf Management | 1 | 1 |
| • Greenhouse and Soilless Production | 1 | 1 |
| **Architecture & Construction** | | |
| • Exploring Construction Trades | 1 | 1 |
| • Principles of Construction Trades | 1 | 1 |
| • Construction Trades: General Carpentry | 1 | 1 |
| • Construction Trades: Framing/Finishing | 1 | 1 |
| • Construction Trades: Capstone | 1 | 1 |
| **Arts, AV Technology & Communications** | | |
| • Exploring Communications-Graphic Design | 1 | 1 |
| • Principles of Digital Design/Graphics | 1 | 1 |
| • Digital Design Graphics | 1 | 1 |
| • Graphic Design Layout | 1 | 1 |
| • Graphic Design: Capstone | 1 | 1 |
| • Exploring Communications- Photography | 1 | 1 |
| • Principles of Digital Design/Photography | 1 | 1 |
| • Digital Design Graphics/Photography | 1 | 1 |
| • Professional Photography/Videography | 1 | 1 |
| • Graphic Design: Photography Capstone | 1 | 1 |
| • Exploring Communications-Radio/TV | 1 | 1 |
| • Principles of Broadcasting | 1 | 1 |
| • Audio and Video Production Essentials | 1 | 1 |
| • Mass Media Production | 1 | 1 |
| • Radio/TV Broadcasting Capstone | 1 | 1 |

| | Credits: | Periods: |
|---|---|---|
| **Business & Marketing** | | |

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|---|---|---|
| • Principles of Business Management | 1 | 1 |
| • Accounting Fundamentals | 1 | 1 |
| • Personal Finance and Banking | 1 | 1 |
| • Finance and Investment | 1 | 1 |
| • Marketing Fundamentals (Sports Marketing) | 1 | 1 |
| • Social Media Marketing (Digital Marketing) | 1 | 1 |
| • Principles of Entrepreneurship | 1 | 1 |

**Education & Training**

| | | |
|---|---|---|
| • Exploring Early Childhood Education | 1 | 1 |
| • Principles of Early Childhood Education | 1 | 1 |
| • Early Childhood Education Curriculum | 1 | 1 |
| • Early Childhood Education Guidance | 1 | 1 |
| • Early Childhood Education Capstone | 1 | 1 |
| | | |
| • Principles of Teaching | 1 | 1 |
| • Child and Adolescent Development | 1 | 1 |
| • Teaching and Learning | 1 | 1 |
| • Education Professions Capstone | 1 | 1 |
| | | |
| • Cooperative Education | 3 | 3 |
| • Work Based Learning Capstone | 2 | 2 |
| • McHale Auditorium - Technical Theatre Internship | 1 | 1 |

**Engineering Science & Technology**

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|---|---|---|
| • Exploring Design Processes | 1 | 1 |
| • Introduction to Engineering Design | 1 | 1 |
| • Principles of Engineering | 1 | 1 |
| • Mechanical and Architectural Design | 1 | 1 |
| • Manufacturing Principles and Design | 1 | 1 |
| • Computer Integrated Manufacturing | 1 | 1 |

**Health Science**

| | | |
|---|---|---|
| • Principles of Health Care | 1 | 1 |
| • Medical Terminology | 1 | 1 |
| • Pharmacy Tech | 1 | 1 |
| • Healthcare Specialist: CNA | 1 | 1 |
| • Healthcare Specialist: CNA Capstone | 1 | 1 |
| • Anatomy & Physiology | 1 | 1 |
| • Certified Clinical Medical Assistant (CCMA) | 1 | 1 |
| • Healthcare Specialist: CCMA Capstone | 1 | 1 |

**Hospitality and Human Services**

| | | |
|---|---|---|
| • Exploring Culinary Arts | 1 | 1 |
| • Principles of Culinary & Hospitality | 1 | 1 |
| • Nutrition | 1 | 1 |
| • Hospitality Management | 1 | 1 |
| • Hospitality Management Capstone | 1 | 1 |

