# SOUTHEASTERN CAREER CENTER

## 2025-2026 Course Catalog

# Automotive Technology - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Heavy lifting<br>Work boots required<br>Labs are not temperature controlled<br>PPE is required | **Supply List Fee (estimated):**<br>Year 1 - $78.00<br>Year 2 - $5.00 | **Potential Careers:**<br>Automotive Technician, Auto Parts Sales Expert, Service Writer, Insurance Adjuster, Automotive Sales, Automotive Machinist |
| **Dual Credit:** IVY TECH COMMUNITY COLLEGE<br>Year 1: 12<br>AUTI 100/AUTI 111/AUTI 121/AUTI 141<br>Year 2: 9<br>AUTI 122/AUTI 131/AUTI 145 | **Certifications:**<br>Year 1 & Year 2- ASE Student Certification - certified by the National Automotive Training Education Foundation<br>*(Industry promoted for Graduation Pathway* | **Career/Technical Student Organization:** |

**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. 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.

- 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 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.

- 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 .

**7212 Steering and Suspensions**

This course will study driveline theory and in-car service procedures. Theory and overhaul procedures related to the driveshaft and axle assemblies for front and rear wheel drive vehicles are included as well. Additionally, this course teaches theory, service and repair of automotive steering and suspension systems. It provides an overview of various mechanical, power, and electrical steering and suspension systems used on today's automobiles and will emphasize professional diagnosis and repair methods for steering and suspension systems.

- Required Prerequisites: Principles of Automotive Services; Brake Systems
- Recommended Prerequisites: none
- Credits: Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

# Automotive Technology - Year 2

**7375 Automotive Service Capstone**

This course further explores important skills and competencies within the Automotive Service Technology Pathway. Students will be exposed to an in-depth study of vehicle electrical systems. Students will study the fundamentals of electricity and automotive electronics in various automotive systems. Students will understand other topics such as Wheels, Tires, Alignment and Steering Suspension System, Engine Repair, Engine Performance (computer aided diagnostics), Advanced Braking/Traction Control systems as well as Climate Control/HVAC. Additionally, co-op, and internship opportunities will be available for students.

- 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

# Building Trades - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Outdoor working conditions<br>PPE is required | **Supply List Fee (estimated):**<br>Year 1 - $106.00<br>**supplies purchased year one will be used for year two<br>Year 2 - $25.00 | **Potential Careers:**<br>Carpenter, Project Supervisor, Construction Management, Electrical, Plumbing |
| **Dual Credit:**<br>Year 1: 9<br>CNST 100/CNST 105/CNST 105L/CNST 160/CNST 160L<br><br>Year 2: 6<br>CNST 120/CNST 155/CNST 155L | **Certifications:**<br>Year 1 & Year 2-OSHA 10 and HBI Carpentry Basic | **Career/Technical Student Organization:**<br>SkillsUSA |

**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.

- 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

**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.

- 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

**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.

- 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

# Building Trades - Year 2

**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 1 certificates.

- 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 ● Counts as a quantitative reasoning course

# Computer Repair/Networking - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Good communication skills | **Supply List Fee:**<br>n/a | **Potential Careers:**<br>Repair Technician, Helpdesk Technician, Domain Administrator, Network Administrator, Cyber Security Engineer, Systems Administrator<br>**some careers may require post-secondary* |
| **Dual Credit:**<br>Year 1: 6<br>CMET 140/CMET 185/CMET 195<br>Year 2: | **Certifications:**<br>Year 1 - CompTia A+<br>*(Industry promoted for Graduation Pathway)*<br>Year 2 - Net+<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:**<br>SkillsUSA |

**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.

- 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

**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.

- 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

**7182 Networking Fundamentals**

Networking Fundamentals describes, explores and demonstrates how a network operates in our everyday lives. The course covers the technical pieces and parts of a network and also societal implications such as security and data integrity. Using hands-on lab work, this course offers students the critical information needed for a role as an Information Technology professional who supports computer networks. Concepts covered include the TCP/IP model, OS administration, designing a network topology, configuring the TCP/IP protocols, managing network devices and clients, configuring routers and switches, wireless technology and troubleshooting. Provides students the ability to implement, administer, and troubleshoot information systems that incorporate the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a windows active directory environment.

