

West Virginia Career and Technical Education Endorsement and Testing Manual

A listing of all WVBE-required licensure exams and industry credentials required for educator certification and for completion of West Virginia Board of Education-approved Career and Technical Education programs leading to West Virginia licensure. This Manual is maintained on the WVDE website. When tests, scores, or industry credentials listed in the manual are changed, the validity period for the previously listed test, score, and/or industry credential shall be one year from the effective date of the new test, score, or industry credential. Exception: tests, scores, or industry credentials shall remain valid for twelve months after completion of an approved program for licensure where the applicant was continuously enrolled even if the test, score, or industry credential has changed.

REQUIRED TESTS, INDUSTRY CREDENTIALS AND WORK EXPERIENCE REQUIRED FOR ISSUANCE OF THE CAREER/TECHNICAL PERMIT AND CAREER/TECHNICAL CERTIFICATE^{1,2,3,4,5}

TABLE 1: REQUIRED BASIC SKILLS TESTS

California Achievement Tests Required for Career/Technical Educators Required Score		
	Career/Technical Permit	Career Technical Certificate
Reading	771	777
Writing	757	765
Mathematics	775	783
Content Specializations ³		

TABLE 2: WAGE EARNING EXPERIENCE REQUIRED FOR CLUSTER AREA ENDORSEMENTS

AGRICULTURE, FOOD AND NATURAL RESOURCES

Wage earning experience required for the career and technical education alternatively certified teacher in Agriculture, Food and Natural Resources
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7410 Forestry	FFA/SAE Certificate	Complete Professional Development and/or WVDE approved course work related to Career and Technical Education.
7430 Oil/Gas Extraction and Distribution		
7720 Agriculture Industry	FFA/SAE Certificate	Complete Professional Development and/or WVDE approved course work related to Career and Technical Education.
7726 Mining Extraction	Miner's Health Safety and Training	40-Hour Surface Mining Card 80 Hour Underground Card
7962 Pet Grooming	Pet Grooming for Secondary Education Certificate	Complete a minimum of 50 hours of professional development and/or WVDE approved course work related to Career and Technical Education
7964 Environmental Technology and Management		

ARCHITECTURE AND CONSTRUCTION CLUSTER

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Architecture and Construction Cluster</p>		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor's Degree. – Hold a bachelor's degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
<p>WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study</p>	<p>REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION</p>	<p>INDUSTRY CREDENTIALING ORGANIZATION/S</p>

7083 Air Conditioning and Refrigeration	ICE Industry Competency Exam Entry Level Residential Heating & Cooling Technician	Industry Competency Exams (ICE) Certified Testing Center
	EPA Section 608 Technician Certification, Universal Certification	US Environmental Protection Agency (EPA) EPA Testing Center
7105 Civil Technology	Certified Drafters – Architectural or Certified Drafters – Mechanical or Certified Drafters - Civil	American Design and Drafting Association (ADDA)
7030 Electrical Technology	Master Electrician License	WV State Fire Marshal
7021 Carpentry		
7027 Building Maintenance & Operations		
7028 General Building Construction (House Construction)		
7022 Masonry		
7073 Operation/Maintenance-Heavy Equipment		
7023 Plumber and Pipefitting	WV Master Plumber's License	West Virginia Division of Labor

ARTS, A/V TECHNOLOGY AND COMMUNICATIONS

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Arts, A/V Technology and Communications Cluster</p>
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7175 Broadcasting Technology		
7012 Commercial Art		

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7132 Communication Technology		
7014 Graphic Arts		
7015 Offset Printing		

BUSINESS MANAGEMENT AND ADMINISTRATION

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Business Management and Administration Cluster</p>
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7721 Business Management & Administration Industry	Fundamental Business Concepts	A*S*K Institute

FINANCE

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Finance Cluster</p>
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>

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7722 Finance Industry	Concepts of Finance	A*S*K Institute

HEALTH SCIENCE EDUCATION

Wage earning experience required for the career and technical education alternatively certified teacher in Health Science Education is specified in relevant sections below

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
7457 AC Health Informatics I		Complete Professional Development and/or WVDE approved course work related to Career and Technical Education.
7458 AC Health Informatics II		
7459 AC Health Informatics III		
7460 AC Health Informatics IV		
<p>Wage-Earning Experience – Bachelor’s Degree. – Hold a bachelor’s degree in an area related to the specialization AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p>		
7048 Health Assistant	Valid West Virginia License as Registered Nurse (RN).	West Virginia Board of Examiners for Registered Professional Nurses
7403 Veterinary Technician	Educated from an American Veterinary Medical Association accredited Veterinary Technology program and currently a Licensed Veterinary Technician or Registered Veterinary Technician or Certified Veterinary technician or hold credential by passing the Veterinary Technician National Exam prior to change of 1/1/2010.	West Virginia State Veterinary Board and American Association of Veterinarian State Boards.

