

2016-2017

Course Description Catalog



START HERE...
Succeed Anywhere.

PUTNAM COUNTY SCHOOLS

CAREER MAJORS AND ACADEMIC COURSES

Our Vision: **Start Here...**

Our vision is to equip students with essential occupational skills.

Our Mission: **...Succeed Anywhere**

Our mission is to produce career and college ready graduates who will thrive in the modern economy

PCTC does not discriminate on the basis of gender, race, color, religion, socioeconomic status, handicapping condition, or national origin in educational programs and activities.

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PUTNAM CAREER & TECHNICAL CENTER

Academic Courses and Career Majors 2016-2017 School Year

Table of Contents

PCTC Page

Arts/A/V Technology & Communications Cluster

Graphic Design.....	3
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Architecture and Construction Cluster

Carpentry.....	4
Electrical.....	5
HVAC Technician.....	6
Masonry	7
Plumbing.....	8
Drafting.....	9

Information Technology

CISCO Networking Academies.....	10
Coding, App and Game Design.....	12

Transportation Technology

Automotive Technology.....	14
Diesel Technology.....	16
Collision Repair Technology.....	17

Manufacturing Technology

Welding Technology.....	18
-------------------------	----

Health Services Cluster

Allied Health Sciences	
Dental Assisting.....	19
Emergency Medical Technician.....	20
Therapeutic Services.....	21
Certified Patient Care Technician.....	21
Certified Direct Care Technician.....	21

Human Services Cluster

ProStart Restaurant Management	23
--------------------------------------	----

Post Secondary Programs

Dental Lab Technology.....	24
Practical Nurse (PN).....	25

ARTS/A/V TECHNOLOGY AND COMMUNICATIONS CLUSTER

GRAPHIC DESIGN (AV 1850)

This major prepares students for employment and/or higher education in the Graphic Design industry (designing and preparing the printed product for reproduction), with heavy emphasis on illustration, imaging, computer graphics, desktop publishing/page layout, and prepress.

Course Sequence	Course Number	Course Titles and Descriptions
1	1851E1	*FUNDAMENTALS OF ILLUSTRATION —This course will introduce the student to the knowledge base and technical skills necessary for all courses in the Graphic Design concentration. Areas of study include media applications, perspective, drawing and painting, and student organizations.
2	1861E1	*ILLUSTRATION —This course introduces the student to advanced topics in illustration. Areas of study include color theory, proportion, portfolios, and student organizations.
3	1857E1	* FUNDAMENTALS OF GRAPHIC DESIGN —This course will introduce the student to the knowledge base and technical skills for all courses in the Graphic Design concentration. Areas of study include equipment and materials, computer skills, copyright, design principles, customer specifications, and student organizations.
4	1855E1	FUNDAMENTALS OF DESKTOP PUBLISHING –This course introduces the student to the knowledge base and technical skills in desktop publishing. Areas of study include production skills, design projects, portfolio development, and student organizations. Students will demonstrate knowledge and technical expertise in page layout.
5	1859E1	*GRAPHIC DESIGN APPLICATIONS – This course introduces the student to basic advertising concepts and advanced layout procedures. Areas of study include demographics, mechanical preparation, vector and raster graphics, and student organizations. Students will demonstrate knowledge and technical expertise in the mechanical preparation of design projects.
6	1853E1	FUNDAMENTALS OF COMPUTER GRAPHICS —This course introduces the student to the knowledge base and technical skills necessary to create and manipulate computer graphics. Areas of study include production, design projects, intermediate processes, digital cameras, animation, and student organizations. Students will demonstrate technical expertise in digital editing.
7	1854E1	COMPUTER GRAPHICS —This course provides the student the opportunity to study advanced concepts and master technical skills in the creation and manipulation of graphics. Areas of study include project design, employability skills, and student organizations.
8	1856E1	DESKTOP PUBLISHING—PAGE LAYOUT – This course improves the student's ability to produce real-world designs for clients. Areas of study include advanced page layout, employability skills, and student organizations.

***CORE COURSE**

ARCHITECTURE & CONSTRUCTION CLUSTER

CARPENTRY (AR1820)

The Carpentry concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the carpentry industry. Learners will be exposed to a broad range of construction careers and foundation knowledge including basic safety; plan reading; use of tools and equipment; basic rigging; and how to employ positive work ethics in their careers. Students will have the opportunity to earn NCCER certification for each skill set mastered.

Course Sequence	Course Number	Course Titles and Descriptions
1	1842E1	* CARPENTRY I This course introduces the student to the knowledge base and technical skills of the carpentry industry. It begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Communication Skills; Basic Rigging; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Carpentry such as Orientation to the Trade; Building Materials, Fasteners, and Adhesives; and Hand and Power Tools.
2	1843E1	* CARPENTRY II – Carpentry II will continue to build student skill sets in areas such as Reading Plans and Elevations; Floor Systems, Wall and Ceiling Framing; Roof Framing; Introduction to Concrete, Reinforcing Materials, and Forms; Windows and Exterior Doors; Basic Stair Layout. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.
3	1824E1	FRAMING PRACTICES AND APPLICATIONS – This course introduces the student to the knowledge base and technical skills in areas of study include floor framing, wall framing, roof framing, and post and beam construction.
4	1826E1	EXTERIOR FINISH CARPENTRY –This course introduces the student to the knowledge base and technical skills for all courses in the building construction concentration. Areas of study include estimation, vinyl siding, metal siding, wood siding, and construction task objectives.
5	1844E1	* CARPENTRY III – Carpentry III will continue to build student skill sets in areas of Commercial Drawings; Roofing Applications; Thermal and Moisture Protection; and Exterior Finishing.
6	1845E1	* CARPENTRY IV – Carpentry IV will continue to build student skill sets in areas of Cold-Formed Steel Framing; Drywall Installation; Drywall Finishing; Doors and Door Hardware; Suspended Ceilings; Window, Door, Floor, and Ceiling Trim; Cabinet Installation; and Cabinet Fabrication.
7	1823E1	FINISHING CARPENTRY This course introduces the student to the knowledge base and technical skills for concepts in the Building Construction Concentration. Areas of study include estimation, insulation, vapor barriers, interior wall coverings, interior finish and exterior finish. Emphasis will be placed on career exploration, job seeking skills, and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to finishing carpentry.
8	1828E1	BUILDING CONSTRUCTION APPLICATIONS – This course will give the students the opportunity to complete an actual construction project. This will allow the students to practice and enhance skills learned in the previous classes.

