

126CSR44M

**TITLE 126
LEGISLATIVE RULE
BOARD OF EDUCATION**

**SERIES 44M
WEST VIRGINIA COLLEGE- AND CAREER-READINESS PROGRAMS OF STUDY/STANDARDS
FOR CAREER AND TECHNICAL EDUCATION (2520.13)**

§126-44M-1. General.

1.1. Scope. -- W. Va. 126CSR42, West Virginia Board of Education (hereinafter WVBE) Policy 2510, Assuring the Quality of Education, Regulations for Education Programs (hereafter Policy 2510), provides a definition of a delivery system for, and an assessment and accountability system for, a thorough and efficient education for West Virginia public school students. W. Va. 126CSR44M, WVBE Policy 2520.13, West Virginia College- and Career-Readiness Programs of Study/Standards for Career and Technical Education (hereafter Policy 2520.13) defines the college- and career-readiness programs of study/standards for career and technical education (hereafter CTE) as required by Policy 2510.

1.2. Authority. -- W. Va. Constitution, Article XII, §2, W. Va. Code §§18-2-5, 18-6-1, et seq., and 18-9A-22.

1.3. Filing Date. -- November 10, 2016.

1.4. Effective Date. -- December 12, 2016.

1.5. Repeal of Former Rule. -- This legislative rule repeals and replaces W. Va. 126CSR44M, WVBE Policy 2520.13, Common Core Content Standards for Career and Technical Education in West Virginia Schools, filed February 13, 2015 and effective March 16, 2015.

§126-44M-2. Purpose.

2.1. This policy defines the West Virginia college- and career-readiness programs of study/content standards for the programs of study required by Policy 2510. Standards were revised to: 1) include Simulated Workplace protocols; 2) add standards to each program of study for students participating in a co-curricular career technical student organization; 3) add programs of study and clarify required courses for each program of study; 4) add and clarify definitions and acronyms; and, 5) align West Virginia Education Information System (hereafter WVEIS) prefixes for each cluster CTE programmatic change.

§126-44M-3. Incorporation by Reference.

3.1. A copy of the West Virginia College- and Career-Readiness Programs of Study/Standards for Career and Technical Education in West Virginia Schools is attached and incorporated by reference into this policy. Copies of Policy 2520.13 may be obtained in the Office of the Secretary of State and in the West Virginia Department of Education's Division of Career Technical Education.

§126-44M-4. Summary of the West Virginia College- and Career-Readiness Programs of Study/Content Standards for Career and Technical Education.

4.1. The WVBE has the responsibility for establishing high quality standards pertaining to all educational programs (W. Va. Code §18-9A-22). The West Virginia college-and career-readiness programs of study/content skill sets provide a focus for teachers to teach and students to learn those skills and competencies essential for future success in the workplace and further education. The document includes Career Ready Practices; West Virginia college-and career-readiness programs of study/content standards by Career Cluster and Pathway; Simulated Workplace protocols; standards for participation in a co-curricular career technical student organization; changes student performance measures; definitions and acronyms; WVEIS prefixes for each cluster; and a foreword detailing the developmental processes for the West Virginia college- and career-readiness programs of study/standards as found on the West Virginia Department of Education (hereafter WVDE) CTE website.

§126-44M-5. Severability.

5.1. If any provision of this rule or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this rule.

West Virginia Department of Education

West Virginia Board of Education
Policy 2520.13,

*West Virginia College- and Career-Readiness
Programs of Study/Standards for
Career and Technical Education*

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Introduction

West Virginia College- and Career-Readiness Programs of Study/Standards for Career and Technical Education have been developed with the goal of preparing students for a wide range of high-quality post-secondary opportunities within a Simulated Workplace environment. Specifically, college- and career-readiness refers to the knowledge, skills and dispositions needed to be successful in obtaining an entry-level job, continued training in a specific craft and/or higher education that all lead to gainful employment. The West Virginia College- and Career-Readiness Programs of Study/Standards for Career and Technical Education establish a set of knowledge and skills that all individuals need to transition into the workplace or higher education, as both realms share many expectations. All students throughout their educational experience, should develop a full understanding of the career opportunities available, the education necessary to be successful in their chosen pathway and a plan to attain their goals.