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<p>Wage-Earning Experience – Bachelor’s Degree. – Hold a bachelor’s degree in an area related to the specialization AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested which includes 1 year (2000 hours) of long term care experience within those two years; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested which includes 1 year (2000 hours) of long term care experience within those two years.</p>		
7042 Nursing Aide	Valid West Virginia License as Registered Nurse (RN)	West Virginia Board of Examiners for Registered Professional Nurses
<p>Wage Earning Experience – Complete 3 years (6000 clock hours) employment as a registered professional nurse 3 years immediately preceding employment as a faculty member; have or be enrolled in a baccalaureate degree program; have at least 3 years of experience as a registered professional nurse which should include 2 years of patient side nursing care experience in an acute, intermediate or long term care clinical facility; 1 year experience in one or more of the following areas: teaching, supervision or administration; and present evidence of continuing education.</p>		
7041 Practical Nursing (LPN)	Valid unencumbered West Virginia License as Registered Nurse (RN)	West Virginia Board of Examiners for registered Professional Nurses
<p>Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience in a dental office with practice, i.e., scheduling, billing and chair side assisting. The most recent experience must have been within the past three years and beyond the training period. Has completed a dental assistant program or is a graduate with a degree in dental hygiene from an approved dental hygiene program of a college, school or dental department of a university. Holds a valid certification from the Dental Assistant National Board, or a Registered Dental Assistant from the American Medical Technician Organization or has passed the national board dental hygiene examination and the WV Dental Board examination.</p>		
7043 Dental Assistant	Certified Dental Assistant or a Licensed Dental Hygienist	Holds a valid certification from the Dental Assistant National Board, or a Registered Dental Assistant from the American Medical Technician Organization or has passed the national board dental hygiene examination and the WV Dental Board examination.
<p>Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience as a dental laboratory technician as qualified by education, training or experience who has completed a dental laboratory technology education program and who fabricates, repairs or alters a dental prosthesis in accordance with a dentist’s work authorization. The most recent experience must have been within the past three years and beyond the training period.</p>		

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7171 Dental Lab Technician	Dental Lab Technician or Dentist	Hold a valid certificate from the National Board for Certification hereinafter NCB. A Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD) and licensed in the state of WV to practice in the profession.
Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience in a healthcare facility working with filtering data, medical records and/or health informatics. The most recent experience must have been within the past three years and beyond the training period. Completion of three years (6000 clock hours) of on the job training in health informatics (coding, electronic health record implementation, data mining) in this specialization may count toward a two years of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.		
7724 Health Informatics	Medical Assistant or Valid West Virginia Licenses as Registered Nurse (RN) Or healthcare experience and hold a certification by the American Health Informatics Association Or Certified Coding Associate, Certified Coding Specialist or a Registered Health Information Technician.	Hold a valid certificate from the American Association of Medical Assistants (AAMA), National Association for Health Professionals (NAHP), National Center for Competency Testing (NCCT), National Healthcareer Association (NHA), American Medical Technologists (AMT) or a valid license as a registered nurse in West Virginia with a minimum of a nursing diploma/associate degree and/or hold a certification by the American Health Informatics Association.
Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience in a medical office or out-patient clinic with experience in all aspects of medical office practice, i.e. insurance, medical transcription, and clinical procedures such as treatments and examinations. The most recent experience must have been within the past three years and beyond the training period.		
7045 Medical Assistant	Medical Assistant or Valid West Virginia License as Registered Nurse (RN)	Hold a valid certificate from the American Association of Medical Assistants (AAMA), National Association for Health Professionals (NAHP), National Center for Competency Testing (NCCT), National Healthcareer Association (NHA), American Medical Technologists (AMT) or a valid license as a registered nurse in West

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		Virginia with a minimum of an associate degree.
Wage-Earning Experience-Complete four (4) years (8,000 clock hours) of EMT experience, which may include emergency room or emergency medical care with a licensed Emergency Medical Service agency. Successful completion of a WVOEMS approved educational methodology course or an equivalent professional higher education course. Successful completion of sixteen (16) student teaching hours under the supervision of a Master Instructor. Must meet all requirements outlined in the WVOEMS Certification Requirements for Basic Life Support Lead Instructor		
7050 Medical Emergency Preparedness	Valid West Virginia EMT, or National Registry for EMT or higher Certification	West Virginia Office of Emergency Medical Services (WVOEMS) or National Registry for EMT (NREMT)
Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience as a certified/registered pharmacy technician which means as a registered supportive personnel who work under the direct supervision of a pharmacist or as a registered nurse. The most recent experience must have been within the past three years and beyond the training period.		
7608 Pharmacy Technician	Valid Certified Pharmacy Technician (CPHT) or a Registered Pharmacy Technician (RPT) or a Registered Nurse	West Virginia Board of Pharmacy for Pharmacy Technician. West Virginia Board of Examiners for Registered Professional Nurses
Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience as a certified phlebotomy technician, as a registered supportive personnel who works under the direct supervision of a medical lab assistant or director or complete two years (4000) hours of wage earning experience in a clinical laboratory in a hospital, physician’s office or clinic in the performance of collection of routine laboratory samples.		
7603 Phlebotomist	Valid Certified Phlebotomy certification or a Medical Laboratory Technician or a Registered Nurse	American Society of Phlebotomy (ASPT) National Health Career Association or American Medical Technologist Association (AMTA) also known as American Medical Technologist (AMT) Or Medical Lab Assistant Certification (CMLA) or American Society of Clinical Pathology (ASCP) or International Society for Clinical Lab Technology (ISCLT) or West Virginia Board of Examiners for Registered Professional Nurses