*CORE COURSE

ARCHITECTURE & CONSTRUCTION CLUSTER

ELECTRICAL TECHNICIAN (AR1760)

The concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Electrical Trades industry. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics. These courses will prepare the student to be an electrician and on completion students may take their test for their Journeyman Electrical License.

Course Sequence	Course Number	Course Titles and Descriptions
1	1756E1	* ELECTRICAL TRADES I – This course introduces the student to the knowledge base and technical skills of the Electrical Trades industry. Electrical Trades I begins the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Electricity such as Orientation to the Electrical Trade; and Electrical Safety.
2	1757E1	* ELECTRICAL TRADES II – Electrical Trades II will continue to build student skill sets in areas such as Introduction to Electrical Circuits; Electrical Theory; Introduction to the <i>National Electrical Code</i> ®; Device Boxes; Hand Bending; Raceways and Fittings; Conductors and Cables; Basic Electrical Construction Drawings; Residential Electrical Services; and Electrical Test Equipment.
3	1758E1	* ELECTRICAL TRADES III – Electrical Trades III will continue to build student skill sets in areas of Alternating Current; Motors: Theory and Application; Electric Lighting; and Conduit Bending. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.
4	1769E1	RESIDENTIAL WIRING This course introduces the student to the knowledge base and technical skills for Residential Wiring. Areas of study include wiring data, service entrance equipment, luminary and receptacle outlets, protective devices, appliance and special circuits and low-voltage systems. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts.
5	1766E1	INTEGRATED ELECTRICAL LAB This course introduces the student to the knowledge base and technical skills for concepts in the Integrated Electrical Lab. Areas of study include electrical installation project, rough-in procedure, test and check circuits and termination and trim-out. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to course concepts.
6	1759E1	* ELECTRICAL TRADES IV – Electrical Trades IV will continue to build student skill sets in areas of Pull and Junction Boxes; Conductor Installations; Cable Tray; Conductor Terminations and Splices; Grounding and Bonding; Circuit Breakers and Fuses; and Control Systems and Fundamental Concepts.
7	1771E1	ROTATING DEVICES AND CONTROL CIRCUITRY – This course will introduce students to basic control circuits, pilot devices, motor controls, relays, motor braking circuits, alternators and generators and how to troubleshoot AC and DC motors.
8	1765E1	INDUSTRIAL AND COMMERCIAL WIRING This course introduces the student to the knowledge base and technical skills for Industrial and Commercial Wiring. Areas of study include conduit and raceways and commercial load calculations and configurations. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts and teachers should provide each student with real world learning opportunities and instruction related to course concepts.

ARCHITECTURE & CONSTRUCTION CLUSTER

HVAC TECHNICIAN (AR 1600)

The HVAC Technician concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Heating, Ventilation, and Air Conditioning industry. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Course Sequence	Course Number	Course Titles and Descriptions
1	1752E1	*HVAC TECHNICIAN I – This course introduces the student to the knowledge base and technical skills of the HVAC industry. It begins with the NCCER Core curriculum The students will complete modules in Basic Safety; Introduction to Construction Math, Hand Tools, Power Tools, Construction Drawings; Basic Rigging, Communication, Employability Skills; and Introduction to Materials Handling.
2	1753E1	* HVAC TECHNICIAN II – HVAC II continues to build student skill sets in areas such as Copper and Plastic Piping Practices; Soldering and Brazing; Ferrous Metal Piping Practices; Basic Electricity; Introduction to Cooling; Introduction to Heating; and Air Distribution Systems..
3	1754E1	* HVAC TECHNICIAN III – HVAC III continues to build student skill sets in areas of Commercial Airside Systems; Chimneys, Vents, and Flues; Introduction to the Hydronic Systems; Air Quality Equipment; Leak Detection, Evacuation, Recovery, and Charging; Alternating Current; Basic Electronics; and Introduction to Control Circuit Troubleshooting.
4	1755E1	* HVAC TECHNICIAN IV – HVAC IV continues to build student skill sets in areas of Troubleshooting Gas Heating; Troubleshooting Cooling; Heat Pumps; Basic Installation and Maintenance Practices; Sheet Metal Duct Systems; and Fiberglass and Flexible Duct Systems.
5	1601E1	BASIC CONTROL CIRCUITS -This course introduces the student to the knowledge base and technical skills for concepts in Basic Control Circuits. Areas of study include mathematical concepts, technical writing skills, technical reading comprehension, career opportunities and personal and equipment safety. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction.
6	1607E1	HEATING SYSTEMS- This course introduces the student to the knowledge base and technical skills for concepts in Heating Systems. Areas of study include mathematical concepts, technical writing skills, technical reading comprehension, career opportunities and personal and equipment safety. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction.
7	1608E1	COMMERCIAL AIR CONDITIONING – This course introduces students to commercial air conditioning systems.
8	1602E1	AIR CONDITIONING APPLICATIONS – This course introduces students to advanced air conditioning systems. Applying all related operating temperatures, and pressure readings, including service and repair.

ARCHITECTURE & CONSTRUCTION CLUSTER

MASONRY (AR1910)

The Masonry concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Masonry industry. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics. The student must have the physical strength to lift and carry heavy construction materials such as brick, block, etc.

Course Sequence	Course Number	Course Titles and Descriptions
1	1846E1	* MASONRY I – This course introduces the student to the knowledge base and technical skills of the Masonry industry. It begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Masonry such as Introduction to Masonry; and Masonry Tools and Equipment.
2	1847E1	* MASONRY II – This course continues to build student skill sets in areas such as Measurements, Drawings, and Specifications; Mortar; and Masonry Units and Installation Techniques.
3	1911E1	* BLOCK AND ROCK LAYING – This course will introduce students to the basic fundamentals of block and rock laying. Students will become familiar with basic tools, equipment and techniques used in block and rock laying.
4	1913E1	* BRICKLAYING – This course will introduce students to the basic fundamentals of bricklaying. Students will become familiar with basic tools, equipment and techniques used in bricklaying.
5	1911E1	* MASONRY III – This course continues to build student skill sets in areas of Residential Plans and Drawing Interpretation; Residential Masonry; Grout and Other Reinforcement; and Metal Work in Masonry.
6	1913E1	* MASONRY IV – This course continues to build student skill sets in areas of Advanced Laying Techniques; Construction Techniques and Moisture Control; and Construction Inspection and Quality Control.
7	1917E1	FOUNDATIONS AND FOOTINGS – This course introduces the student to the knowledge base and technical skills in foundations and footings. Areas of study include blueprint reading, site layout, and footer and foundation installation
8	1821E1	CONCRETE FINISHING – This course will apply the concepts, applications, and techniques necessary for various phases of concrete construction.