West Virginia College- and Career-Readiness Programs of Study/Standards for Career and Technical Education are organized around two major components of a standards based curriculum: knowledge objectives and performance objectives. The knowledge objectives are broad based descriptions of what all students must know and the performance objectives specify what the students will be able to do at the conclusion of the instructional sequence. Students will develop problem solving and critical thinking skills independently and collaboratively as they engage in these two major components. College- and Career-Readiness Programs of Study/Standards are supported in all Career and Technical Education pathways allowing students to acquire and further develop their abilities to be critical thinkers and problem solvers as they continue their educational journey.

Committees of educators and representatives from business and industry from across West Virginia were convened to revise the specific content skill sets standards and objectives for each CTE program of study. The overarching goal was to build a rigorous, dynamic and challenging career and technical education curriculum that would prepare students for the 21st century. The committees focused their efforts in shaping the content skill sets standards to align with industry standards, industry-recognized credentials, research and best practice in the field of career and technical education. The contribution of these professionals was critical in creating content skill sets standards that further define the College- and Career-Readiness Programs of Study/Standards and are meaningful to classroom teachers.

Policy 2520.13 is organized around 12 Career Ready Practices that educators should seek to develop in all students; the College- and Career-Readiness Programs of Study/Standards are organized around the 16 National Career Clusters and supporting Career Pathways.

The use of the College- and Career-Readiness Programs of Study/Standards will assure the delivery of a rigorous and relevant career and technical education curriculum to all West Virginia students within a Simulated Workplace environment. These elements, when used to guide the instructional process and when delivered with the creativity and instructional expertise of West Virginia teachers, will become a powerful resource for preparing students to meet the challenges of the 21st century.

Career and Technical Education – Alpha Listing of State-Approved Programs of Study, Clusters and Pathways

Program of Study	Cluster #	Cluster	Pathway	Page #
Accounting	BM1410	Business Management and Administration	Business Finance and Accounting	31
Advanced Manufacturing (Advanced Career)	MA2235	Manufacturing	Manufacturing Production Process Development	65
Aerospace Engineering (Advanced Career)	ST2200	Science, Technology, Engineering and Math	Engineering & Technology	68
Aesthetics	HU2315	Human Services	Personal Care Services	53
Agribusiness Systems	AG0120	Agriculture, Food and Natural Resources	Agribusiness Systems	14
Allied Health	HE0715	Health Science	Therapeutic Services	41
Animal Processing	AG0230	Agriculture, Food and Natural Resources	Food Products & Processing Systems	18
Animal Systems	AG0220	Agriculture, Food and Natural Resources	Animal Systems	15
Automotive Technology	TR1620	Transportation, Distribution and Logistics	Facility & Mobile Equipment Maintenance	70
Baking and Pastry	HO1015	Hospitality and Tourism	Restaurants & Food/ Beverage Services	44
Barbering	HU2305	Human Services	Personal Care Services	54
Barbering Apprenticeship	HU2050	Human Services	Personal Care Services	54
Biomedical Science (PLTW)	HE0780	Health Science	Biotechnology Research & Development	35
Broadcast Journalism	AV1682	Arts, A/V Technology and Communications	Journalism & Broadcasting	26
Broadcasting Technology	AV1680	Arts, A/V Technology and Communications	Journalism & Broadcasting	27
Building Maintenance and Operations	AR1800	Architecture and Construction	Maintenance/Operations	25
Business Finance	FI1430	Finance	Business Finance	33
Career and Work Skills Training (CWST)	BM0510	Business Management and Administration	Administrative Support	29
Career Integrated Experiential Learning (CIEL)	WV5501	West Virginia Specific Career	Career Integrated Experiential Learning	73
Careers in Education	ED1300	Education and Training	Teaching/Training	32