**Information Technology**

| | | |
|---|---|---|
| • Principles of Computing | 1 | 1 |
| | Credits: | Periods: |
| • Topics in Computer Science | 1 | 1 |
| • Computer Science | 1 | 1 |
| • Information Technology Fundamentals | 1 | 1 |

| | | |
|---|---|---|
| • Networking and Cybersecurity Operations | 1 | 1 |

**Manufacturing & Logistics**

| | | |
|---|---|---|
| • Exploring Adv. Manuf.-Precision Machine | 1 | 1 |
| • Principles of Precision Machining | 1 | 1 |
| • Precision Machining Fundamentals | 1 | 1 |
| • Advanced Precision Machining | 1 | 1 |
| • Precision Machining Capstone | 1 | 1 |
| | | |
| • Exploring Adv. Manuf. -Welding | 1 | 1 |
| • Principles of Welding Technology | 1 | 1 |
| • Shielded Metal Arc Welding | 1 | 1 |
| • Gas Welding Processes | 1 | 1 |
| • Welding Technology Capstone | 1 | 1 |
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| • Principles of Industry 4.0/Digital Manufacturing | 1 | 1 |
| • Robotics Design and Innovation | 1 | 1 |
| • Smart Manufacturing Systems | 1 | 1 |
| • Industry 4.0 Capstone | 1 | 1 |

**Public Safety**

| | | |
|---|---|---|
| • Exploring Public Safety-Police | 1 | 1 |
| • Principles of Criminal Justice | 1 | 1 |
| • Law Enforcement Fundamentals | 1 | 1 |
| • Corrections and Cultural Awareness | 1 | 1 |
| • Criminal Justice Capstone | 1 | 1 |
| | | |
| • Exploring Public Safety-Fire/Rescue | 1 | 1 |
| • Principles of Fire and Rescue | 1 | 1 |
| • Fire Fighting Fundamentals | 1 | 1 |
| • Advanced Fire Fighting | 1 | 1 |
| • Fire and Rescue Capstone/EMT | 1 | 1 |

**Transportation**

| | | |
|---|---|---|
| • Exploring Automotive Service | 1 | 1 |
| • Principles of Automotive Services | 1 | 1 |
| • Brake Systems | 1 | 1 |
| • Steering and Suspensions | 1 | 1 |
| • Automotive Service Capstone | 1 | 1 |
| | | |
| • Exploring Automotive Body Repair | 1 | 1 |
| • Principles of Collision Repair | 1 | 1 |
| • Automotive Body Repair | 1 | 1 |
| • Plastic Body Repair/Painting Fundamentals | 1 | 1 |
| • Collision Repair Capstone | 1 | 1 |

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# Century Career Center

# Course Descriptions
# 2024-2025 School Year

## Agriculture

7117 Principles of Agriculture

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

5132 Horticultural Science

Horticulture Science is a two-semester course that provides students with a background in the field of horticulture. Coursework includes hands-on activities that encourage students to investigate areas of horticulture as it relates to the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Students are introduced to the following areas of horticulture science: reproduction and propagation of plants, plant growth, growth-media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest, greenhouse management, floral design, and pest management. Students participate in a variety of activities including extensive laboratory work usually in a school greenhouse. • 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 Life Science or 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.

7115 Landscape and Turf Management

Landscape and Turf Management is a two-semester course that provides the student with an overview of the many career opportunities in the diverse field of landscape and turf management. Students are introduced to the procedures used in the planning and design of a landscape using current technology practices, the principles and procedures involved with landscape construction, the determination of maintenance schedules, communications, and management skills necessary in landscaping operations, and the care and use of equipment utilized by landscapers. Upon completion of the program, students have the opportunity to become Indiana Landscape Industry Certified through a state approved program. • 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 max
• Counts as a directed elective or elective credits for all diplomas

7114 Greenhouse and Soilless Production

Greenhouse and Soilless Production is a two-semester course that provides an overview of structural designs and uses of enclosed structures (greenhouses) to grow various plants and food. The course will focus on discussing different types of enclosed structures, management systems, and growing systems used to produce plants and food. The course will also present an

overview of soilless growing systems such as hydroponics, aquaponics, aeroponics and fogponics. Students will utilize the school greenhouse as part of this 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

## Architecture & Construction

4792 Exploring Construction Trades

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

7130 Principles of Construction Trades

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, 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

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, 12 • 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

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, 12 • 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

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 1certificates. • 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

## Arts, AV Technology & Communications

4790 Exploring Communications-Graphic Design

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

7140 Principles of Digital Design/Graphics

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

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

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.