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Wage-Earning Experience – Complete two years (4000) hours of wage earning experience in a clinical laboratory in a hospital, physician’s office or clinic in the performance of routine laboratory procedures in bacteriology, blood-banking, hematology, urinalysis and serology. The most recent experience must have been within the past three years and beyond the training period.		
7172 Lab Tech-Medical	Medical Lab Technician	(AMT) or Medical Lab Assistant Certification (CMLA) or American Society of Clinical Pathology (ASCP) or International Society for Clinical Lab Technology (ISCLT)
7614 Foundations of Health Science	Hold a Professional Teaching Certificate endorsed for biology, chemistry, general science or health	Complete WVDE sponsored professional development yearly
Wage-Earning Experience – Complete two years (4,000 clock hours) of wage earning experience in a hospital or out-patient clinic with experience in all aspects of respiratory therapy including clinical procedures such as treatments, examinations and documentation. The most recent experience must have been within the past three years and beyond the training period.		
7606 Respiratory Therapy	Certified Respiratory Therapist or Registered Respiratory Therapist	Licensed by the West Virginia Board of Respiratory Therapy
Wage-Earning Experience – Associate’s Degree. – Hold a related associate’s degree and complete two years (4,000 clock hours) of wage earning experience in a hospital or out-patient clinic with experience in all aspects of Surgical Technology including surgical procedures, surgical instrumentation, and operating room policy and surgical procedures. Must also be familiar with central supply certification requirements. The most recent employment experience must have been within the past three years and beyond the training period.		
7607 Surgical Technologist	Certified Surgical Technologist or Certified Technologist/Surgical Assistant	National Board of Surgical Technology and Surgical Assisting
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		

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7625 Massage Therapy	National Certification of Therapeutic Massage and Body Work or Federation of State Massage Therapy Board	Hold a valid certificate from the West Virginia Massage Therapy Board and valid Cardiopulmonary Resuscitation (CPR) card.
<p>Wage-Earning Experience -- Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in a medical/health care setting with experience in selected health care professions in which a valid certificate or license is held. The most recent must have been within the past 3 years and beyond the training period. OR</p> <p>Bachelor's Degree in Related Area – Hold a bachelor's degree in a related area.</p>		
7615 Other Health Occupations	Hold a valid certificate or license from the appropriate state and/or national organization or agency, when applicable	
7966 Biomedical Science	Project Lead the Way Certificate	Project Lead the Way College Affiliates

HOSPITALITY AND TOURISM

Wage earning experience required for the career and technical education alternatively certified teacher in Hospitality and Tourism		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor's Degree. – Hold a bachelor's degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
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7095 Culinary Arts	ServSafe for Managers	National Restaurant Association
7315 Lodging, Travel and Tourism		
7320 Event Planning and Design Production		
0227 Parks and Recreation Management	Cardiopulmonary Resuscitation Instructor Certification, and First Aid	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety

		Institute, National Safety Council
7967 Baking and Pastry		

HUMAN SERVICES

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Human Services</p>		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested. Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
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7185 Social Services Occupation	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
7065 Cosmetology	Cosmetologist & Instructor License	WV Board of Barbers & Cosmetologists
7473 Barbering	Barber & Instructor License	WV Board of Barbers & Cosmetologists
7317 Early Childhood Education	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
7627 Direct Support Professional	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
7626 Personal Fitness and Wellness Training	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety

		Institute, and National Safety Council
7316 Personal Organizer	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, and National Safety Council
7714 Prevention Support Specialist	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
7728 Nail Technology	Nail Technician & Instructor License	WV Board of Barbers and Cosmetologists
7723 Hair Styling	Hair Stylist & Instructor License	WV Board of Barbers and Cosmetologists
Wage-Earning Experience – Hold a bachelor’s degree or higher AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested. Relevant teaching experience may count as equal to work experience requirements.		
7900 Adult (Basic) Education	Completion of WVDE required training for Adult Basic Education (both pre-service and in-service trainings) OR equivalent from another state	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

INFORMATION TECHNOLOGY

Wage earning experience required for the career and technical education alternatively certified teacher in Information Technology
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>

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7212 Computer Technology - System	CompTIA+ 220-901 and 220-902 CompTIA Network+ N10-007	Computing technology Industry Association (CompTIA)
7970 Computer Technology – Application Software	Current MOS Certification Exams – Word, Excel, PowerPoint, Access	Microsoft Certifications via Certiport
7121 Data Processing Programming		
7134 Electro-Mechanical Technology		
7449 AC Informatics I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7450 AC Informatics II		
7451 AC Informatics III		
7452 AC Informatics IV		
7954 Networking	CISCO Certified Network Associate (CCNA)	CISCO
7968 Computer Science	Project Lead the Way Certificate	Project Lead the Way College Affiliates

LAW AND PUBLIC SAFETY, CORRECTIONS AND SECURITY

<p>Wage earning experience required for the career and technical education alternatively certified teacher in Law and Public Safety, Corrections and Security</p>		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested. Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
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7710 Criminal Justice	Valid Cardiopulmonary Resuscitation (CPR) and First Aid Cards	American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
<p>License – Hold a current West Virginia EMT or Paramedic License and a current Cardiopulmonary Resuscitation, hereinafter CPR, Instructor Certification and documentation of completion of the field based experience in fire instruction and EMT instructor training; AND Experience – Complete four years (8,000 clock hours) of satisfactory recent work experience with a combination of in fire service and EMT experience, which may include emergency room or emergency medical care; AND Test – Test scores reflecting a minimum of 85% on the West Virginia EMT certification or re-certification examination and on the West Virginia State Fire Commission approved exam for the Fire Fighter 1 and Fire Fighter 2 or the National Fire Protection Association, hereinafter NFPA 1001 National Certification Exam.</p>		
7040 Emergency Services	WV EMT-Basic or Paramedic Certification Instructor Certification; First Aid Certification; Field Based Experience in EMT Training; Field Based Experience in fire service training; Firefighter 1 and Firefighter 2; Materials Operations Level Certification	WV State Fire Commission WV Department of Health & Human Services, Bureau of Public Health, Office of Emergency Medical Services American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, and National Safety Council