Carpentry	AR1820	Architecture and Construction	Construction	23
CASE Animal Science	AG0221	Agriculture, Food and Natural Resources	Animal Systems	16
CASE Plant Science	AG0215	Agriculture, Food and Natural Resources	Plant Systems	21
Chemical Energy and Mechanical Technologies	AG2185	Agriculture, Food and Natural Resources	Natural Resources Systems	19
Cisco Networking Academies	IT1640	Information Technology	Network Systems	59
Clean Energy (Advanced Career)	ST2225	Science, Technology, Engineering and Math	Engineering & Technology	69
Coding, App and Game Design	IT1442	Information Technology	Interactive Media	57
Collision Repair Technology	TR1670	Transportation, Distribution and Logistics	Facility & Mobile Equipment Maintenance	71
Computer Science (Project Lead the Way)	IT2215	Information Technology	Computer Programming & Software Development	56
Computer Systems Repair Technology	IT1680	Information Technology	Network Systems	59
Diagnostics Services	HE0718	Health Science	Diagnostic Services	36
Diesel Equipment Technology	TR1740	Transportation, Distribution and Logistics	Facility & Mobile Equipment Maintenance	71
Drafting	AR1720	Architecture and Construction	Design/Pre-construction	25
Early Childhood Education	HU1000	Human Services	Early Childhood Development & Services	50
Electrical Technician	AR1760	Architecture and Construction	Construction	24
Electronics Technician	MA1780	Manufacturing	Maintenance, Installation, & Repair	64
Emergency and Firefighting Management Services	LA2200	Law, Public Safety, Corrections and Security	Emergency and Firefighting Management Services	60
Energy, Power and Engineered Systems (Advanced Careers)	ST2175	Science, Technology, Engineering and Math	Engineering & Technology	69
Environmental Technology and Management	AG2190	Agriculture, Food and Natural Resources	Natural Resources Systems	19
Food Science and Nutrition	HE1215	Health Science	Support Services	38
Forest Industry	AG0130	Agriculture, Food and Natural Resources	Natural Resources Systems	19
Foundational CTE Courses				76

Global Logistics and Supply Chain Management (Advance Career)	TR2215	Transportation, Distribution and Logistics	Transportation Systems / Infrastructure Planning, Management & Regulation	72
Graphic Communications	AV1830	Arts, A/V Technology and Communications	Printing Technology	27
Graphic Design	AV1850	Arts, A/V Technology and Communications	Visual Arts	28
Hair Stylist	HU2310	Human Services	Personal Care Services	55
Health and Safety Leadership	HU2320	Human Services	Family & Community Services	51
Health Informatics (Advanced Career)	HE2220	Health Science	Health Informatics	38
Health Informatics	HE0742	Health Science	Health Informatics	37
Hospitality and Tourism	HO1210	Hospitality and Tourism	Travel & Tourism	45
HVAC Technician	AR1600	Architecture and Construction	Maintenance/Operations	26
Individual Work Readiness Certificate (IWRC)	WV5502	West Virginia Specific Career	Individual Work Readiness Certificate	74
Industrial Equipment Maintenance	MA1870	Manufacturing	Maintenance, Installation, & Repair	64
Informatics (Advanced Career)	IT2210	Information Technology	Information Support & Services	57
Information Management/Microsoft Computer Applications Specialist	IT1450	Information Technology	Interactive Media	58
Innovations in Science and Technology (Advanced Career)	ST2205	Science, Technology, Engineering and Math	Engineering & Technology	69
JROTC	GO1070	Government and Public Administration	National Security	34
Law and Public Safety	LA1020	Law, Public Safety, Corrections and Security	Law Enforcement Services	62
Machine Tool Technology	MA1900	Manufacturing	Production	66
Management and Administrative Support	BM1465	Business Management and Administration	Administrative Support	29
Marketing Management	MK0420	Marketing	Marketing Management	67
Masonry	AR1910	Architecture and Construction	Construction	24
Metals Technology	MA2110	Manufacturing	Production	66
Millwork and Cabinetmaking	MA2120	Manufacturing	Production	66
Multimedia Publishing	AV1684	Arts, A/V Technology and Communications	Journalism & Broadcasting	27