*CORE COURSE

ARCHITECTURE & CONSTRUCTION CLUSTER PLUMBING (AR 2140)

The Plumbing concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Plumbing industry. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics. Students are able to work as plumbers.

Course Sequence	Course Code	Course Titles and Descriptions
1	2081E1	*PLUMBING I - This course introduces the student to the knowledge base and technical skills of the Plumbing industry. It begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets in the fundamentals of Plumbing such as Introduction to the Plumbing Profession and Plumbing Safety.
2	2082E1	*PLUMBING II – This course continues to build student skill sets in areas such as Plumbing Tools; Introduction to Plumbing Math; Introduction to Plumbing Drawings; Plastic Pipe and Fittings; Copper Pipe and Fittings; Cast-Iron Pipe and Fittings; Carbon Steel Pipe and Fittings; Corrugated Stainless Steel Tubing; Fixtures and Faucets; Introduction to Drain, Waste, and Vent (DWV) Systems; and Introduction to Water Distribution Systems.
3	2146E1	GAS PIPING -This course introduces the student to the knowledge base and technical skills for all courses in Gas Piping. Areas of study include designing, assembling, installing and repairing pipes and fittings used in a gas piping system, as well as receiving flexible gas piping certifications during the course. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics. Safety instruction is integrated into all activities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to gas piping.
4	2148E1	*SOLDERING & FLARING COPPER PIPE - This course is designed to provide the knowledge and skills necessary to assemble, install and repair pipes and fittings using copper.
5	2083E1	*PLUMBING III – This course continues to build student skill sets in areas of Plumbing Math Two; Reading Commercial Drawings; Hangers, Supports, Structural Penetrations, and Fire Stopping; Installing and Testing DWV Piping; Installing Roof, Floor, and Area Drains; and Types of Valves.
6	2084E1	*PLUMBING IV – This course continues to build student skill sets in areas of Installing and Testing Water Supply Piping; Installing Fixtures, Valves and Faucets; Introduction to Electricity; Installing Water Heaters; Fuel Gas Systems; and Servicing of Fixtures, Valves and Faucets.
7	2148E1	DRAINS, WASTE, VENTS SYSTEMS -This course is designed to provide the knowledge and skills necessary to assemble, install and repair pipes and fittings in a DWV system. Students will be introduced to significant code requirements for DWV systems and the importance of proper grade on pipe.
8	2149E1	PLUMBING FIXTURES - This course is designed to provide the knowledge and skills necessary to assemble, install and repair plumbing fixtures.

ARCHITECTURE & CONSTRUCTION CLUSTER DRAFTING (ET1720)

The Drafting concentration focuses a broad range of architecture and construction careers and foundation knowledge including basic safety, plan reading, use of tools and equipment as well as how to employ positive work ethics in a drafting career. Computer-aided design is used for drafting and design applications including architectural, mechanical, electrical, electronics, chemical, topography, cartography, facilities planning, interior design, and education.

Course Sequence	Course Number	Course Titles and Descriptions
1	1729E1	*FUNDAMENTALS OF DRAFTING -- This course introduces the student to the knowledge base and technical skills for all courses in the Drafting concentration. Areas of study include tools and equipment, measurement, basic drafting techniques, freehand technical sketching, orthographic projection, dimensioning, basic computer skills, and drawing techniques.
2	1727E1	*DRAFTING TECHNIQUES -- This course introduces the student to techniques used in advanced orthographic projection. Areas of study include sectioning, pictorial views, auxiliary views, patterns and developments, dimensioning, advanced 2D CAD techniques, and basic 3D modeling in CAD. Students will demonstrate knowledge and technical expertise in various fundamental drafting techniques.
3	1728E1	COMPUTER AIDED DRAFTING -This course introduces the student to the knowledge base and technical skills for advanced computer aided drafting. Areas of study include paper space/model space, layout, and add-on software. Students will demonstrate knowledge and technical expertise in the use of CAD software. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts and teachers should provide each student with real world learning opportunities and instruction related to drafting, design, and engineering occupations. Safety instruction is integrated into all activities.
4	1726T1	STRUCTURAL STEEL DRAFTING – This course will provide the students the opportunity to specialize in structural steel drafting. The student will be able to identify various structural steel shapes, label, and specify the size and shape of steel structural members and create a structural truss floor plan drawing.
5	1725E1	*MECHANICAL DRAFTING -- This course introduces the student to the knowledge base and technical skills necessary for mechanical drafting. Areas of study include advanced dimensioning techniques, assembly drawings, threads and fasteners, gears and cams, welding, and basic solid modeling.
6	1721E1	*ARCHITECTURAL DRAFTING – This course introduces students to the specialization of architectural drawing and design. Areas of study include architectural styles, floor plans, dimensioning and annotation, site and foundation plans, elevations and section layouts, and residential utilities.
7	1722T1	PIPING SYSTEMS DRAFTING – This course will provide students the opportunity to specialize in piping systems. The student should be able to identify types of piping and their uses. The student will describe joints and fittings and identify commonly used valves. The student will draw piping schematics, isometric layouts, and symbols.
8	1723E1	CIVIL DRAFTING -- This course will introduce students to the specialization of civil drafting and design. Areas of study include maps and construction, structural steel fabrication, and utilization of survey data.

***CORE COURSE**

INFORMATION TECHNOLOGY

CISCO NETWORKING ACADEMIES (IT 1640)

The Cisco Networking Academies concentration provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development. The curriculum teaches networking based on application, covering networking concepts within the context of network environments students may encounter in their daily lives – from small office and home office (SOHO) networking to more complex enterprise and theoretical networking models later in the curriculum. CCNA Discovery helps prepare students for entry-level career opportunities, continuing education, and globally-recognized Cisco CCENT and CCNA certifications.