- 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

# Computer Repair/Networking - Year 2

**7251 Networking Capstone**

Networking Capstone includes hands-on lab work, and a wide array of assessment types and tools. The course covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks. The course also emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation.

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

## Cosmetology - Year 1 - *must have completed the 10th grade per Indiana state code*

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| **Important to Know:**<br>1500 classroom hours is required by state<br>Willingness to work with clients and other students<br>Basic math and literacy foundational skills<br>Transportation is a **MUST**<br>Uniform required<br>Professional appearance<br>$100 non-refundable deposit by April 3, 2025 to secure your spot and goes towards supply fee | **Supply List Fee (estimated):**<br>Year 1 - $465<br>Year 2 - $140 | **Potential Careers:**<br>Licensed Cosmetologist, Skin Care Specialist, Make-up Artist, Nail Technician, Hair Color Specialist, Salon Owner, Retail Specialist |
| **Dual Credit:**<br>Year 1: 14<br>COSM 100/COSM 150<br>Year 2: 14<br>COSM 200/COSM 250 | **Certifications:**<br>Licensed Cosmetologist<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organizat** |

**7330 Principles of Barbering and Cosmetology**

Principles of Barbering and Cosmetology offers an introduction to cosmetology with emphasis on basic practical skills and theories including roller control, quick styling, shampooing, hair coloring, permanent waving, facials, manicuring, business and personal ethics, and bacteriology and sanitation. Successful completion of the course requires at least 375 Cosmetology studio hours.

- Recommended Grade(s): **MUST completed the tenth grade**
- 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 and Fundamentals should be concurrently enrolled if offering for Dual Credits. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**7332 Advanced Cosmetology**

Advanced Cosmetology will emphasize the development of advanced skills in styling, hair coloring, permanent waving, facials, manicuring, chemical texturizing, and hair cutting techniques. Students will also further study anatomy and physiology as it applies to hair care professions. Successful completion of the course requires at least 375 studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology; Barbering and Cosmetology 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
- This course should be co-enrolled with TSD. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**7331 Barbering and Cosmetology Fundamentals**

Barbering and Cosmetology Fundamentals focuses on the development of practical skills introduced in Principles of Barbering and Cosmetology. Clinical application and theory in the science of barbering and cosmetology are introduced. Successful completion of the course requires at least 375 Cosmetology studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology
- Recommended Prerequisites: none
- Credits: 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 and Fundamentals should be concurrently enrolled. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

# Cosmetology - Year 2

**7334 Barbering and Cosmetology Capstone**

Barbering and Cosmetology Capstone builds and improves previously developed skills with emphasis on developing individual techniques. Professionalism, shop management, psychology in relation to barbering and cosmetology, and preparation for state board examinations are stressed. Successful completion of the course requires at least 375 studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals; Advanced Cosmetology or Advanced Barbering
- 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
- This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

# Criminal Justice - *1 year course*

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| **Important to Know:**<br>Critical Thinking<br>Writing skills<br>Public speaking<br>Moral character with ability to be professional in difficult scenarios | **Supply List Fee(estimated):**<br>n/a | **Potential Careers:**<br>Local and State Police Officer, Federal Agent, Military Police, Security Guard, Crime Scene Investigator, Lawyer Social Worker, Jail Officer<br>**some careers may require post-secondary* |
| **Dual Credit:**<br>9<br>LAWE 100/LAWE 101/LAWE 145 | **Certifications:**<br>NIMS 100, 200, 700, 0800 (Emergency Management Institute), Jail Officer, CPR/AED, Hunter Education IDNR<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:** |

**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.

- 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

**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.

- 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

**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.

- 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

# Culinary Arts - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Ability to lift up to 30lbs. and stand for extended periods<br>Follow Health Department regulations for kitchen sanitary purposes | **Supply List Fee(estimated):**<br>Year 1 - $39.00<br>Year 2 - none | **Potential Careers:**<br>Chef, Pastry Chef, Caterer, Kitchen and Restaurant Manager, Server, Nutritionist<br>**some careers may require post-secondary* |
| **Dual Credit:**<br>Year 1: 6<br>REST 100/REST 120<br>Year 2: 5<br>CULN 110 | **Certifications:**<br>Year 1 & Year 2- ServSafe<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:** |