7060 Industrial Fire Management	Certified in First Aid; CPR-Instructor Certification; Field Based Experience in fire service training; Fire Fighter 1 and Firefighter 2; and Hazardous Materials Operations Level Certifications.	WV State Fire Commission American Red Cross, American Heart Association, American Safety & Health Institute, Emergency Care & Safety Institute, National Safety Council
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MANUFACTURING

Wage earning experience required for the career and technical education alternatively certified teacher in Manufacturing		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
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7000 Automotive Machining		
7016 Industrial Control Systems		
7164 Computer Integrated Manufacturing		
7131 Electronics Technology	CETa	Electronics Technicians Association (ETA)
7069 Hydraulics/Pneumatics		
7070 Industrial Equipment Maintenance		
7051 Machine Tool Technology	Machining Level 1	National Institute for Metal Working Skills (NIMS)
7469 AC Advanced Manufacturing I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7470 AC Advanced Manufacturing II		
7471 AC Advanced Manufacturing III		

7472 AC Advanced Manufacturing IV		
7181 Manufacturing Technology		
7092 Millwork and Cabinet		
7052 Welding	SMAW Plate and GMAW Plate in the 2G, 3G and 4G positions (SMAW and GMAW Pipe in the 6G position exceeds the minimum plate requirements)	American Welding Society (AWS) or WVDE Welding Certification
7221 Robotics	FAA Part 107 for Drone Specialization	Federal Aviation Administration
7953 Cabling Technology	C-Tech Certification	C-Tech

MARKETING

Wage earning experience required for the career and technical education alternatively certified teacher in Marketing		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7727 Marketing Industry	Fundamental Marketing Concepts	A*S*K Institute

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

<p align="center">Wage earning experience required for the career and technical education alternatively certified teacher in Science, Technology, Engineering and Mathematics</p>		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested. Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
0608 Technology Education		
7441 AC Aerospace Engineering I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7442 AC Aerospace Engineering II		
7443 AC Aerospace Engineering III		
7444 AC Aerospace Engineering IV		
7461 AC Clean Energy I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7462 AC Clean Energy II		
7463 AC Clean Energy III		
7464 AC Clean Energy IV		
7465 AC Energy, Power, and Engineered Systems I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7466 AC Energy, Power, and Engineered Systems II		
7467 AC Energy, Power, and Engineered Systems III		
7468 AC Energy, Power, and Engineered Systems IV		
7445 AC Innovations in Science and Technology I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7446 AC Innovations in Science and Technology II		
7447 AC Innovations in Science and Technology III		
7448 AC Innovations in Science and Technology IV		
7550 Pre-Engineering	Project Lead the Way Certificate	Project Lead the Way College Affiliates

TRANSPORTATION, DISTRIBUTION AND LOGISTICS

Wage earning experience required for the career and technical education alternatively certified teacher in Transportation, Distribution and Logistics		
<p>Wage-Earning Experience – Complete four years (8,000 clock hours) of satisfactory and reasonably continuous work experience in the occupation for which licensure is requested; OR</p> <p>Bachelor’s Degree. – Hold a bachelor’s degree AND complete two years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested; OR</p> <p>Associate Degree. – Hold an Associate Degree in an area related to the specialization AND complete two (2) years (4,000 clock hours) of satisfactory and reasonably continuous work experience in the area for which licensure is requested.</p> <p>Completion of a full year of training from an approved education program in the specialization may count toward a half year of the work experience requirements. Relevant teaching experience may count as equal to work experience requirements.</p>		
WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study	REQUIRED INDUSTRY CREDENTIALS FOR CTE CERTIFICATION	INDUSTRY CREDENTIALING ORGANIZATION/S
7001 Automotive Technology	A8 - Engine Performance A5 - Brakes A6 - Electrical/Electronic Systems A4 – Suspension & Steering	National Institute for Automotive Service Excellence (ASE)
7007 Diesel Equipment Technology	T2 - Diesel Engines T5 - Suspension/Steering T4 - Brakes T6 - Electrical/Electronic Systems T8 - Preventative Maintenance Inspection	National Institute for Automotive Service Excellence (ASE)
7010 Collision Repair	B4 – Structural Analysis & Damage Repair B3 – Non-Structural Analysis & Damage Repair B2 – Painting & Refinishing B5 – Mechanical & Electrical Components	National Institute for Automotive Service Excellence (ASE)
7453 AC Global Logistics and Supply Chain Management I		

7454 AC Global Logistics and Supply Chain Management I		Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7455 AC Global Logistics and Supply Chain Management I		
7456 AC Global Logistics and Supply Chain Management I		
7098 Materials Distribution		
7006 Power Equipment Technology		
7180 Transportation Technology		

¹Exemptions to the Basic Skills Tests are identified in §126-136-10.1.b.3.F.1

²The testing components and scores established for the renewal of a permit are also required for the issuance of a Career/Technical Certificate.

³If a NOCTI test or a national or state certificate or license is not available, content specialization test may be developed or obtained from other sources.

⁴The minimum score for passing the NOCTI test shall be one-half standard deviation below the mean plus the standard error of measurement.