Course Sequence	Course Number	Course Titles and Descriptions
1	1642E1	*CCENT 1 -This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT1, students will explore Introduction to Networks, Configuring a Network Operation System, Network Protocols and Communications, Network Access and Ethernet. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
2	1644E1	*CCENT 2 -This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA2, students will explore Network Layer, Transport Layer, IP Addressing, Subnetting IP Networks, Application Layer and It's a Network. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
3	1646E1	*CCENT 3 -This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT3, students will explore Routing and Switching Essentials, Basic Switching Concepts and Configuration, VLANs, Routing Concepts and Inter-VLAN Routing. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
4	1648E1	*CCENT 4 This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT4, students will explore Static Routing, Routing Dynamically, Single-Area OSPF, Access Control Lists, DHCP and Network Address Translation for IPv4. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in handson activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
5	1654E1	CCNA 1 -This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA1, students will explore scaling Networks, LAN Redundancy Link Aggregation, Wireless LANs and Adjusting and Trouble Shoot Single-Area OSPF. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an elective in the CISCO Networking Academies concentration. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization,

		SkillsUSA. Safety instruction is integrated into all activities.
6	1658E1	CCNA 2- This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA2, students will explore Multi-area OSPF, EIGRP, EIGRP Advanced Configurations and IOS Images and Licensing. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an Elective in the CISCO Networking Academies concentration. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry.
7	1659E1	CCNA 3- This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA3, students will explore Hierarchical Network Design, connect to the WAN, explore Point-to-Point Connections, configure Frame Relay and configure/troubleshoot Network Address Translation for IPv4. This course is recommended as an elective in the CISCO Networking Academies concentration. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry.
8	1660E1	CCNA 4- This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA4, students will explore Broadband Solutions, Secure Site-to-Site Connectivity, Monitor the Network and Troubleshoot the Network. This course is recommended as an elective in the CISCO Networking Academies concentration. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry.

***CORE COURSE**

INFORMATION TECHNOLOGY

CODING, APP AND GAME DESIGN (IT1442)

The Coding, App and Game Development provides knowledge and skills necessary for a career in coding, game and app design, web page publishing, computer programming, and software development industries. Students receive training in both graphic design and technical programming elements of the industry. Students who started in 15-16 school year, will finish courses as listed. Changes to 2nd year curriculum for 16-17 students will be made after 15-16 students have completed the program.

Course Sequence	Course Number	Course Title and Descriptions
1	1431E1	*DIGITAL IMGAING/MULTIMEDIA I - This course is designed to develop student knowledge and skills necessary for a career in coding, game and app design, web publishing, computer programming, and software development industries. Students receive training in both the graphic design and technical programming elements of the industry.
2	1455E1	*WEBPAGE PUBLISHING - The course is designed to develop student understanding and skills in such areas as Web page development software, creating tables, managing files, publishing to the Internet, creating hyperlinks, organizing tasks and using codes (markup languages)
3	1456E1	*CODING, APP AND GAME DESIGN I - This course is designed to develop student knowledge and skills in programming and designing game and app ideas paper prototyping and other planning techniques. Using various design platforms, programming languages, drawing and animation techniques, students can create an interactive demonstration of the games and apps.
4	1457E1	*CODING, APP AND GAME DESIGN II - This course is designed to develop student knowledge and skills in developing apps and games using more advanced coding and graphic design including 2D and 3D elements. Students utilize problem-solving techniques and participate in hands-on activities to develop and understanding of course concepts.
5	1694E1	*NETWORKING ESSENTIALS -- This course introduces the student to the knowledge base and technical skills related to networking. Areas of study include media and topologies, protocols and standards, network implementation, and network support. Content standards and objectives are based on testing objectives for the CompTIA Network+ certification.
6	1698T1	LINUX ESSENTIALS - This course introduces the student to the knowledge base and technical skills for the Linux operating system. Areas of study include installation, management, configuration, security, documentation and hardware. Students will demonstrate knowledge and technical expertise in basic installation, operation, security, troubleshooting and basic Linux hardware services for the Linux operating system on workstations and servers. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an elective in the Computer Systems Repair Technology concentration. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to broadcasting occupations.
7	1706T1	IMAGING FOR THE WEB -- This course introduces the student to the knowledge base and technical skills for producing digital images for use in web sites and multimedia applications. Areas of study include digital imaging concepts, imaging hardware, imaging applications, and legal and ethical consideration.

8	1715E1	MULTIMEDIA APPLICATIONS-- This course introduces the student to the knowledge base and technical skills for a variety of Multimedia Applications. Areas of study include basic concepts, 2D graphics, 3D graphics, video, sound, application integration, and career exploration. Students will demonstrate knowledge and technical expertise in creating and editing multimedia objects.
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*** CORE COURSE**

TRANSPORTATION TECHNOLOGY

AUTOMOTIVE TECHNOLOGY (TR1620)

NATIONAL STANDARDS & INDUSTRY CREDENTIAL

NATEF: Maintenance and Light Repair

NATEF: Automobile Service Technology

ASE: ASE Student Certification- <http://www.asestudentcertification.com/>

NATEF: Integrated Academic Skills

Sample of job titles upon completion of the concentration: Automotive Technician (Auto Technician), Automobile Technician, Brake Technician, Tire Technician, Tire Changer, General Service Technician.

Course Sequence	Course Number	Course Titles and Descriptions
1	1631E1	<p>*AUTOMOTIVE TECHNOLOGY MLR-1 This course introduces the student to the knowledge base and technical skills as they relate to the field of Automotive Technology. In the Fundamentals of Automotive Technology class areas of study include career opportunities and practices, basic safety, tool and equipment, measuring tools and equipment, automotive specifications, electrical system basics, battery service, wheel and tire service, cooling and lubrication systems, and student organizations. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, WV SkillsUSA. The West Virginia Standards for Global 21 Learning include the following components: Global 21 Content, Literacy and Numeracy, Entrepreneurship, and Technology Standards. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and content standards and objectives.</p>
2	1623E1	<p>* AUTOMOTIVE TECHNOLOGY MLR 2- Basic Engine Concepts will continue to build student skill sets in areas such as general engines, diagnosis of cylinder head and valve train, diagnosis and repair of engine block, and diagnosis and repair of lubrication and cooling systems. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, WV SkillsUSA. The West Virginia Standards for Global 21 Learning include the following components: Global 21 Content, Literacy and Numeracy, Entrepreneurship, and Technology Standards. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and content standards and objectives.</p>
3	1625E1	<p>* AUTOMOTIVE TECHNOLOGY MLR 3 Brake Systems will continue to build student skill sets in areas such as diagnosis and repair of hydraulic systems, diagnosis and repair of drum brakes, diagnosis and repair of disc brakes, power assist systems, and antilock brake systems. Students will comply with personal and environmental safety practices associated with proper ventilation, handling, storage, and disposal of brake components. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, WV SkillsUSA. The West Virginia Standards for Global 21 Learning include the following components: Global 21 Content, Literacy and Numeracy, Entrepreneurship,</p>