Nail Technology	HU2055	Human Services	Personal Care Services	55
Natural Resources Management	AG0170	Agriculture, Food and Natural Resources	Natural Resources Systems	20
Paralegal Assistant	LA1490	Law, Public Safety, Corrections and Security	Legal Services	63
Personal Fitness and Wellness Training	HE1095	Health Science	Support Services	39
Pet Grooming	AG0223	Agriculture, Food and Natural Resources	Animal Systems	16
Plant Systems	AG0210	Agriculture, Food and Natural Resources	Plant Systems	20
Plumbing	AR2140	Architecture and Construction	Construction	24
Power Equipment Systems	TR1960	Transportation, Distribution and Logistics	Facility & Mobile Equipment Maintenance	71
Power, Structural and Technical Systems	AG0110	Agriculture, Food and Natural Resources	Power, Structural & Technical Systems	22
Pre-Engineering – Project Lead the Way	ST2460	Science, Technology, Engineering and Math	Engineering & Technology	69
Prevention Support Specialist	HU1015	Human Services	Counseling & Mental Health Services	47
ProStart Restaurant Management	HO1010	Hospitality and Tourism	Restaurants & Food/ Beverage Services	44
Rehabilitation Specialist	HU1080	Human Services	Family & Community Services	51
Robotics	MA1630	Manufacturing	Manufacturing Production Process Development	65
Social Services Assistant	HU1025	Human Services	Family & Community Services	51
STEM	ST1790	Science, Technology, Engineering and Math	Engineering & Technology	70
Support Services	HE0728	Health Science	Support Services	39
Taxidermy	AG0224	Agriculture, Food and Natural Resources	Animal Systems	16
Therapeutic Services	HE0723	Health Science	Therapeutic Services	42
Transportation Technology	TR1625	Transportation, Distribution and Logistics	Transportation Systems / Infrastructure Planning, Management & Regulation	72
Turf and Landscape Systems	AG0214	Agriculture, Food and Natural Resources	Plant Systems	21
Virtual Accounting	BM1410	Business Management and Administration	Business Finance and Accounting	31
Virtual Animal Science	AG0222	Agriculture, Food and Natural Resources	Animal Systems	17

Virtual Childcare	HU2322	Human Services	Family & Community Services	51
Virtual Counseling and Mental Health	HU2323	Human Services	Counseling & Mental Health Services	47
Virtual Criminology	LA1021	Law, Public Safety, Corrections and Security	Law Enforcement Services	62
Virtual Family Services	HU2321	Human Services	Family & Community Services	52
Virtual Health and Safety Leadership	HU2320	Human Services	Family & Community Services	52
Virtual Management and Administrative Support	BM1465	Business Management and Administration	Administrative Support	30
Virtual Personal fitness and Wellness Training	HE1095	Health Science	Support Services	40
Virtual Prevention Support Specialist	HU1015	Human Services	Counseling & Mental Health Services	48
Virtual Simulation and Game Development	IT1445	Information Technology	Interactive Media	58
Virtual Support Services	HE0728	Health Science	Support Services	40
Virtual Wellness Coaching	HU1016	Human Services	Counseling & Mental Health Services	49
Welding	MA1980	Manufacturing	Production	66

Explanation of Terms

Advisory Councils are required by the Carl D. Perkins Act and are charged with advising the WVDE and local CTE programs of study on the development, administration, and evaluation of policies and programs relating to career and technical education. The Advisory Council is comprised of high-level contacts and volunteers from business and industry, labor, postsecondary education, the non-profit sector and students. Advisory Council meetings are required to take place a minimum of two times during the school year.

Approved CTE Curriculum List identifies the state-approved programs for individual schools as required by the Carl D. Perkins Act.

Career and Technical Education (CTE) Schools must provide students access to programs in a minimum of six (6) of the 16 approved WV Career Clusters.

Career Technical Standards is a set of rigorous, high quality standards that define what students should know and be able to do after completing instruction in a related CTE program.

Career Ready Practices describe the career ready skills that educators should seek to develop in all students. These practices are not exclusive to a Career pathway, CTE program or course. Career ready practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

Career Clusters are broad groupings of related careers as defined by the United States Department of Education and United States Department of Labor – Occupational Classification.

Career Integrated Experiential Learning (CIEL) a CTE program of study that provides opportunities for students to test for multiple nationally recognized certifications while earning credit for relevant job-readiness skills. CIEL can only be initiated at the Office of Institutional Education schools. CIEL credits will transfer to the receiving high school allowing for the continued enrollment for graduation credit.

Career Pathways are subcategories of closely related careers under each of the 16 Career Clusters.

Career Technical Student Organization (CTSO) are CTE organizations primarily based in high schools, comprehensive high schools and career technology centers. CTSOs are integrated into programs of study as co-curricular activities and designated as non-profit organizations. CTSOs are authorized by the U.S. Congress in the Carl D. Perkins Career and Technical Education Act.

Certification is a designation earned by a person to assure qualification to perform a particular job or task and is approved by a recognized credentialing agency.