⁵Three years of relevant teaching experience within the last seven years in one or combination of specializations recognized on a valid Out-of-State Career and Technical Education Certificate may be accepted in place of the wage earning experience requirements of this manual.

⁶If continuously employed on a First-Class/Full-Time Permit for Career and Technical Education (CTE), an individual who holds an endorsement no longer included in of this manual, may use the criteria effective at the time of application for the initial First Class/Full-Time permit when applying for permit renewal or initial CTE certification.

TABLE 3 Content Written and Performance Test and Industry Credentials

Endorsement Name	NOCTI	Exam	1 Year to Earn Industry Credential	Industry Credential Required Prior to Being Hired
AGRICULTURE, FOOD AND NATURAL RESOURCES				
7720 Agriculture Industry	X		X	
7410 Forestry			X	
7726 Mining Extraction			X	
7430 Oil/Gas Extraction and Distribution				
7962 Pet Grooming			X	
7964 Environmental Technology and Management				
ARCHITECTURE AND CONSTRUCTION CLUSTER				
7083 Air Conditioning and Refrigeration			X (Expired Credential and Substitute Permit)	X (Certificate and First Class Full Time Permit)
7105 Civil Technology			X	
7030 Electrical Technology				X
7021 Carpentry	X			
7027 Building Maintenance & Operations	X			
7028 General Building Construction (House Construction)	X			
7022 Masonry	X			
7073 Operation/Maintenance-Heavy Equipment	X			
7023 Plumber and Pipefitting				X
ARTS, A/V TECHNOLOGY AND COMMUNICATIONS				
7175 Broadcasting Technology	X			
7012 Commercial Art	X			
7132 Communication Technology	X			
7014 Graphic Arts	X			
7015 Offset Printing	X			
BUSINESS MANAGEMENT & ADMINISTRATION				
7721 Business Management & Administration Industry			X	
FINANCE				
7722 Finance			X	
HEALTH SCIENCE EDUCATION				
7457 AC Health Informatics I			X	
7458 AC Health Informatics II			X	
7459 AC Health Informatics III			X	
7460 AC Health Informatics IV			X	
7048 Health Assistant				X
7042 Nursing Aide				X

Endorsement Name	NOCTI Exam	1 Year to Earn Industry Credential	Industry Credential Required Prior to Being Hired
7403 Veterinary Technician			X
7041 Practical Nursing (LPN)			X
7043 Dental Assistant			X
7171 Dental Lab Technician			X
7724 Health Informatics			X
7045 Medical Assistant			X
7050 Medical Emergency Preparedness			X
7608 Pharmacy Technician			X
7603 Phlebotomist			X
7172 Lab Tech-Medical			X
7614 Foundations of Health Science			X
7606 Respiratory Therapy			X
7607 Surgical Technologist			X
7625 Massage Therapy			X
7615 Health Occupations		X	
7966 Biomedical Science		X	
HOSPITALITY AND TOURISM			
7095 Culinary Arts	X	X	
7315 Lodging, Travel and Tourism	X		
7320 Event Planning and Design Production			
0227 Parks and Recreation Management		X	
7967 Baking and Pastry	X		
HUMAN SERVICES			
7185 Social Services Occupation		X	
7065 Cosmetology			X
7473 Barbering			X
7317 Early Childhood Education	X	X	
7900 Adult (Basic) Education			X
7627 Direct Support Professional		X	
7626 Personal Fitness and Wellness Training		X	
7316 Personal Organizer		X	
7714 Prevention Support Specialist		X	
7728 Nail Technology			X
7723 Hair Styling			X
INFORMATION TECHNOLOGY			
7212 Computer Technology – System		X	
7970 Computer Technology – Application Software		X	
7121 Data Processing Programming			
7134 Electro-Mechanical Technology			
7449 AC Informatics I		X	
7450 AC Informatics II		X	

Endorsement Name	NOCTI Exam	1 Year to Earn Industry Credential	Industry Credential Required Prior to Being Hired
7451 AC Informatics III		X	
7452 AC Informatics IV		X	
7954 Networking			X
7968 Computer Science		X	
LAW AND PUBLIC SAFETY, CORRECTIONS AND SECURITY			
7710 Criminal Justice	X	X	
7040 Emergency Services			X
7060 Industrial Fire Management			X
7050 Medical Emergency Preparedness			X
MANUFACTURING			
7000 Automotive Machining			
7016 Industrial Control Systems			
7164 Computer Integrated Manufacturing			
7131 Electronics Technology		X	
7069 Hydraulics/Pneumatics			
7070 Industrial Equipment Maintenance	X		
7051 Machine Tool Technology		X	
7469 AC Advanced Manufacturing I		X	
7470 AC Advanced Manufacturing II		X	
7471 AC Advanced Manufacturing III		X	
7472 AC Advanced Manufacturing IV		X	
7181 Manufacturing Technology			
7092 Millwork and Cabinet	X		
7052 Welding		X (Substitute Permit)	X (First Class Full Time Permit and Certificate)
7221 Robotics		X	
7953 Cabling Technology		X	
MARKETING			
7727 Marketing Industry		X	
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS			
0608 Technology Education			
7441 AC Aerospace Engineering I		X	
7442 AC Aerospace Engineering II		X	
7443 AC Aerospace Engineering III		X	
7444 AC Aerospace Engineering IV		X	
7461 AC Clean Energy I		X	
7462 AC Clean Energy II		X	
7463 AC Clean Energy III		X	
7464 AC Clean Energy IV		X	
7465 AC Energy Power, and Engineered Systems I		X	