		and Technology Standards. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and content standards and objectives.
4	1629E1	AUTOMOTIVE TECHNOLOGY AST-1- The Skill Sets in this Engine Performance course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile. Areas of study includes general engine diagnosis, computer engine controls diagnosis and repair, diagnosis of ignition systems and repair, fuel, air induction, and exhaust system diagnosis and repair, and emission control system diagnosis and repair. Students will comply with personal and environmental safety practices associated with proper ventilation and the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations. This course is recommended as an Elective in Automotive Technology.
5	1637E1	* AUTOMOTIVE TECHNOLOGY MLR 4- Suspension and Steering Diagnosis will continue to build student skill sets in areas such as diagnosis and repair of steering systems, diagnosis and repair of front suspension systems, diagnosis and repair of rear suspension systems, miscellaneous suspension and steering systems, and diagnosis and adjust wheel alignment. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, WV SkillsUSA. The West Virginia Standards for Global 21 Learning include the following components: Global 21 Content, Literacy and Numeracy, Entrepreneurship, and Technology Standards. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and content standards and objectives.
6	1633E1	AUTOMOTIVE TECHNOLOGY AST-2 The Skill Sets in this course will introduce students to the heating and air conditioning systems of the automobile. Areas of study include diagnosis and repair of A/C systems, refrigeration system component diagnosis and repair, diagnosis and repair of heating and engine cooling systems, operating systems and related controls diagnosis and repair, refrigerant recovery, and recycling and handling. Students will comply with personal and environmental safety practices associated with the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety regulations. This course is recommended as an Elective in Automotive Technology.
7	1635E1	AUTOMOTIVE TECHNOLOGY AST-3 The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Automotive Technician concentration. This course will introduce students to the manual/automatic drive train and axle systems of the automobile. Areas of study include; clutch diagnosis and repair, manual transmission diagnosis and repair, manual transaxle diagnosis and repair, diagnosis and repair of universal and constant-velocity (CV) joint, ring and pinion gears and differential case assembly, limited slip differential diagnosis and repair, fourwheel drive/all wheel drive component diagnosis and repair, automatic transmission/transaxle diagnosis, maintenance and adjustment, oil pump and converter diagnosis and repair, inspect and repair manual gear train, shafts, bushings and case, and inspect and repair automatic gear train, shafts, bushings and case. This course is recommended as an Elective in Automotive Technology.
8	1627E1	AUTOMOTIVE TECHNOLOGY AST-4 The Skill Sets in this course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile. Areas of studies include; general electrical diagnosis, battery diagnosis and service, starting system diagnosis and repair, charging system diagnosis and repair, lighting system diagnosis and repair, information system diagnosis and repair, horn and wiper/washer diagnosis and repair, and accessories diagnosis and repair. Students will comply with personal and environmental safety practices associated with proper ventilation, handling, storage, and disposal of brake components. This course is recommended as an Elective in Automotive Technology.

TRANSPORTATION TECHNOLOGY DIESEL TECHNOLOGY (TR1740)

The Diesel Equipment Technology concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the automotive industry including the aspects of the Diesel Equipment. Students will have the opportunity to acquire hours towards industry ASE/NATEF certification and be exposed to skills to develop positive work ethics.

Course Sequence	Course Number	Course Titles and Descriptions
1	1744E1	*ELECTRONIC ENGINE CONTROLS – This course introduces the student to the knowledge base and technical skills for concepts in diesel electronic engine controls. Areas of study include electronic control modules, electronic fuel injection, and electronic control test equipment. Emphasis will be placed on career exploration, job seeking skills, and personal and professional ethics.
2	1741E1	*DIESEL ENGINE COMPONENTS – This course introduces the student to the knowledge base and technical skills as they relate to the field of Diesel Equipment Technology. In the Diesel Engine Components class areas of study include basic engine components, primary functions, service, inspection, and assembly procedures. Safety instruction is integrated into all activities.
3	1747E1	*DIESEL SUPPORT SYSTEMS – This course introduces the student to the knowledge base and technical skills as they relate to Diesel Support Systems. In the Diesel Support Systems class areas of study include areas such as lubricating and cooling systems, air intake and exhaust systems, starting and charging systems, engine retarders, fuel systems, and governor operation.
4	1751E1	*FUNDAMENTALS OF DIESEL EQUIPMENT TECHNOLOGY -- This course introduces the student to the knowledge base and technical skills as they relate to the field of Fundamentals of Diesel Equipment Technology. In the Fundamentals of Diesel Equipment Technology class areas of study include personal and shop safety, career opportunities in the diesel technology industry, the proper use of hand and power tools, basic oxyacetylene cutting, electric welding, and basic shop etiquette.
5	1745E1	DIESEL PREVENTIVE MAINTENANCE AND INSPECTION- The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Diesel Equipment Technology concentration. Incorporated into this course include engine system maintenance, under hood and cab maintenance, electrical/electronic systems, frame and chassis maintenance. This course is recommended as an Elective in Diesel Equipment Technology.
6	1742E1	DIESEL EQUIPMENT ELECTRICAL SYSTEMS- The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Diesel Equipment Technology concentration. Incorporated into this course are heavytruck electrical theory, engine and truck wiring circuits, storage batteries and diesel electrical system testing. This course is recommended as an Elective in Diesel Equipment Technology.
7	1743E1	DIESEL TUNE UP AND TROUBLE SHOOTING- The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Diesel Equipment Technology concentration. Incorporated into this course are elements of introductory knowledge and skills necessary for a career in diesel mechanics. This course is recommended as an Elective in Diesel Equipment Technology.