7246 Digital Design Capstone

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 semesters required, 1-3 credits per semester, 6 credits max • Counts as a Directed Elective or Elective for all diplomas

4790 Exploring Communications-Photography

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

7140 Principles of Digital Design/Photography

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/Photography

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

7136 Professional Photography & Videography

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

7246 Digital Design Capstone/Photography

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 semesters required, 1-3 credits per semester, 6 credits max • Counts as a Directed Elective or Elective for all diplomas

4790 Exploring Communications-Radio/TV

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

7139 Principles of Broadcasting

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

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 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

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

## Business & Marketing

4562 Principles of Business Management

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

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

7150 Personal Finance and Banking

Personal Finance and Banking emphasizes management of individual financial resources for growth and maintenance of personal wealth. Covers home buying and mortgage financing, installment financing, life and health insurance, securities, commodities and other investment opportunities. Students will gain an overview of banking industry and the financial services provided by banks for individuals and businesses. • 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

5258 Finance and Investment

Finance and Investments addresses the need of schools in areas that have workforce demand in the finance industry. It analyzes and synthesizes high-level skills needed for a multitude of career in the banking and investment industry. Students learn banking, investments, and other finance fundamentals and applications related to financial institutions, business and personal financial services, investment and securities, risk management products, and corporate finance. • Recommended Grade(s): 11, 12 • Required Prerequisites: Principles of Business Management*; Personal Finance and Banking or 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 • Formerly Banking and Investment

Capstone; *Principles course is not required until 24-25 school year because this course is included in Perkins V pathways.

5914 Marketing Fundamentals (Sports Marketing)

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 Social Media Marketing (Digital Marketing)

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

7154 Principles of Entrepreneurship

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

## Education & Training

5360 Exploring Early Childhood Education

Exploring Early Childhood Education 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 ages four through age eight (grade three). It builds on the Child Development course, which is a prerequisite. 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): 10, 11, 12 ● Required Prerequisites: none ● Recommended Prerequisites: Child Development ● Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum ● Counts as a directed elective or elective for all diplomas

7160 Principles of Early Childhood Education

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

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): 10, 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

7159 Early Childhood Education Guidance

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): 10, 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

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

7161 Principles of Teaching

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): 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

7157 Child and Adolescent Development

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, 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 diploma

7162 Teaching and Learning

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): 10, 11, 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

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 career in secondary education. The course should include a significant classroom observation and assisting experience. • Recommended Grade(s): 11, 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

6162 Cooperative Education

Cooperative Education is an approach to employment training that spans all career and technical education program areas through school-based instruction and on the job training. Time allocations are a minimum of fifteen hours per week of on-the-job training and approximately five hours per week of school-based instruction, focused on employability skills development. Additionally, all state and federal laws and regulations related to student employment and cooperative education must be followed. • Recommended Grade(s): 12 • Required Prerequisites: none • Recommended Prerequisites: Preparing for College and Careers; two credits in a career and technical education course • 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 •

5974 Work Based Learning Capstone (Internship)

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. Of the 85 or 170 hours, 18 to 36 hours (at least • Counts as a directed elective or elective for all diplomas • Course is funded at a flat rate of $500; No longer counts toward concentrator status.

0530 McHale Auditorium - Technical Theatre Internship

The professional career internship in Technical Theatre is an arranged internship in the McHale Auditorium. This internship is designed to provide opportunities for students to explore careers in the area of Technical Theatre that are based on the Indiana Academic Standards for Theatre. Students enrolled in this internship will be actively engage in the process of designing, building, managing, and implementing the technical aspects of a production. These activities should incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theatre, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theatre patrons in their community.