**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. 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.

- 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

**7169 Culinary Arts**

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

- 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

**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

- 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

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# Culinary Arts - Year 2

**7233 Culinary Arts Capstone**

This course covers the techniques and skills needed in breakfast cookery as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles and cereals will be discussed. Students will receive instruction in salad preparation, salad dressing, hot and cold sandwich preparation, garnishes and appetizers. This course also covers the necessary skills for proper recruiting, staffing, training, and management of employees at various levels. The course will help prepare the student for the transition from employee to supervisor. Additionally, it will help the student evaluate styles of leadership, and develop skills in human relations and personnel management.

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

# Dental Careers - Year 1

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| **Important to Know:**<br>Ability to comprehend college-level text<br>Polished verbal skills and the ability to communicate well with adults and peers<br>Must be able to handle a very structured environment (rules, policies, procedures)<br>Closed toe shoes, scrubs and PPE required<br>Transportation is need for Dental 2 clinicals<br>Clinicals require 80% or higher grade, skills 90% or higher, zero discipline, no more than 6 absences per semester | **Supply List Fee (estimated):**<br>Year 1 - $99.50<br>Year 2 - $139.50 | **Potential Careers:**<br>Dental Assistant with Limited Radiography Certification, Dentist(General and Specialist), Hygienist, Dental Laboratory Technician, Dental Receptionist<br>**some careers may require post-secondary* |
| **Dual Credit:** IVY TECH COMMUNITY COLLEGE<br>Year 1 - 3<br>DENT 171 | **Certifications:**<br>Year 1 - CPR, NIMS700A<br>Year 2 - Limited Radiology<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:**<br>hosa future health professionals |

**7315 Principles of Dental Careers**

Principles of Dental Careers will provide the foundational knowledge and skills necessary to pursue a career in the Dental Field. A focus will be placed on the role of the modern dental assistant and will cover key pre-clinical procedures and beginning dental terminology.

- 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

**7316 Dental Careers Fundamentals**

Dental Careers Fundamentals will build upon the knowledge and skills in the principles course. Students will understand and practice beginning chairside functions of the Dental Assistant along with a focus on the Anatomy and Physiology of the head, neck and oral cavity. Students will also study tooth anatomy, physiology and morphology. This part of the program will prepare students for the Anatomy, Morphology, and Physiology exam of the NELDA certification.

- Required Prerequisites: Principles of Dental Careers
- 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

**7317 Advanced Dental Careers**

Advanced Dental Careers Fundamentals will build upon the knowledge and skills developed in the first two courses. Students will study more advanced chairside assisting functions along with advanced infection control techniques. Additionally students will explore preventive dentistry practices and dental emergencies. This course will prepare students for the ICE exam of the NELDA certification.

- Required Prerequisites: Principles of Dental Careers; Dental Careers 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

# Dental Careers - Year 2

**7318 Dental Careers Capstone**

Dental Careers capstone will provide the opportunity for increased skill development in clinical support through work-based learning experiences. Students will also prepare for the Radiation, Health and Safety which is the third and final part of the NELDA certification. The capstone course may also provide the opportunity to review and prepare for the entire NELDA certification.

- Required Prerequisites: Principles of Dental Careers; Dental Careers Fundamentals; Advanced Dental Careers
- 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

## Diesel Technology - Year 1

*NOTE: Need the 2 year for concentrator status*

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| **Important to Know:**<br>Willingness to read and interpret service manual<br>Ability to lift up to 30lbs. and stand for extended periods<br>Jeans or work pants and gym shoes or work boots are strongly recommended<br>PPE is required<br>Working conditions can be messy | **Supply List Fee(estimated):**<br>Year 1 - $13.00<br>Year 2 - $38.75 | **Potential Careers:**<br>Diesel Maintenance Technician, Fleet Mechanic, Farm Equipment Mechanic, Heavy Equipment Maintenance Specialist |
| **Dual Credit:**<br>Year 1 - 4<br>DESL 110/DESL 110L<br>Year 2 - 9<br>DESL 130/DESL 130L/DESL 160/DESL 160L | **Certifications:**<br>Year 1 - Electrical ASE<br>Year 2 - Diesel Engine & Preventive Maintenance ASE<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization**<br>SkillsUSA |

**7216 Principles of Diesel Technology**

This course introduces the maintenance requirements and procedures of modern diesel engines and medium and heavy-duty trucks. Proper procedures and requirements for the Federal Highway Safety Inspection (DOT) will be discussed and practiced. In addition, 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.