Civil Rights Pursuant to the Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, Sex, and Handicap in Vocational Education Programs (34 C.F.R. Part 100, Appendix B) (Guidelines), state career and technical education (CTE) agencies (formerly referred to as vocational education agencies) are required to conduct civil rights compliance reviews of selected sub recipients, and to report these compliance activities periodically to the Office for Civil Rights (OCR), U.S. Department of Education. OCR's September 1996 Memorandum of Procedures, developed in partnership with state CTE agencies, requires state agencies to conduct on-site compliance reviews of 2.5 percent of their sub recipients each year, and to report to OCR biennially. In a December 1998 "Dear Colleague" letter to all MOA Coordinators, which was also developed in partnership with state CTE agencies, OCR provided additional instructions to state agencies about the format and content of the biennial reports.

CTE Completer is a student who completes a state-approved sequence of courses on a specific career pathway that provides a minimum of the four required program of study credits in a career and technical education program of study.

CTE Elective Courses are state-approved courses, which provide enhanced opportunities to build upon the required four core courses and functions to meet student needs, interests, abilities and goals. CTE Electives also respond to actual or anticipated opportunities for employment, advanced education and practical life application.

CTE Participant is a student who takes a minimum of one state-approved CTE required, elective, or foundation course in a CTE cluster/pathway program of study.

CTE Portfolio a collection of personal documents, which showcase an individual's learning experiences, goals and achievements. Student portfolios are created and controlled by the student, facilitated by the instructor, and evaluated by outside entities.

CTE Concentrations Programs are the West Virginia approved instructional offerings that align with the National Career Pathways.

Dual CTE Completer is a student who completes the required state-approved sequence of four courses within more than one career and technical education program of study.

Earn a Degree-Graduate Early (EDGE) provides students the opportunity to earn community and technical college credit free-of-charge for the duplicated secondary and post-secondary courses that are identified during a curriculum alignment process, i.e., Welding 1 (secondary CTE) for Welding 1 taught at a community and technical college.

Federal Perkins Accountability Measures are the outlined provisions within the Carl D. Perkins Career and Technical Education Act. These provisions are the state-approved levels of performance, which incorporate: 1) Academic attainment on state-approved

assessment; 2) Technical skill attainment; 3) Program of study completion; 4) Graduation rate; 5) Job placement In Field, Continuing Education or Military; 6) Non-traditional participation; 7) Non-traditional completion.

Foundational CTE Course is a non-occupational CTE course offering approved by WVDE.

Individual Work Readiness Certificate (IWRC) provides students with mild learning deficits the opportunity to gain valuable work readiness and occupation specific skills through a CTE program of study. Students who earn the **IWRC** demonstrate the necessary skill sets for entry level support jobs in a specific occupational area.

Internship is an experience that allows students the opportunity to merge and apply the knowledge from their CTE coursework into a meaningful and relevant on-the-job experience. The internship should immerse the student into a learning environment outside of the regular school environment. The outside environment must be agreed upon by the county, school, teacher, student and parent/guardian. An outline of goals and outcomes to be achieved by the student should be developed and signed off on by the teacher, student and parent/guardian. The goals and outcomes must align directly to the CTE curriculum skill sets and be able to illustrate how they will be able to assist the student in furthering his/her education and/or entering the workforce. Through working with an adult mentor at the worksite, students should have the opportunity to develop a foundation of general workplace skills and to acquire information and skills in their chosen career cluster/pathway. Students will develop materials to supplement their CTE portfolios.

Local CTE Program of Study is a locally approved sequence of four CTE courses which align to a CTE cluster and pathway impacts a local economic labor market need as verified by local advisory council and leads to an industry-recognized credential or certificate or opportunity for continuing into postsecondary level education.

National Center for Construction Education and Research (NCCER) standardized construction and maintenance curricula and assessments with portable credentials.

Safety Assessment A program instructor developed and administered general and equipment specific safety exam. The general safety exam covers generalities across the spectrum for each program and is a written exam. The equipment specific exam has both a written and performance component for each piece of equipment to which the student has access. EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.

Simulated Workplace is an instructional strategy that creates high quality business and industry learning environments providing students opportunities to earn industrial state and national certifications.

State-Approved CTE Program of Study is an approved sequence of four CTE courses which align to a CTE cluster and pathway impacts state economic labor market needs as verified by Workforce data and leads to an industry-recognized credential or certificate or opportunity for continuing into postsecondary level education.

Technical Assessment is a measure of student attainment of career-related technical skills.

West Virginia Education Information System (WVEIS) was created in 1990 by the state of West Virginia to ensure standardized data collection and reporting to the West Virginia Department of Education.