## Engineering Science & Technology

4794 Exploring Design Processes

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 product 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

4802 Introduction to Engineering Design

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

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

7196 Mechanical and Architectural Design

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

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

5534 Computer Integrated Manufacturing

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

## Health Science

7168 Principles of Healthcare

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): 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

5274 Medical Terminology

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): 11, 12 • Required Prerequisites: none • Recommended Prerequisites: none • Credits: 2 semester course, 2 semesters required, 1 credit per

7167 Pharmacy Tech

This course introduces the student to the foundational principles, career concepts, and entry-level skills and duties typically performed by a pharmacy technician in community/retail, hospital/health system, and other pharmacy practice settings. Classroom and lab activities provide opportunities for demonstration of knowledge, understanding, and proficiency in technical and customer service applications related to the role and scope of practice of a pharmacy technician. Essential pharmacy calculations are presented with emphasis on the development of problem-solving skills for safe pharmacy practices. • Recommended Grade(s): 10, 11, 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

7166 Healthcare Specialist: 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. Local Requirement: TB Shot and Physical on file (check with CCC for recommended form) • Recommended Grade(s): 10, 11, 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: C.N.A. Capstone

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): 11, 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 semesters required, 1-3 credits per semester, 6 credits max • Counts as a Directed Elective or Elective for all diplomas

5276 Anatomy and Physiology

Anatomy & Physiology is a course in which students investigate concepts related to Health Science, with emphasis on interdependence of systems and contributions of each system to the maintenance of a healthy body. This course covers tissues, integument, skeletal, muscular and nervous systems as an integrated unit. Through instruction, including laboratory activities and investigations, students apply concepts associated with Human Anatomy & Physiology. Students will understand the structure, organization and function of the various components of the healthy body in order to apply this knowledge in all health-related fields. •Recommended Grade(s): 11,12 •Required Prerequisites: none •Recommended Prerequisites: Biology •Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum •Counts as a directed elective or elective for all diplomas •Fulfills a Core 40 Science course requirement for all diplomas

7164 Certified Clinical Medical Assistant (CCMA)

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 specimens and basic laboratory tests 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): 10, 11, 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: CCMA Capstone

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): 11, 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 semesters required, 1-3 credits per semester, 6 credits max • Counts as a Directed Elective or Elective for all diplomas

## Hospitality and Human Services

5438 Exploring Culinary Arts

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

7173 Principles of Culinary and Hospitality

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): 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

7171 Nutrition

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, 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

7172 Hospitality Management

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. • Recommended Grade(s): 10, 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

7237 Hospitality Management Capstone

This course presents the essentials of effective food and beverage control while establishing systems for sale values of food and beverages that are outlined. This course addresses the application of the four-step control process to the primary phases of foodservice operations: purchasing, receiving, storing, issuing and production. Labor costs and sales forecasting are analyzed. This course is also opportunity for the Intermediate Hospitality student to acquire valuable field experience by working the Hospitality Manager supervision. The student keeps a journal and prepares a report of their experience at the end of the course. • Recommended Grade(s): 11, 12 • Required Prerequisites: Principles of Culinary and Hospitality; Nutrition; Hospitality 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 for all diplomas

## Information Technology

7183 Principles of Computing

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

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

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 ● Counts as a science credit ● Counts as a quantitative reasoning course ● The AP Computer Science A curriculum may be used to complete the competencies required for this course.

7180 Information Technology Fundamentals

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

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 ● Counts as a science credit

## Manufacturing & Logistics

4796 Exploring Adv. Manufacturing-Precision Machining

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

7109 Principles of Precision Machining

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

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

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

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

4796 Exploring Adv. Manufacturing-Welding

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

7110 Principles of Welding Technology

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

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 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

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

7220 Principles of Industry 4.0 and Digital Manufacturing

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

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 ● Counts as a quantitative reasoning course

7100 Smart Manufacturing Systems

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 ● Counts as a quantitative reasoning course

7222 Industry 4.0 - Smart Manufacturing Capstone

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 ● Counts as a quantitative reasoning course

## Public Safety

7190 Exploring Public Safety and First Responders-Police

Introduction to Public Safety and First Responders introduces students to a variety of careers available and areas of interest including Fire Science, Criminal Justice, Homeland Security, Environmental Health and Safety, and Emergency Medical Services. The course is designed to help students create a career plan for the Public Safety sector which includes certification requirements and hiring practices. • 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

7193 Principles of Criminal Justice

Principles of Criminal Justice covers the purposes, functions, and history of the three primary parts of the criminal justice system: law enforcement, courts, and corrections. This course further explores the interrelationships and responsibilities of these three primary elements of the criminal justice 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