- 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

**7210 Diesel Steering and Brakes**

This course studies steering, and suspension systems commonly used on modern tractors and trailers. Study will include steering and suspension components, power steering units, alignment theory and procedures, tire repair and service, and wheel balancing. Diagnosis, repair, and servicing of components including modern air suspension systems will be emphasized. Additionally, this course will cover theory, service, and repair of medium and heavy truck brake systems and their components. Emphasis is given to air brakes and their theory of operation, repair, and service of system components. Spring brakes and anti-lock systems will be studied on tractors and trailers.

- Required Prerequisites: Principles of Diesel 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

**7156 Technical Skills Development**

The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real world learning experiences such as lab activities, project based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course.

- Required Prerequisites: Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course.
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum per program of study
- Counts as a directed elective or elective for all diplomas
- May be used by a student more than once as long as it is two separate programs of study.

# Diesel Technology - Year 2

**7221 Diesel Services Capstone**

This course further explores important skills and competencies within the Diesel Technology Pathway. Topics such as Truck Climate Control Systems, Diesel Engine Performance, HT Electrical Systems, Hd Truck Auto. Transmission and Heavy Truck Electronics. Additionally, co-op and internship opportunities will be available for students.

- Required Prerequisites: Principles of Diesel Technology; Diesel Steering and Brakes; Diesel Transmission
- 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

**7211 Diesel Transmissions**

This course explores theory, diagnosis, and overhaul procedures related to manual transmissions and differentials. Course includes service of twin countershaft, under-drive, overdrive, power-dividers, and air shift systems. Additionally, this course studies precision tools, equipment, and procedures needed to repair modern diesel engines. Repair, proper assembly, and component identification are studied along with service of removable cylinder liners.

- Required Prerequisites: Principles of Diesel 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

# Digital Design - Year 1

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| **Important to Know:**<br>Desire to learn traditional illustration<br>Ability to work independently and be a self-starter | **Supply List Fee(estimated):**<br>Year 1 - $72.00<br>Year 2 - none | **Potential Careers:**<br>Graphic Designer, Film and Photography, Traditional and Digital Illustration, CG Art (Animation, 3d Modeling, Texturing) |
| **Dual Credit:** | **Certification:**<br>Year 1 & Year 2 - Adobe Certified Professional<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:** |

**7140 Principles of Digital Design**
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.
- 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.
- Required Prerequisites: Principles of Digital Design
- 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.
- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

# Digital Design - Year 2

**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.

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

# Electrical Trades - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Usage of ladders<br>Gym shoes or work boots and jeans, PPE are required | **Supply List Fee(estimated):**<br>Year 1 - $253.00<br>**supplies purchased year one will be used for year two*<br>Year 2 - $25.00 | **Potential Careers:**<br>Residential Electrician, Commercial Electrician, Fire Alarm Technician, Low Voltage Wiring Technician, Electrical Engineer Apprentice |
| **Dual Credit:**<br>1st year: 3<br>BCTI 100<br>2nd year: 10<br>BCTI 130/BCTI 131/BCTI 132 | **Certifications:**<br>Year 1 & Year 2 - OSHA 10 (Electrical Technology), HBI House Wiring<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:**<br>SkillsUSA |

**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.

- 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

**7124 Electrical Fundamentals**

This course covers NCCER Electrical Level 1. Its modules cover topics such as orientation to the electrical trade, electrical safety, introduction to electrical circuits, electrical theory, introduction to the National Electrical Code, device boxes, hand bending, raceways and fittings, conductors and cables, basic electrical construction drawings, residential electrical services, and electrical test equipment. The NCCER Electrical Level 1 certificate and wallet card will also be awarded upon successful completion of this course.

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

**7119 Advanced Electrical**

Advanced Electrical covers topics such as alternating current, motors: theory and application, electric lighting, conduit bending, and pull and junction boxes. The second part of the course will cover topics such as conductor installations, cable tray, conductor terminations and splices, grounding and bonding, circuit breakers and fuses, control systems and fundamental concepts. Students will be ready to complete the NCCER Electrical Level 2 certificate upon successful completion of the course.