Endorsement Name	NOCTI	Exam	1 Year to Earn Industry Credential	Industry Credential Required Prior to Being Hired
7466 AC Energy Power, and Engineered Systems II			X	
7467 AC Energy Power, and Engineered Systems III			X	
7468 AC Energy Power, and Engineered Systems IV			X	
7445 AC Innovations in Science and Technology I			X	
7446 AC Innovations in Science and Technology II			X	
7447 AC Innovations in Science and Technology III			X	
7448 AC Innovations in Science and Technology IV			X	
7550 Pre-Engineering			X	
TRANSPORTATION, DISTRIBUTION AND LOGISTICS				
7001 Automotive Technology			Expired Credential	X
7007 Diesel Equipment Technology			Expired Credential	X
7010 Collision Repair			Expired Credential	X
7453 AC Global Logistics and Supply Chain Management I			X	
7454 AC Global Logistics and Supply Chain Management I			X	
7455 AC Global Logistics and Supply Chain Management I			X	
7456 AC Global Logistics and Supply Chain Management I			X	
7006 Power Equipment Technology	X			
7960 Commercial Driver's License				X
7180 Transportation Technology			X	

TABLE 3.1 Content Written and Performance Test and Industry Credentials

Section 1

NOCTI exam requirements

AGRICULTURE, FOOD AND NATURAL RESOURCES

WVBE ENDORSEMENTS AND ENDORSEMENT CODES AWARDED FOR CTE Programs of Study
7720 Agriculture Industry, NOCTI #5185 Production Agriculture

ARCHITECTURE AND CONSTRUCTION

7021 Carpentry, NOCTI #5265 -- Carpentry
7027 Building Maintenance & Operations, NOCTI #5264 – Building Trades Maintenance
7028 General Building Construction (House Construction), NOCTI #5263 – Building Construction Occupations
7022 Masonry, NOCTI #5933 Mason/Masonry
7073 Operation/Maintenance-Heavy Equipment, NOCTI #5912 -- Heavy Equipment Maintenance and Repair

ARTS, A/V TECHNOLOGY AND COMMUNICATIONS

7175 Broadcasting Technology, NOCTI #5904 -- Audio-Visual Communications Technology
7012 Commercial Art, NOCTI #5261 —Advertising and Design
7132 Communication Technology, NOCTI #5904 -- Audio-Visual Communications Technology
7014 Graphic Arts, NOCTI #5938 -- Graphic Production Technology
7015 Offset Printing, NOCTI #5938 -- Graphic Production Technology

HOSPITALITY AND TOURISM

7095 Culinary Arts, NOCTI #5167 – Commercial Foods
7315 Lodging, Travel and Tourism, NOCTI #5927 Hospitality Management Lodging – Note: Written NOCTI Only
7967 Baking and Pastry, NOCTI #5918 – Retail Commercial Baking

HUMAN SERVICES

7317 Early Childhood Education, NOCTI #5183 -- Early Childhood Education and Care **Individuals who hold a valid West Virginia Professional Teaching Certificate with an endorsement in 3600 (Elementary Education), 3601 (Early Childhood), 3602 (Primary), 3603 (Early Education), or 3606 (Pre-School Education) are exempt from the NOCTI Exam #5183 (Early Childhood Education and Care

LAW AND PUBLIC SAFETY, CORRECTIONS AND SECURITY

7710 Criminal Justice, NOCTI #5269 – Criminal Justice

MANUFACTURING

7070 Industrial Equipment Maintenance, NOCTI #5174 – Industrial Maintenance Mechanics

7092 Millwork and Cabinet, NOCTI #5905 Cabinetmaking

TRANSPORTATION

7098 Materials Distribution, NOCTI #5914 – Logistics

7006 Power Equipment Technology, NOCTI #5277 – Small Engine Technology

TABLE 3.2 Content Written and Performance Test and Industry Credentials

Section 2

Industry credentials that meet the NOCTI exam requirements
and have 1 year to earn industry credential

LAW AND PUBLIC SAFETY, CORRECTIONS AND SECURITY

7710 Criminal Justice	Must submit the following to the WVDE Program Area Coordinator to become exempt from the required NOCTI- WV State Police Academy Training Certificate of completion AND a notarized V10 indicating 5 or more years of Law Enforcement experience
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TABLE 4: CTE Permanent Advanced Credentials

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
7969 Coding, App, and Game Design	Hold a Career and Technical Education Certificate or a Professional Teaching Certificate endorsed for one, at a minimum, of the following: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 0605 Business Education including Business Math 0608 Technology Education 1900 Mathematics 7212 Computer Technology – Systems 7970 Computer Technology – Application Software 7954 Networking	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
0560 Business Education	Hold a valid West Virginia Professional Certificate endorsed at a minimum for one of the following: 0710 Marketing Education or 0700 Distributive Education.	Successful completion of fifteen (15) clock hours of professional development approved by the WVDE, and successful completion of assignments related to Business Education programs offered by the WVDE.
0561 Marketing Education	Hold a valid West Virginia Professional Certificate;	Successful completion of fifteen (15) clock hours of