Work-Based Integration and Transition is a course designed to give students the opportunity to integrate theory and practice by interacting with industry professionals. Students will study various requirements for employability including ethics, communication, teamwork and professionalism. Students will participate in hands-on, digital or work-based experiences related to industry settings in order to practice skill sets and to transition from student to employee. A supervised project will be developed in one or more of the following categories: Entrepreneurship (ownership or operation of a business); Placement (employment or internship); Research and Experimentation (planning and/or conducting a scientific experiment); Exploration (exploration of related careers through activities such as shadowing employees in various work settings, conducting on-line research, attending professional development activities, etc.). Students will develop materials to supplement their CTE portfolios.

Virtual Program E-Learning/Distance Learning courses available to assure consistent, high quality education for the students of West Virginia through courses delivered via technology that promotes efficacy and equity in course offerings and provide options for implementation across the public school system. These programs help bridge the barriers of time, distance and inequities for all West Virginia students by providing access to resources that are either not offered in the local schools, or where scheduling conflicts will allow completion of a required course virtually.

WV Welcome is a guest service course designed to improve the quality of service that all guests of the mountain state receive. West Virginia Welcome provides common sense, proactive training that gives participants the skills necessary to deliver exemplary service to all of the state's visitors and citizens. The training is delivered in a two hour classroom setting without cost. A free and online version of the training is also available and takes about an hour to complete. Both versions award a printed certificate to those passing a short test. West Virginia Welcome is a collaboration between WVU's Hospitality and Tourism Program; West Virginia Department of Education's HEAT program; the West Virginia Hospitality and Travel Association; and the WVU Extension Service.

Career Ready Practices

Career Ready Practices describe the career-ready skills that educators should seek to develop in all students. These practices are not exclusive to a Career Pathway, CTE Program or Course. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

1. Act as a responsible and contributing citizen and employee.

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

2. Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

3. Attend to personal health and financial well-being.

Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.

4. Communicate clearly, effectively and with reason.

Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/ or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice and organization and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

5. Consider the environmental, social and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organizations and the environment. They are aware of and utilize new

technologies, understandings, procedures, materials and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and profitability of the organization.

6. Demonstrate creativity and innovation.

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

7. Employ valid and reliable research strategies.

Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use a reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices. They use an informed process to test new ideas, information and practices in their workplace situation.

8. Utilize critical thinking to make sense of problems and persevere in solving them.

Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem. They thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

9. Model integrity, ethical leadership and effective management.

Career-ready individuals consistently act in ways that align to personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they apply insights into human behavior to change others' actions, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morale and organizational culture.

10. Plan education and career path aligned to personal goals.

Career-ready individuals take personal ownership of their own educational and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the educational and experiential process, and they

recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors and other experts to assist in the planning and execution of career and personal goals.

11. Use technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks -- personal and organizational -- of technology applications, and they take actions to prevent or mitigate these risks.

12. Work productively in teams while using cultural/global competence.

Career-ready individuals positively contribute to every team whether formal or informal. They apply an awareness of cultural differences to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

Simulated Workplace

All state-approved CTE programs require a classroom shift to a workplace environment for students enrolled in the 3rd and 4th required program courses. All Simulated Workplace protocols must be implemented:

- Student Led Companies
- Application/Interview Structure
- Formal Attendance System
- Drug Free Work Zone
- 5S Environments
- Safe Work Areas
- Work Place Teams
- Project-Based Learning/Student Engagement
- Company Name and Handbook
- Company Meetings
- Onsite Business Reviews
- Accountability (data review, report, and technical assessments)

College- and Career-Readiness Programs of Study/Standards

The Career Technical Standards includes a set of broad standards for each of the 16 Career Clusters and their corresponding Career Pathways that define what students should know and be able to do after completing instruction in a CTE program of study. All of the West Virginia, state approved CTE programs fall under one of the 16 Career Pathways. Guidelines to assist teachers in designing instruction that leads to student proficiency in the technical core areas can be accessed on the WVDE/CTE website.