8	1749E1	DIESEL TRUCK CHASSIS CONCEPTS -The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Diesel Equipment Technology concentration. Incorporated into this course are elements of transmissions, clutches, suspension, steering, and air brakes. Emphasis will be placed on operating theory, removal and installation of major components, and service and inspection procedures for a career in diesel equipment.
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TRANSPORTATION TECHNOLOGY

COLLISION REPAIR TECHNOLOGY (TR1670)

This major trains the student to repair or replace damaged parts and spot repair or completely refinish automobile bodies. The Collision Repair Technology concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Collision Repair industry. Students will have the opportunity to acquire hours towards NATEF certification and be exposed to skills to develop positive work ethics.

Course Sequence	Course Number	Course Titles and Descriptions
1	1671E1	*FUNDAMENTALS OF COLLISION REPAIR TECHNOLOGY -- This course introduces the student to the knowledge base and technical skills as they relate to the field of Collision Repair Technology. In the Fundamentals of Collision Repair Technology class areas of study include career opportunities and practices, integrated academics, knowledge of tools and equipment, panel straightening techniques, and introduction to vehicle preparation. Safety instruction is integrated into all activities.
2	1675E1	*NON-STRUCTURAL ANALYSIS AND DAMAGE REPAIR -- This course will introduce students to the entry-level skills necessary in non-structural analysis and repair of metal and composite parts.
3	1677E1	*STRUCTURAL ANALYSIS AND DAMAGE REPAIR -- This course will introduce students to the entry-level skills necessary in structural analysis and repair of frame and unibody type vehicles using welding techniques, measuring equipment and frame machines.
4	1679E1	*SURFACE PREPARATION AND REFINISHING -- This course continues to build student skill sets in preparing a surface for refinishing; inspect, clean and operate spraying equipment; detail a vehicle; and diagnose finish defects.
5	1674E1	REFINISHING TECHNIQUES – This course will introduce students to the advanced fundamentals of automotive refinishing. Students will become familiar with tools, procedures and careers associated with advanced refinishing techniques.
6	1673E1	MECHANICAL AND ELECTRICAL COMPONENTS -- This course will introduce students to the entry-level skills necessary in mechanical and electrical repairs as they apply to collision repair technology.
7	1672E1	DETAILING AND INTERIOR PARTS – This course will introduce students to the entry-level skills necessary in detailing and interior parts removal and repair.
8	1676E1	CUSTOM FINISHING PROCESSES – This course will introduce students to the art of custom painting. Students will become familiar with the various materials and equipment related to this course.

***CORE COURSE**

MANUFACTURING TECHNOLOGY

WELDING (MA1980)

The Welding concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Welding industry. Students will have the opportunity to earn both NCCER certification and the WV Welding Certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Course Sequence	Course Number	Course Titles and Descriptions
1	1862E1	*WELDING I -- This course is designed to introduce the student to the knowledge base and technical skills of the Welding industry. It begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets in the fundamentals of Welding such as Welding Safety; Oxyfuel Cutting; and Plasma Arc Cutting.
2	1863E1	*WELDING II – This course continues to build student skill sets in areas of Air Carbon Arc Cutting and Gouging; Base Metal Preparation; Weld Quality; SMAW-Equipment and Setup; Shielded Metal Arc Electrodes; SMAW-Beads and Fillet Welds; Joint Fit Up and Alignment; SMAW-Groove Welds with Backing; and SMAW-Open V-Groove Welds.
3	1982E1	ORNAMENTAL METAL WORK – This course will give the student the opportunity to learn the basic skill of ornamental metal work in various ferrous and nonferrous metals.
4	1983E1	BLUEPRINT READING AND METALLURGY -The Skill Sets in this course are representative of the basic knowledge included in a Career and Technical Education Welding concentration. Areas of study include drawing fundamentals, sketching and fabricating, basic welding symbols, and properties of metals and alloys. This course is recommended as an Elective in the Welding concentration.
5	1864E1	*WELDING III – This course continues to build student skill sets in areas of Welding Symbols; Reading Welding Detail Drawings; Physical Characteristics and Mechanical Properties of Metals; Preheating and Postheating of Metals; GMAW and FCAW-Equipment and Filler Metals; and GMAW and FCAW-Plate.
6	1865E1	*WELDING IV – This course continues to build student skill sets in areas of GTAW-Equipment and Filler Metals; and GTAW-Plate.
7	1987E1	*GAS METAL ARC WELDING -- This course will introduce students to basic skills in gas metal arc welding. Students should have good eye, hand coordination and a safety awareness. All students who take this class must have successfully completed Fundamentals of Welding and have passed all safety tests.
8	1981E1	ARC WELDING -- This course will give students the opportunity to advance their skills in SMAW, GMAW, FCAW, GTAW and to have the opportunity to test to a state or national standard.

***CORE COURSE**

HEALTH SERVICES
ALLIED HEALTH SCIENCE (DENTAL ASSISTING) (HE0715)

This career major prepares students for employment or higher education in the field of dentistry. Health professionals in this concentration work directly with patients; they may provide care, treatment and health education information. **Prior to clinical experience, students will be required to obtain the Hepatitis vaccination.**

Course Sequence	Course Number	Course Titles and Descriptions
1	0715E3	*ADVANCED PRINCIPLES OF HEALTH SCIENCE – Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to diseases and disorders are an integral part of the course. Students will develop basic technical skills in patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPPA/Data Privacy and health care safety.
2	0743E1	*DENTAL ASSISTANT CLINICAL SCIENCE – The student completing this course will be able to use knowledge from previously required courses to perform and practice all aspects of Dental Laboratory Assisting in a clinical setting. Students will obtain the knowledge and skills necessary to assist and/or perform basic laboratory and diagnostic procedures.
3	0746E1	*DENTAL ASSISTING DENTAL SCIENCE – This course provides an introduction to dental laboratory techniques and procedures while preparing the student for entry-level employment as a dental laboratory assistant. Students will obtain the knowledge and skills necessary to assist and/or perform basic laboratory and diagnostic procedures. With participation and input of therapeutic services professionals, instructional content will incorporate project and problem-based therapeutic practices and procedures to demonstrate the criticality of these skills.
4	0742E1	DENTAL ASSISTANT CLINICAL PRACTICE – Students will focus on knowledge and skills required for the Dental Assistant to function within the areas of radiography and emergency medical care. Current technology will be utilized to master course standards.
5	0749E1	SUPERVISED DENTAL ASSISTANT EXPERIENCE – Students will focus on instructional components that will enable them to work as effective members of the dental team. Students will be introduced to the specialties of dentistry and the requirements necessary to function as an administrative and chairside assistant in a dental office. Current technology will be utilized to master course standards.
6	0711E3	*FOUNDATIONS OF HEALTH SCIENCE —This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.
7	0730E4	HEALTH SCIENCE CLINICAL EXPERIENCE — This course is designed to be used in conjunction with a Health Science Education course that includes a clinical specialization experience. Instructional content focuses on extending career preparation and technical skills associated with a previously selected clinical specialization.
8	0745E1	DENTAL ASSISTANT CLINICAL MENTORING – Students participate in a school and community partnership that allows students practical “hands-on” training under the supervision of a career related professional. The partnership will take place in a clinical facility, which shares insight, knowledge and skills instruction. Current technology will be utilized to master course standards. Students must successfully complete the previous 6 courses in order to enroll in this course.