7191 Law Enforcement Fundamentals

Law Enforcement Fundamentals Critically examines the history and nature of the major theoretical perspectives in criminology, and the theories found within those perspectives. Analyzes the research support for such theories and perspectives, and the connections between theory and criminal justice system practice within all the major components of the criminal justice system. Demonstrates the application of specific theories to explain violent and non-violent criminal behavior on both the micro and macro levels of analysis. Additionally, this course will introduce fundamental law enforcement operations and organization. This includes the evolution of law enforcement at federal, state, and local levels. • Recommended Grade(s): 10, 11, 12 • Required Prerequisites: Principles of Criminal Justice • 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

7188 Corrections and Cultural Awareness

Corrections and Cultural Awareness emphasizes the study of American criminal justice problems and systems in historical and cultural perspectives, as well as discussing social and public policy factors affecting crime. Multidisciplinary and multicultural perspectives are stressed. Additionally, this course takes a further examination of the American correctional system; the study of administration of local, state, and federal correctional agencies. The examination also includes the history and development of correctional policies and practices, criminal sentencing, jails, prisons, alternative sentencing, prisoner rights, rehabilitation, and community corrections including probation and parole. Current philosophies of corrections and the debates surrounding the roles and effectiveness of criminal sentences, institutional procedures, technological

developments, and special populations are discussed. • Recommended Grade(s): 10, 11, 12 • Required Prerequisites: Principles of Criminal Justice; Law Enforcement 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

7231 Criminal Justice Capstone

The Criminal Justice Capstone course allows students to complete additional instruction to earn a postsecondary certificate and should include a work-based learning component such as job shadowing, internship, etc. once the core content is completed. Note that there may be age restrictions on work-based learning components. • Recommended Grade(s): 11, 12 • Required Prerequisites: Principles of Criminal Justice; Law Enforcement Fundamentals, Corrections and Cultural Awareness • 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

7190 Exploring Public Safety and First Responders-Fire/EMT

Introduction to Public Safety and First Responders introduces students to a variety of careers available and areas of interest including Fire Science, Criminal Justice, Homeland Security, Environmental Health and Safety, and Emergency Medical Services. The course is designed to help students create a career plan for the Public Safety sector which includes certification requirements and hiring practices. • 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

7195 Principles of Fire and Rescue

Principles of Fire and Rescue introduces students to the various roles that firefighters and emergency services workers play to protect the public from the loss of life and property. They are frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. This course will introduce students to the history, terminology, and basic firefighting skills needed for a beginning firefighter. Additionally students will develop a career plan for a career in public safety; including areas of Fire Science, Homeland Security, and Emergency Medical Services. ● 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

7189 Fire Fighting Fundamentals

Fire Fighting Fundamentals is for those students who are seeking certification as a firefighter. This course will prepare students for the Hazardous Materials Awareness and Operations certifications and will introduce students to NFPA 1001 which serves as the standard of measurement for all firefighters in North America. Students will learn the knowledge and hands-on practical skills for managing and controlling a hazardous materials incident required for the certifications. Furthermore, students will study how a fire behaves and will learn the basic firefighting skills needed to extinguish a fire while protecting themselves and other firefighters. ● Recommended Grade(s): 10, 11, 12 ● Required Prerequisites: Principles of Fire and Rescue 315 ● 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

7186 Advanced Fire Fighting

Advanced Fire Fighting expands upon the principles and techniques of firefighting learned in Fire Fighting Fundamentals. Students will study fire protection systems, firefighter safety and survival. Students will also learn what fire is, the chemical hazards of combustion, and related by-products of fire. Additionally, students will gain a better understanding of fire department organization, administration, operations, and basic strategies and tactics. ● Recommended Grade(s): 10, 11, 12 ● Required Prerequisites: Principles of Fire and Rescue; Fire Fighting 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

7229 Fire and Rescue Capstone

Fire and Rescue Capstone will prepare students to earn the EMT certification. ● Recommended Grade(s): 11, 12 ● Required Prerequisites: Principles of Fire and Rescue; Fire Fighting Fundamentals, Advanced Fire Fighting ● 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

## Transportation

4798 Exploring Automotive Services

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.

7213 Principles of Automotive Services

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

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

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

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

4798 Exploring Automotive Body Repair

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.

7215 Principles of Collision Repair

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

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

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

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 semesters required, 1-3 credits per semester, 6 credits max • Counts as a Directed Elective or Elective for all diplomas