

JOHN D. ROCKEFELLER IV

CAREER CENTER

COURSE OFFERINGS

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Note:

Many courses taught at the John D. Rockefeller IV Career Center are available for college credit through West Virginia Northern Community College. Check with your counselor for details.

Students attending the John D. Rockefeller IV Career Center must maintain a “C” average or better in each Career Center course attempted in order to progress to the next level of instruction. All students must also complete the required “Fundamentals” course prior to taking any other course in a particular discipline.

AUTO COLLISION REPAIR TECHNOLOGY

This area of study is designed to provide learners with skills in collision repair occupations. Major instructional concepts include: non-structural analysis and damage repair; structural analysis and damage repair; mechanical and electrical component; plastics and adhesive; painting and refinishing and general occupational information.

Students completing the following four core classes will be eligible to take the core content exam: Fundamentals of Collision Repair Technology; Non-Structural Analysis and Damage Repair; Structural Analysis and Damage Repair; and Surface Preparation and Refinishing.

Course Listing: IN SEQUENTIAL ORDER

1	1671T *	Fundamentals of Collision Repair
2	1673T	Mechanics and Electrical Components
3	1679T *	Surface Preparation and Refinishing
4	1675T *	Non Structural Analysis and Damage Repair
5	1677T *	Structural Analysis and Damage Repair
6	1674T	Advanced Refinishing Techniques

* This course is eligible for EDGE Credit.

1671 -- Fundamentals of Collision Repair Technology (1 credit): This course introduces the student to the knowledge base and technical skills as they relate to the field 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. **Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.**

1673 -- Mechanical and Electrical Components (1 credit): This course will introduce students to the entry-level skills necessary in mechanical and electrical repairs as they apply to collision repair technology.

1679 -- Surface Preparation and Refinishing (1 credit): This course will continue to build student skill sets in preparing a surface for refinishing; inspect, clean and operate spraying equipment; ; detail a vehicle; and diagnose finish defects

1675 -- Non-Structural Analysis And Damage Repair (1 credit): This course will continue to build student skill sets in non-structural analysis and repair of metal and composite parts.

1677 -- Structural Analysis and Damage Repair (1 credit): This course will continue to build student skill sets in frame and unibody type vehicles using welding techniques, measuring equipment, and frame machines.

1674 -- Advanced Refinishing Techniques (1 credit): 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

AUTOMOTIVE TECHNOLOGY

This area of study is designed to provide learners with skills in automotive technology/service. The major instructional concepts include: fundamentals of automotive technology; basic automotive electrical systems; theory and operation of brake systems; fundamentals of steering and suspension systems; basic engine concepts; engine performance; passenger climate controls; power train fundamentals; and advanced automotive electronics.

Students completing the following four core classes will be eligible to take the core content exam: Fundamentals of Automotive Technology; Brakes; Suspension and Steering Diagnosis; and Basic Engine Concepts.

Course Listing: IN SEQUENTIAL ORDER

1	1631T *	Fundamentals of Automotive Technology
2	1627T	Electrical & Electronics
3	1625T *	Brakes
4	1623T *	Basic Engine
5	1637T *	Suspension & Steering
6	1629T	Engine Performance

* This course is eligible for EDGE Credit.

1631 -- Fundamentals Of Automotive Technology (1 credit): This course introduces the student to the knowledge base and technical skills as they relate to the field of Automotive Technology.

1627 -- Electrical/Electronic Systems (1 credit): This course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile.

1625 -- Brake Systems (1 credit): This course 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.

1623 -- Basic Engine Concepts (1 credit): This course 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.

1637 -- Suspension and Steering Diagnosis (1 credit): This course 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.

1629 -- Engine Performance (1 credit): This course will introduce students to the skills, technology, and service of electrical/electronic systems of the automobile. 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.

CARPENTRY

This area of study is designed to provide learners with skills in general building construction occupations. The major instructional concepts include: general occupational information; all areas of carpentry; basic masonry and basic plumbing.

Course Listing: IN SEQUENTIAL ORDER

1	1842T *	Carpentry I
2	1828T	Building Construction Applications
3	1843T *	Carpentry II
4	1844T *	Carpentry III
5	1845T *	Carpentry IV
6	1820T	Commercial Construction Applications

* This course is eligible for EDGE Credit.