***CORE COURSE**

ALLIED HEALTH SERVICES

Emergency Medical Technician (HE0715)

The Allied Health Concentration allows the student to explore occupations focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment and health education information. Skill sets taught can lead to an entry level certification and preparation for continuing in a postsecondary learning environment.

		EMT
Course Sequence	Course Number	Course Titles and Descriptions
1	0711E 1	*FOUNDATIONS OF HEALTH SCIENCE -- This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.
2	0715E 1	*ADVANCED PRINCIPLES OF HEALTH SCIENCE – Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to diseases and disorders are an integral part of the course.
3	0792E 1	*EMERGENCY SERVICES I- EMT-B (Basic) is recognized by the United States Department of Transportation. Instructional content will focus upon expanded and enhanced biology content specific to human structure, function and diseases/disorders common to medical and traumatic emergencies. In addition, course content will include treatment and care of the sick or injured, methods and techniques of patient assessment and of gaining access to the patient, stabilization and transport. Skills necessary for proper documentation are integrated throughout the course. According to national criteria, students must successfully complete a mid-course exam, with a minimum core of 80%, in order to continue in the course and maintain eligibility to take the national EMT-B exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
4	0732E 1	*EMERGENCY SERVICES II- This course is designed to be used in conjunction with EMT-B to include the necessary clinical experience for the EMT-B certification. Instructional content is focuses on extending career preparation and technical skills associated with a previously selected clinical specialization. Teachers should provide each student with real world learning opportunities and instruction.
5	0721E 1	MEDICAL TERMINOLOGY – Students will be introduced to the language of medicine. Students will gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the body as a whole. Utilizing a systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, oncology, and pharmacology. In addition to medical terms, common abbreviations applicable to each system will be interpreted. Embedded Credit.

***CORE COURSE**

HEALTH SERVICES

THERAPEUTIC SERVICES (HE0723)

The Therapeutic Services Concentration allows the student to explore careers focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment, counseling and health education information. **Clinical experience requires students to obtain the Hepatitis B vaccination, flu shot, TB TEST and physical before starting the clinical rotation.**

Course Sequence	Course Number	Course Titles and Descriptions
1	0711E 1	*FOUNDATIONS OF HEALTH SCIENCE – This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.
2	0715E 1	*ADVANCED PRINCIPLES OF HEALTH SCIENCE – Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to diseases and disorders are an integral part of the course.
3	0789E 1	*DIRECT CARE CLASSROOM/ PATIENT CARE CLASSROOM Upon successful completion of the prerequisite courses in the Health Science Education concentration, students will be provided the opportunity in Clinical Specialty I to participate in a work-based clinical experience. Students choose a health career specialty for in-depth study and must complete a minimum of 25-55 hours in an applicable clinical rotation. Instruction is guided by career-specific Content skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation. Within this course, students focus upon employability skills and career development, and apply healthcare information technology and technical skills. Instruction will incorporate project and problem-based healthcare practices and procedures to demonstrate the criticality of these skills. Due to healthcare industry standards, exemplary attendance is mandatory. Students utilize problem solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
4	0790E 1	*HEALTH CLINICAL EXPERIENCE – This course is designed to be used in conjunction with a Health Science Education course that includes a clinical specialization experience. Instructional content is focuses on extending career preparation and technical skills associated with a previously selected clinical specialization. Teachers should provide each student with real world learning opportunities and instruction.
	0721E 1	MEDICAL TERMINOLOGY –* Students will be introduced to the language of medicine. Students will gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the body as a whole. Utilizing a systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, oncology, and pharmacology. In addition to medical terms, common abbreviations applicable to each system will be interpreted. Embedded Credit.
CHOOSE FROM THE FOLLOWING		
CERTIFIED PATIENT CARE TECHNICIAN		
DIRECT CARE WORKER		
<i>See Next Page for descriptions</i>		
*CORE COURSE		

THERAPEUTIC SERVICES (HE0723)
Continued

		CERTIFIED PATIENT CARE TECHNICIAN
	0789E 1	<p>*PATIENT CARE CLASSROOM– Upon successful completion of the prerequisite courses in the Health Science Education concentration, students will be provided the opportunity in Clinical Specialty I to participate in a work-based clinical experience. Students choose a health career specialty for in-depth study and must complete a minimum of 25-55 hours in an applicable clinical rotation. Instruction is guided by career-specific Content skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation. Within this course, students focus upon employability skills and career development, and apply healthcare information technology and technical skills. Instruction will incorporate project and problem-based healthcare practices and procedures to demonstrate the criticality of these skills. Due to healthcare industry standards, exemplary attendance is mandatory. Students utilize problem solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.</p>
DCW		CERTIFIED DIRECT CARE WORKER
	0789E 1	<p>*DIRECT CARE CLASSROOM– Upon successful completion of the prerequisite courses in the Health Science Education concentration, students will be provided the opportunity in Clinical Specialty I to participate in a work-based clinical experience. Students choose a health career specialty for in-depth study and must complete a minimum of 25-55 hours in an applicable clinical rotation. Instruction is guided by career-specific Content skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation. Within this course, students focus upon employability skills and career development, and apply healthcare information technology and technical skills. Instruction will incorporate project and problem-based healthcare practices and procedures to demonstrate the criticality of these skills. Due to healthcare industry standards, exemplary attendance is mandatory. Students utilize problem solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.</p>

***CORE COURSE**

HOSPITALITY & TOURISM CLUSTER PROSTART RESTAURANT MANAGEMENT (HO1010)

The ProStart Restaurant Management concentration focuses on the skills needed for a successful employment in a restaurant environment. ProStart is a restaurant industry-driven curriculum developed by the National Restaurant Association Educational Foundation with input from thousands of restaurant professionals. ProStart curriculum integrates performance-based learning with academics, entrepreneurship, and technology skills to prepare students for successful employment in the 21st Century.