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	<p>endorsed for one, at a minimum, of the following: 0400 Business Principles; 0419 Business Principles including Business Mathematics; 0500 Secretarial Studies or Occupation Commerce; 0519 Secretarial Studies including Business Mathematics; 0600 Business Education; 0605 Business Education including Business Math; or 0700 Distributive Education.</p>	<p>WVDE-approved professional development and successful completion of assignments related to Marketing Education programs offered by the WVDE.</p>
<p>7702 Coordinator of Career and Work Skills Training</p>	<p>Career and Technical Education Certificate or a Professional Teaching Certificate endorsed for a specialization in engineering technical, human services, agriculture, food and natural resources, health science education, marketing education or business education.</p>	<p>Complete a minimum of one year (2,000 clock hours) of related wage earning experience in a non-teaching position.</p>
<p>7707 Careers in Education</p>	<p>Valid Certificate. Hold a Career and Technical Education Certificate or a Professional Teaching Certificate for appropriate grade level.</p>	<p>Complete professional development and/or coursework related to Careers in Education training programs in Career and Technical Education as specified by the WVDE.</p>
<p>7703 ORACLE</p>	<p>Hold a Career and Technical Education Certificate or a Professional Teaching Certificate.</p>	<p>Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.</p>
<p>7704 Certified Internet Webmaster</p>	<p>Hold a Career and Technical Education Certificate or a Professional Teaching Certificate.</p>	<p>Complete professional development and/or WVDE-approved coursework related to</p>

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
		Career and Technical Education.
7705 Gateway	Hold a Career and Technical Education Certificate or a Professional Teaching Certificate.	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7441 AC Aerospace Engineering I	Hold a teaching certification in one of the following areas: 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 2500 Physics 2910 Earth/Space Science 2710 Chemistry/Physics 7550 Pre-Engineering	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7442 AC Aerospace Engineering II	Hold a teaching certification in one of the following areas: 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 2500 Physics 2910 Earth/Space Science 2710 Chemistry/Physics 7550 Pre-Engineering	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7443 AC Aerospace Engineering III	Hold a teaching certification in one of the following areas: 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 2500 Physics 2910 Earth/Space Science 2710 Chemistry/Physics 7550 Pre-Engineering	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7444 AC Aerospace Engineering IV	Hold a teaching certification in one of the following areas: 0608 Technology Education 1800 Industrial Arts 1801 General Shop	Complete professional development and/or WVDE-approved coursework related to

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	1802 Technical Education 2500 Physics 2910 Earth/Space Science 2710 Chemistry/Physics 7550 Pre-Engineering	Career and Technical Education.
7445 AC Innovations in Science and Technology I	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7446 AC Innovations in Science and Technology II	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
7447 AC Innovations in Science and Technology III	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7448 AC Innovations in Science and Technology IV	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7449 AC Informatics I	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 0608 Technology Education 7037 Industrial Electronics 7121 Data Processing Programming] 7212 Computer Technology	
7450 AC Informatics II	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 0608 Technology Education 7037 Industrial Electronics 7121 Data Processing Programming] 7212 Computer Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7451 AC Informatics III	Hold a teaching certification in one of the following areas: 0400 Business Principles	Complete professional development and/or WVDE-approved coursework related to

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 0608 Technology Education 7037 Industrial Electronics 7121 Data Processing Programming] 7212 Computer Technology	Career and Technical Education.
7452 AC Informatics IV	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 0608 Technology Education 7037 Industrial Electronics 7121 Data Processing Programming] 7212 Computer Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7453 AC Global Logistics and Supply Chain Management I	Hold a teaching certification in one of the following areas:	Complete professional development and/or

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	7098 Materials Distribution 7180 Transportation Technology	WVDE-approved coursework related to Career and Technical Education.
7454 AC Global Logistics and Supply Chain Management II	Hold a teaching certification in one of the following areas: 7098 Materials Distribution 7180 Transportation Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7455 AC Global Logistics and Supply Chain Management III	Hold a teaching certification in one of the following areas: 7098 Materials Distribution 7180 Transportation Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7456 AC Global Logistics and Supply Chain Management IV	Hold a teaching certification in one of the following areas: 7098 Materials Distribution 7180 Transportation Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7457 AC Health Informatics I	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 7212 Computer Technology 7604 Medical Transcription 7610 Medical Records	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
7458 AC Health Informatics II	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 7212 Computer Technology 7604 Medical Transcription 7610 Medical Records	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7459 AC Health Informatics III	Hold a teaching certification in one of the following areas: 0400 Business Principles 0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 7212 Computer Technology 7604 Medical Transcription 7610 Medical Records	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7460 AC Health Informatics IV	Hold a teaching certification in one of the following areas: 0400 Business Principles	Complete professional development and/or WVDE-approved