1842 – Carpentry I (1 credit): This course introduces the student to the knowledge base and technical skills of the carpentry industry.

1828 – Building Construction Applications (1 credit): This course introduces the student to the knowledge base and technical skills for concepts in the Building Construction Concentration. Areas of study include foundation and framing procedures and foundation and framing applications. Emphasis will be placed on career exploration, job seeking skills, and personal and professional ethics. Safety instruction is integrated into all activities.

1843 – Carpentry II (1 credit): This course 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

1844 – Carpentry III (1 credit): This course will continue to build student skill sets in areas of Commercial Drawings; Roofing Applications; Thermal and Moisture Protection; and Exterior Finishing.

1845 – Carpentry IV (1 credit): This course 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.

1820 – Commercial Construction Applications (1 credit): This course introduces the student to the knowledge base and technical skills for concepts in the building construction concentration. Areas of study include site layout and preparation, form construction, steel framing, suspended ceilings, and floor coverings. Emphasis will be placed on career exploration, job seeking skills, and personal and professional ethics. Safety instruction is integrated into all activities.

ELECTRONIC SYSTEMS TECHNICIAN

The Electronic Systems Technician concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Electronic 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.

Course Listing: IN SEQUENTIAL ORDER

1	1666T *	Electronic Systems I
2	1667T *	Electronic Systems II
3	1785T	Basic Solid State Devices and Circuits
4	1668T *	Electronic Systems III
5	1669T *	Electronic Systems IV
6	1791T	Electronics Specialization

* This course is eligible for EDGE Credit.

1666 – Electronic Systems I (1 credit): This course introduces the student to the world of Electronics by providing instruction in basic D.C. type electronic circuits and their related components, along with circuit pictorial, schematic and block diagrams. Related mathematics used in circuit computation and analysis is also taught, along with all facets of Electronic circuit construction, including soldering and de-soldering skills.

1667 – Electronic Systems II (1 credit): This course will introduce the student to all facets of A.C. type circuits and components, along with knowledge and skills necessary to properly utilize A. C. testing and measurement equipments. Related A.C. mathematical concepts used in conjunction with A.C. circuits and components is also taught.

1785 -- Basic Solid State Devices and Circuits (1 credit): This course will introduce students to the skills and technology involved in basic solid state devices and circuits and their use in the modern electronics field.

1668- Electronic Systems III (1 credit): This course will take all of the collective knowledge base built to this point in Electronics, and introduce the student to all types of standard Electronic circuits used in Analog style Electronic equipment in both industrial and commercial applications.

1669 – Electronic Systems IV (1 credit): This course introduces the student to the world of Digital Electronics, as used in every area of Electronics today. Basic Digital theory, along with the related components and circuitry are taught, along with application in the field of computers, communication, and industrial control.

1791 -- Electronics Specializations (1 credit): This course will help to make final preparation for the student to attain his or her Certified Electronics Technician's license with a study of proper methods and techniques to circuit trouble-shooting, analysis, and repair of entire Electronic systems and equipments. This course also rounds out the student by covering proper professional technician work procedures and protocol as expected in the industry.

DIESEL EQUIPMENT TECHNOLOGY

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

Course Listing: IN SEQUENTIAL ORDER

1	1751T *	Fundamentals of Diesel Equipment Technology
2	1745T *	Preventative Maintenance
3	1744T *	Electronic Engine Control
4	1741T *	Diesel Engine Components
5	1742T *	Electronic Systems
6	1747T *	Diesel Support Systems

* This course is eligible for EDGE Credit.

1751 – Fundamentals of Diesel Equipment Technology (1 credit) – This course introduces the student to the knowledge base and technical skills as they relate to the field of Fundamentals of Diesel 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, electrical welding, and basic shop etiquette.

1744 – Electronic Engine Controls (1 credit): 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

1741 – Diesel Engine Components (1 credit): 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.

1747- Diesel Support Systems (1 credit): 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.

CAREER EXPLORATION

This course is designed to instruct students in areas such as daily living skills, personal-social skills, job-readiness, and work-related attitudes and behaviors.