Agriculture, Food & Natural Resources Career Cluster™ (AG)

Agribusiness Systems Career Pathway Standards

1. Apply management planning principles in AFNR businesses.
2. Use record keeping to accomplish AFNR business objectives, manage budgets, and comply with laws and regulations.
3. Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles.
4. Develop a business plan for an AFNR business.
5. Use sales and marketing principles to accomplish AFNR business objectives.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0120 Agribusiness Systems	0101 Introduction to Agriculture, Food and Natural Resources 0102 The Science of Agriculture *0134 - Agricultural Experience Program (+ Specialization)	<i>(Must select one):</i> 0183 - Forest Management - A 0212 - Horticulture - B 0136 - Advanced Principles of Agriculture - C 0140 - Animal Production and Management - D 0112 - Fundamentals of Agriculture Mechanics - E 0139 - Fundamentals of Animal Processing - F 0200 - Natural Resource Management - G 0132 - Agricultural Biotechnology - H 0110 - Agriculture Entrepreneurship - I 0111 - Food Science Technology - J	West Virginia Department of Agriculture Agribusiness Systems Certification West Virginia Department of Agriculture Pesticide Applicator West Virginia Department of Agriculture Food Safety Practices OSHA 10 WV Welcome
	*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i>		
NOTES: 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.			

- 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.
- 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.

Animal Systems Career Pathway Standards

1. Analyze historic and current trends impacting the animal systems industry.
2. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.
3. Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production.
4. Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production.
5. Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.
6. Classify, evaluate and select animals based on anatomical and physiological characteristics.
7. Apply principles of effective animal health care.
8. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0220 Animal Systems	0101 Introduction to Agriculture, Food and Natural Resources 0140 Animal Production and Management *0134 - Agricultural Experience Program (+ Specialization)	<i>(Must select one):</i> 0230 Livestock Production - A 0149 Companion Animal Care - B 0141 Aquaculture - C 2007 Equine Science - D	West Virginia Department of Agriculture Pesticide Applicator West Virginia Department of Agriculture Food Safety Practices West Virginia Department of Agriculture Animal Systems Endorsement Laboratory Animal Technician -- American Association for Laboratory Animal (LAT) Assistant Laboratory Animal Technician -- American Association for Laboratory

			Animal (ALAT) Laboratory Animal Technologist -- American Association for Laboratory Animal (LATG) OSHA 10 WV Welcome
	<p>*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i></p>		
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0221 CASE Animal Science	<p>0161 CASE Introduction to Agriculture, Food and Natural Resources 0162 CASE Principles of Agriculture Science - Animal 0163 CASE Agriculture Business, Research and Development (+ Specialization)</p>	<p><i>(Must select one):</i> 0164 CASE Animal and Plant Biotechnology 0165 CASE Food Science and Safety</p>	<p>OSHA 10 WV Welcome</p>
WV CTE Programs:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0223 Pet Grooming	<p>0170 Introduction to Pet Grooming, Boarding and Obedience 0173 Pet Grooming, Boarding and Obedience Entrepreneurship 0171 Pet Grooming and Understanding Personalities (+ Specialization)</p>	<p><i>(Must select one):</i> 1180 Advanced Pet Grooming and Understanding Personalities 1181 Pet Boarding and Obedience</p>	<p>OSHA 10 WV Welcome</p>
WV CTE Programs:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0224 Taxidermy	<p>0174 Fundamentals of Taxidermy 0175 Game head Mounts</p>	<p><i>(Must select two):</i> 0176 Life-Size Mammal Mounts 0177 Fish Mounts</p>	<p>OSHA 10 WV Welcome</p>

	(+ 2 Specializations)	0178 Bird Mounts 0179 Game Rug and Skull Mounts	
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
AG0222 Animal Science (Virtual)	0167 Virtual Introduction to Agriculture and Animal Science (A) 0168 Virtual Vet Science (B) 0169 Virtual Livestock Production (C) 0134 SAE – <i>Must complete two of the specialized areas to receive full credit</i> (D)	(A) Introduction to Agriculture, Food and Natural Resources (.5) Introduction to Animal Science (.5) (B) Veterinary Science (.5) Veterinary Science I (.5) (C) <i>(Must select two):</i> • Beef Production (.5) • Equine Science I (.5) • Equine Science II (.5) • Sheep Production (.5) • Swine Production (.5) (D) 0134 Agricultural Experience Virtual	
	*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i>		
NOTES: 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i>			