- Required Prerequisites: Principles of Construction Trades; Electrical 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

# Electrical Trades - Year 2

**7263 Construction Trades Electrical Capstone**

Construction Trades Electrical Capstone builds upon the skills learned in Electrical Fundamentals and Advanced Electrical. Topics include load calculations – branch and feeder circuits, conductor selection and calculations, practical applications of lighting. This course will also cover commercial electrical services including distribution equipment, transformers, and voice, data and video. Completion of this course will prepare students for the NCCER Electrical Level 3 certificate. Students may also complete an Ivy Tech CT by completing coursework in general carpentry.

- Required Prerequisites: Principles of Construction Trades; Electrical Fundamentals; Advanced Electrical
- 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

# Fire & Rescue - *1 year course*

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| **Important to Know:**<br>Attendance is critical due to offsite training<br>Outdoor working conditions<br>High level of physical activity involved | **Supply List Fee (estimated):**<br>$35.00 | **Potential Careers:**<br>Firefighter, Emergency Medical Technician, Paramedic, Dispatcher, Fire Investigator, Fire Inspector |
| **Dual Credit:** IVY TECH COMMUNITY COLLEGE<br>12<br>HSPS 102/HSPS 122/HSPS 165/HSPS 167 | **Certifications:**<br>CPR, FEMA, Firefighter I & II, First Responder, Hazmat Awareness & Operations, and Technical Rescue Awareness Certification<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:** |

**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.

- 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

**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.

- 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

**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.

- Required Prerequisites: Principles of Fire and Rescue
- 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

## Health Science - Year 1

*NOTE: Need the 2 years for concentrator status*

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| **Important to Know:**<br>Ability to comprehend college-level text<br>Interpersonal Skills<br>Transportation is a **MUST** for second year students<br>**MUST** have a physical prior to entry into Health Science 2<br>State ID is **required**<br>Scrubs required for both years<br>Physically demanding field | **Supply List Fee(estimated):**<br>n/a | **Potential Careers:**<br>Certified Nurse Assistant, Nursing, Medical Laboratory Technician, Ultrasound Technician<br>**some careers may require post-secondary* |
| **Dual Credit:**<br>IVY TECH COMMUNITY COLLEGE<br>Year 1 - 9.5<br>HLHS 100/HLHS 101/HLHS 102/HLHS 104<br><br>Year 2- 11<br>HLHS 107/HLHS 113/HLHS 122 | **Certifications:**<br>Year 1- Blood Borne Pathogens and CPR - *does not count towards graduation pathway*<br>Year 2- CNA, First Aid Certification, Dementia, Home Health Aide<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:**<br>hosa future health professionals |

**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.

- 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.

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

**7156 Technical Skills Development HLTH**

The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real world learning experiences such as lab activities, project based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course.

- Required Prerequisites: Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course.
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum per program of study
- Counts as a directed elective or elective for all diplomas
- May be used by a student more than once as long as it is two separate programs of study.

# Health Science - Year 2

**7255 Healthcare Specialist Capstone**

The capstone course will provide Healthcare students with 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.

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

**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.

- 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

# Heavy Equipment- 1 Year Course

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| **Important to Know:**<br>**MUST** have driver's license to enroll<br>PPE and work boots required<br>Basic math and literacy foundational skills<br>Outdoor working conditions | **Supply List Fee(estimated):**<br>$36.00 | **Potential Careers:**<br>Heavy Highway Operator, Underground Utility Operator, Finish Grade Operator, Asphalt Construction Operator, Quarry Equipment Operator, Land Clearing Operator, Construction Management, Construction Estimator, Land Surveyor |
| **Dual Credit:**<br>3<br>BCTI 100 | **Certifications:**<br>CPR, OSHA 10, Safety Training | **Career/Technical Student Organization:** |

**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.

- Required Prerequisites: **MUST have drivers license prior to start of class**
- 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

**7290 Heavy Equipment Fundamentals**

Heavy Equipment Fundamentals orients students to the Heavy Equipment industry and the basics operational techniques required to be a Heavy Equipment Operator. Topics include safety, identification of heavy equipment, utility tractors, earthmoving and grades. This course prepares students for the NCCER Heavy Equipment Level 1 certification.