Course Sequence	Course Number	Course Titles and Descriptions
1	1013E1	*RESTAURANT AND CULINARY FOUNDATIONS – This course focuses on the basic preparation and service of safe food, basic introduction to industry safety standards, basic introduction to restaurant equipment, kitchen essentials in knife skills, stocks and sauces, and communication concepts in the restaurant industry.
2	1015E1	HOSPITALITY PRODUCTS AND SERVICES -Students will research and review career options and qualifications in hospitality services,integrate hospitality skills, food service etiquette, and processes used by many enterprises, including individual and group settings, and food environments into hospitality service. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
2	1014E1	*RESTAURANT AND MANAGEMENT ESSENTIALS – This course is designed to focus management essentials in the restaurant industry, guest service, food production, and career exploration and pursuit. Students are encouraged to become active members of the student organization, Skills USA or FCCLA, a national student organization.
4	1016E1	MANAGEMENT PRINCIPLES -Management roles and financial responsibilities, staff supervision and training, marketing and advertising, menu planning, food safety, sanitation, labor rules and regulations, and HACCP planning are incorporated in the coursework. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
5	1019E1	*ADVANCED PRINCIPLES IN FOOD PRODUCTION – This course is designed to examine advanced food production, nutrition, and cost control.
6	1017E1	CULINARY NUTRITION AND THE MENU Nutrition basics and the guidelines used for foodservice meal planning are covered in Culinary Nutrition and the Menu. Dietary guidelines and special dietary needs will be used in modifying menu choices. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
7	1020E1	*RESTAURANT PROFESSIONAL – This course is designed to provide content related global cuisine, sustainability, desserts and baked goods, and marketing. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.
8	1018E1	BAKING AND PASTRY - Baking and Pastry is an elective course which focuses on weights, measures, and general baking, classifications, handling and storage of ingredients, safety and handling, yeast raised dough products, cakes, cookies, batters, breads, biscuits, muffins, pies, and special dessert preparation. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction.

DENTAL LABORATORY TECHNOLOGY (HE0764)

This career major provides training to prepare students with entry level skills and knowledge of Dental Laboratory procedures. The goal of the program is to produce competent, entry level technicians for Dental offices and commercial dental laboratories. The program is an all day program and last for one full school year.

Course Sequence	Course Number	Course Titles and Descriptions
1	0621E1	DENTAL LABORATORY ORIENTATION – Introduces students to various dental materials and hands on experience in construction of basic dental appliances. Safety hazards in the laboratory are discussed and prevention of accidents stressed. Students will be able to interpret the dental prescription, pour casts in various gypsum products, mount casts on various nonadjustable articulators, use temporary splint for processing, custom impression trays, repairs, and tooth replacements.
2	0626E1	COMPLETE DENTURES – Dental appliances are substitutes for all lost natural teeth and associated structures of the upper and lower arches using Oral landmarks, muscles, bones, tissues, and procedures. Students will be able to arrange upper and lower teeth in centric occlusion, arrange teeth for a prognathic relationship, wax-up for try-in and processing, remount and adjust occlusion, finish and polish plastic bases, fabricate immediate upper dentures with surgical template, and perform denture rebase.
3	0625E1	PARTIAL DENTURES – Students will utilize all the skills learned in the first two courses and will learn to survey and design the framework, prepare master casts for duplication, duplicate and pour refractory models, wax-up partial frameworks, invest, burn-out, and cast frameworks, finish and polish frames, arrange teeth in harmony with natural teeth, process and finish acrylic, and adapt and form wrought wire clasps.
4	0623E1	CROWN AND BRIDGE – Students will be able to pour stone dies and working casts, determine margins and define the dies, demonstrate the knowledge of tooth morphology by waxing and carving to full form, invest, de-gas, apply porcelain, fire porcelain, and glaze.
5	0622E1	GENERAL DENTAL LABORATORY TECHNIQUES – Safety hazards in the laboratory are discussed and prevention of accidents stressed. Students will be able to interpret the dental prescription, pour casts in various gypsum products, mount casts on various nonadjustable articulators, use temporary splint for processing, flask, pack, deflask, finish and polish plastic base for various base plates, and occlusion rims, custom impression trays, repairs, and tooth replacements.
6	0624E1	CERAMICS – Students will be able to pour stone dies and working casts, determine margins and define the dies, demonstrate the knowledge of tooth morphology by waxing and carving to full form, apply porcelain, fire porcelain, and glaze.
7	0627E1	ORTHODONTICS – Basic introduction to Orthodontics—the student will learn what to do for misaligned bites, how braces or brackets can help realign teeth.
8	0628E1	APPLICATION IN DENTAL LABORATORY TECHNOLOGY – Apply skills learn by working in a dental lab for on-the-job training.

POST SECONDARY PROGRAM

PRACTICAL NURSE - PN

Adult students will receive 1350 hours of classroom and clinical instruction. LPN may practice under the direction of a registered professional nurse (RN), licensed Physician (Dr.) or licensed Dentist and shall contribute to nursing assessment by collecting, reporting, and recording objective and subjective data in an accurate and timely manner. They may also contribute to the evaluation of nursing interventions and contribute to the modification of health care plan. This program runs for a full 12 months and meets five days a week. In rare cases, extenuating circumstances may require that clinical time be made up during weekends or evenings. **Prior to clinical experience, students will be required to obtain the Hepatitis vaccination.**

PN MAY NOT BE USED FOR 13TH YEAR TUITION WAIVER.

Course Sequence	Course Number	Course Titles and Descriptions
1	0601	Practical Nursing I
2	0602	Practical Nursing II
3	0603	Practical Nursing III
4	0604	Practical Nursing IV
5	0605	Practical Nursing V
6	0606	Practical Nursing VI
7	0607	Practical Nursing VII
8	0608	Practical Nursing VIII
9	0609	Practical Nursing 1X
10	0610	Practical Nursing X