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	0419 Business Principles including Business Mathematics 0500 Secretarial Studies or Occupation Commerce 0519 Secretarial Studies including Business Mathematics 0560 Business Education Specialist 0561 Marketing Education Specialist 0600 Business Education 0603 Business Education/Marketing 7212 Computer Technology 7604 Medical Transcription 7610 Medical Records	coursework related to Career and Technical Education.
7461 AC Clean Energy I	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7083 Air Condition and Refrigeration 7131 Electronics Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
7462 AC Clean Energy II	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7083 Air Condition and Refrigeration 7131 Electronics Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7463 AC Clean Energy III	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7083 Air Condition and Refrigeration 7131 Electronics Technology	
7464 AC Clean Energy IV	Hold a teaching certification in one of the following areas: 2500 Physics 2600 Biological Sciences 2700 Chemistry 2705 Chemistry through Chemistry I 2710 Chemistry/Physics 2800 Physical Science 2900 General Science 2910 Earth/Space Science 2915 General/Physical Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7083 Air Condition and Refrigeration 7131 Electronics Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7465 AC Energy Power and Engineered Systems I	Hold a teaching certification in one of the following areas: 2500 Physics 2710 Chemistry/Physics 2900 General Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	7031 Industrial Electricity 7035 General Electrical Occupations 7131 Electronics Technology	
7466 AC Energy Power and Engineered Systems II	Hold a teaching certification in one of the following areas: 2500 Physics 2710 Chemistry/Physics 2900 General Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7131 Electronics Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7467 AC Energy Power and Engineered Systems III	Hold a teaching certification in one of the following areas: 2500 Physics 2710 Chemistry/Physics 2900 General Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts 1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7131 Electronics Technology	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.
7468 AC Energy Power and Engineered Systems IV	Hold a teaching certification in one of the following areas: 2500 Physics 2710 Chemistry/Physics 2900 General Science 1900 Mathematics 1905 Math Through Algebra I 0608 Technology Education 1800 Industrial Arts	Complete professional development and/or WVDE-approved coursework related to Career and Technical Education.

WVBE ADVANCED CREDENTIAL AND CODE AWARDED FOR CTE Programs of Study	CERTIFICATE REQUIREMENTS	PROFESSIONAL DEVELOPMENT/ COURSE WORK
	1801 General Shop 1802 Technical Education 7030 Electrical Technology 7031 Industrial Electricity 7035 General Electrical Occupations 7131 Electronics Technology	

**TABLE 5: Adult Permit (Part Time)
Endorsed for Areas of Career and Technical Education:**

WVBE ADULT PART TIME PERMIT	PART TIME ADULT PROGRAM	CERTIFICATE REQUIREMENTS	INDUSTRY CREDENTIALING ORGANIZATION/S
7041 Practical Nursing	Practical Nursing Part-Time Instructor	Wage earning experience. - four years with a high school diploma or equivalent, two years with a related bachelor's degree or two years with a related associate's degree. AND Valid West Virginia license as a registered nurse	West Virginia Board of Examiners for Registered Nurses
7042 Nursing Aide	HE 0761 Certified Nursing Assistant	Wage earning experience. - two years with a related bachelor's degree or two years with a related associate's degree. The identified wage earning experience must include 1 year, (2,000 clock hours) of long term care experience within the identified wage earning experience. AND Valid West Virginia License as Registered Nurse (RN)	West Virginia Board of Examiners for Registered Professional Nurses
7603 Phlebotomist	HE 0773 Phlebotomy Technician	Complete two years (4,000 clock hours) of wage earning experience as a certified phlebotomy technician, as a registered supportive personnel who works under the direct supervision of a medical lab assistant or director. AND Valid Certified Phlebotomy certification	American Society of Phlebotomy (ASPT) National Health Career Association or American Medical Technologist Association (AMTA)
7611 EKG Technician	HE 0810 Electrocardiograph Technician	Complete two years (4,000 clock hours) of wage earning experience as a certified as a Electrocardiograph Technician, as a registered supportive personnel who	Hold a valid certificate or license from the appropriate state and/or national organization or agency, when applicable

WVBE ADULT PART TIME PERMIT	PART TIME ADULT PROGRAM	CERTIFICATE REQUIREMENTS	INDUSTRY CREDENTIALING ORGANIZATION/S
		works who works in a clinic, hospital, emergency services or other health care facility.	
7960 Commercial Driver's License	TR 2170 Truck Driver Training	Wage earning experience. - four years with a high school diploma or equivalent, two years with a bachelor's or two years with an associate's degree. AND Commercial Driver's License (CDL) License	West Virginia Department of Transportation, Division of Motor Vehicles
7440 Business Prep	BM1400 Business Prep Any Business Education course listed in the adult programs of study	Wage-Earning Experience. – Complete three years (6,000 clock hours) of successful wage-earning experience in the occupation for which licensure is requested	None
7953 Cabling Technology	MA 2165 Cabling Technology	Wage earning experience. - four years with a high school diploma or equivalent, two years with a bachelor's or two years with an associate's degree. AND C-Tech Certification	C-Tech

EMS and Fire Service Endorsements:

7047 Emergency Medical Services	EMS (Public Service Training)	License. – Hold a current WV EMT, WV Paramedic Certification, or National Registry EMT or Paramedic license; AND Complete four years of recent volunteer or paid work experience, which may include emergency room or emergency medical care, beyond the training period in the occupation to be taught; AND Score a minimum of	WV Department of Health and Human Resources, Bureau of Public Health, Office of Emergency Medical Services or American Red Cross or American Heart Association or American Safety & Health Institute or Emergency Care & Safety Institute or
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		85% on WVDE approved examination; AND Hold current CPR instructor certification; And Complete an approved instructor course; AND Successfully complete the EMT field-based experience.	National Safety Council
7087 Fire Service Training	Fire Service Training (Public Service Training)	Complete four years of volunteer or paid work experience in the field of fire service; AND Complete an approved instructor training program and successfully complete the field-based experience in fire instructor training and provide verification from the RESA Public Service Coordinator of completion of required training in firefighting, hazardous materials, CPR and First Aid; AND Score a minimum of 85% on a WVDE approved examination.	American Red Cross or American Heart Association or American Safety & Health Institute or Emergency Care & Safety Institute or National Safety Council WV Fire Commission