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

**7291 Advanced Heavy Equipment Operations**

Advanced Heavy Equipment Operations builds upon the earthmoving knowledge learned in Heavy Equipment Fundamentals. Students will gain the necessary skills and knowledge regarding soils, excavation math, and interpreting Civil Drawings to be able to prepare a site. Additionally students will learn to operate scrapers used in site preparation. This course will prepare students for the first half of the NCCER Heavy Equipment Operations Level 2.

- Required Prerequisites: Principles of Construction Trades; Heavy Equipment 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

# Veterinary Science - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Ability to lift, stand and kneel for extended periods<br>Must be able to handle a very structured environment (rules, policies, procedures)<br>**Vet 2 requirement below**<br>2.5 GPA in Vet 1<br>No out of school suspension<br>No more than 3 discipline referrals<br>Transportation is a **MUST** for Vet 2 clinicals | **Supply List Fee(estimated):**<br>Year 1 - $60.00<br>Year 2 - $85.00 | **Potential Careers:**<br>Veterinarian, Veterinary Nurse, Veterinary Assistant, Zoo Medicine, Laboratory Technician, Animal Chiropractor, Public Health<br>**some careers may require post-secondary* |
| **Dual Credit:** VINCENNES UNIVERSITY<br>Year 1 - 3<br>HIMT 110 | **Certifications:**<br>Certified Veterinary Assistant | **Career/Technical Student Organization:**<br>hosa future health professionals |

**7280 Principles of Veterinary Science**

Principles of Veterinary Science is a two-semester course that provides students with an overview of the small and large animal veterinary industry which includes companion, food, and exotic animals. Principles of Veterinary Science will cover skills common to specific veterinary career topics such as animal care, veterinary assistant, veterinary technician, and veterinarian. Students will learn foundational veterinary knowledge for large and small animals which includes practical lab skills and common office practices.

- 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 for all diplomas

**7281 Veterinary Science**

Veterinary Science is a two-semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to medical terminology, laboratory procedures, clinical examination procedures, principles of animal diseases, as well as work in veterinary clinic management and veterinary law and ethics.

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

**5070 Advanced Life Science, Animals (L)**

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

- Required Prerequisites: Principles of Agriculture*; or Principles of Veterinary Science*
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Fulfills a science requirement for all diplomas
- Counts as a quantitative reasoning course
- Counts as an elective or directed elective for all diplomas.
- *Principles course is not required until the 2024-2025 school year because this course is included in Perkins V pathways. Students in the Class of 2025 and beyond must complete the course to earn concentrator status.

# Veterinary Science - Year 2

### 7282 Veterinary Science Capstone

The Veterinary Science Capstone builds upon the knowledge and skills developed in the animal and veterinary courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience. Students should explore concepts related to pharmacy and pharmacology, medical math, animal nursing, radiology and ultrasound imaging, and surgical preparation and assisting.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Veterinary Science; Advanced Life Science: Animals; Veterinary Science
- Recommended Prerequisites: None
- 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

# Welding Technology - Year 1

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| **Important to Know:**<br>Basic math and literacy foundational skills<br>Physical activity involved<br>PPE is required<br>Warm surroundings | **Supply List Fee (estimated):**<br>Year 1 - $124<br>**supplies purchased year one will be used for year two*<br>Year 2 - none | **Potential Careers:**<br>Pipe Fitter, Iron Worker, Steel Fabricator, etc. |
| **Dual Credit:**<br>1st year 10<br>WELD 102/WELD 103/WELD 107<br><br>2nd year 9<br>WELD 104/WELD 105/WELD 106 | **Certifications:**<br>Year 1 - OSHA 10<br>Year 2 - AWS Certified Welder (3G D1.1 structural)<br>*(Industry promoted for Graduation Pathway)* | **Career/Technical Student Organization:**<br>SkillsUSA |

**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.
- 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

**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, flux core, 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.
- 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.

**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.
- 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

# Welding Technology - Year 2

**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.

- 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

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Southeastern Career Center does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups.

The following persons have been designated to handle inquiries regarding the nondiscrimination policies:

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