Course Listing: IN SEQUENTIAL ORDER

1	7627T	Career Exploration I
2	7625T	Career Awareness
3	7627T, 7627T1	Career Exploration I, ii
4	7625T	Career Awareness I , II
5	7629T	Career Preparation
6	7625T	Career Awareness I, II

THERAPEUTIC SERVICES

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. .

Course Listing: IN SEQUENTIAL ORDER

1	0711T *	Foundations of Health Science
2	0715T *	Advanced Principles of Health Science
3	0789T *	Clinical Specialty/CNA
4	0721T	Medical Terminology
5	0810T	EKG
6	0825T	Phlebotomy
7	0739T	Nutrition and Wellness

* This course is eligible for EDGE Credit.

0711 – Foundations of Health Science (1 credit): 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.

0715 – Advanced Principles of Health Science (1 credit): 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.

0789 – Clinical Specialty I (1 credit): This course is designed to choose a career work-based experience from the following specialization: Certified Nursing Assistant

0721 -- Medical Terminology (1 credit): Through the study of medical terminology the student will learn 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, the student 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. This course qualifies for EDGE credit and WVNCC credit.

0810 – EKG (1 credit): This course is designed to allow students to obtain an entry-level career as an EKG Technician. Students will gain an understanding of the EKG Department, medical terminology, policies and procedures, infection control and patient care. They will learn effective communication skills in dealing with both patients and co-workers.

0825T-Phlebotomy – (1 credit): This course is designed to prepare students for an entry-level career as a phlebotomist. Students will learn safety, infection control, quality assurance, theory and procedures as they relate to the laboratory. They will learn problem-solving techniques and hands-on activities to develop skills necessary to draw blood and prepare it for testing.

0739 – Nutrition and Wellness (1 credit): Within this course, students will examine nutrition in relationship to the maintenance and/or restoration of wellness. Components of this course include food composition, nutritional guidelines, therapeutic diets, eating disorders, menu planning, and patient teaching. Students will utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers will provide each student with real world learning opportunities and instruction related to healthcare. The West Virginia Standards for 21st Century Learning include the following components: 21st Century Content Standards and 21st Century Learning Skills and Technology Tools. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and content standards and objectives. Students are encouraged to become active members of Health Occupations Students of America (HOSA), the Career and Technical Student Organization (CTSO) for health science education students. **PREREQUISITE: Health Care Fundamentals** This course is taught with the Diversified Health Occupations Class.

Human Services Cluster (Careers in Education, Food Science and Nutrition, Hospitality Education Concentrations)

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 Listing: **IN SEQUENTIAL ORDER**

1	1013T *	Restaurant & Culinary Foundations
2	1015T	Hospitality Services (Elective)
3	1014T *	Restaurant Management Essentials
4	1019T *	Advanced Principles in Food Production
5	1018T	Baking & Pastry Applications (Elective)
6	1020T *	The Restaurant Professional

* This course is eligible for EDGE Credit.

1013 – Restaurant and Culinary Foundations (1 credit): 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.

1014 – Restaurant Management Essentials (1 credit): This course is designed to focus management essentials in the restaurant industry, guest service, food production, and career exploration and pursuit.

1019 – Advanced Principles in Food Production (1 credit): This course is designed to examine advanced food production, nutrition, and cost control. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

1020 – The Restaurant Professional (1 credit): 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.

WELDING

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 Listing: IN SEQUENTIAL ORDER

1	1862T *	Welding I
2	1983T	Blueprint
3	1863T *	Welding II
4	1864T *	Welding III
5	1865T *	Welding IV
6	1982T	Ornamental

* This course is eligible for EDGE Credit.

1862 – Welding I (1 credit): This course is designed to introduce the student to the knowledge base and technical skills of the Welding industry.

1983 -- Blueprint Reading and Metallurgy (1 credit): This course will introduce students to the basic fundamentals of blueprint reading as it relates to the welding industry, and to the science and technology of extracting metals from their ores, refining them, and preparing them for use.

1863 – Welding II (1 credit): This course will continue 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.

1864 – Welding III (1 credit): This course will continue 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.

1865 – Welding IV (1 credit) Welding IV will continue to build student skill sets in areas of GTAW-Equipment and Filler Metals; and GTAW-Plate.

1982 -- Ornamental Metalwork (1 credit): 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.