Food Products & Processing Systems Career Pathway Standards

1. Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
2. Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
3. Select and process food products for storage, distribution and consumption.
4. Explain the scope of the food industry and the historical and current developments of food products and processing.
5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0230 Animal Processing	0101 Introduction to Agriculture, Food and Natural Resources 0139 Fundamentals of Animal Processing *0134 - Agricultural Experience Program (+ Specialization)	<i>(Must select one):</i> 0151 Animal Processing - Retail - A 0160 Animal Processing - Plant - B	West Virginia Department of Agriculture Food Safety Practices West Virginia Department of Animal Processing Endorsement OSHA 10 WV Welcome
*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i>			

NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Natural Resources Systems Career Pathway Standards

1. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.
2. Analyze the interrelationships between natural resources and humans.
3. Develop plans to ensure sustainable production and processing of natural resources.
4. Demonstrate responsible management procedures and techniques to protect or maintain natural resources.
5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and

community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG2185 Chemical Energy and Mechanical Technologies	2497 Basic Production Mechanics 2496 Advanced Production Mechanics (+ 2 Specializations)	<i>(Must select two):</i> 1862 Welding I - A 1863 Welding II - B 1751 Fundamentals of Diesel Equipment Technology - C 1744 Electronic Engine Controls - D 2493 Electrical Maintenance for Energy/Mining Extraction - E 1871 Electrical Maintenance - F 1875 Hydraulic and Pneumatic Systems-G 0112 Fundamentals of Agricultural Mechanics - H 0114 Agriculture Equipment and Repair - I 2449 Chemical Process Control - J 1808 Electronic Instrumentation - K 2450 Fundamentals of Energy Systems - L	CPR Professional - American Red Cross First Aid - American Heart Association OSHA Forklift – OSHA OSHA 10 First Aid & Safety -- American Red Cross Safe Land - Safe Land Advisory Group WV Welcome
AG2190 Environmental Technology and Management	1805 Fundamentals of Facilities Maintenance (+ 3 Specializations)	<i>(Must select three):</i> 2499 Water Operator-in-Training 2500 Waste-Water Operator-in-Training 0215 Landscape Design and Installation 0217 Turf Management	OSHA 10 WV Welcome
WV CTE Programs:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0130 Forest Industry	0182 Fundamentals of Forestry 0183 Forest Management 0184 Timber Management		Certified Logger - West Virginia Forestry Association

	0185 Advanced Principals of Forestry		OSHA 10 WV Welcome
WV CTE Programs:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0170 Natural Resources Management	0101 Introduction to Agriculture, Food and Natural Resources 0200 Natural Resources Management *0134 Agricultural Experience Program (+ Specialization)	<i>(Must select one):</i> 0183 Forest Management -A 0190 Fish and Wildlife Management - B 2494 Land Management and Surveying - C 2498 Arboriculture and Urban Forestry - D 2499 Water Operator-in-Training - E 2500 Waste Water Operator-in-Training - F	West Virginia Department of Agriculture Natural Resources Endorsements West Virginia Department of Agriculture Food Safety Practices OSHA 10 WV Welcome
	*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i>		
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

Plant Systems Career Pathway Standards

1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors.
2. Apply the principles of classification, plant anatomy and plant physiology to plant production and management.
3. Propagate, culture and harvest plants and plant products based on current industry standards.
4. Apply principles of design in plant systems to enhance an environment (i.e., floral, forest, landscape and farm).
5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0210 Plant Systems	0101 Introduction to Agriculture, Food and Natural Resources	<i>(Must select one):</i> 0220 Fruit and Vegetable	West Virginia Department of Agriculture Plant Systems Endorsement

	0212 Horticulture *0134 - Agricultural Experience Program (+ Specialization)	Production - A 0214 Greenhouse Production and Management - B 0213 Floriculture - C 0240 Turf and Landscape Systems - D	Certified Floral Designer -- American Institute of Floral Designers West Virginia Department of Agriculture Pesticide Applicator West Virginia Department of Agriculture Food Safety Practices OSHA 10 WV Welcome
	*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i>		
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0214 Turf and Landscape Systems	0212 Horticulture 0214 Greenhouse Production and Management 0215 Landscape Design and Installation 0217 Turf Management		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0215 CASE Plant Science	0161 CASE Introduction to Agriculture, Food and Natural Resources 0166 CASE Principles of Agricultural Science-Plant 0163 Agriculture Business, Research and Development (+ Specialization)	<i>(Must select one):</i> 0164 CASE Animal and Plant Biotechnology 0165 CASE Food Science and Safety	OSHA 10 WV Welcome
NOTES: 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and			

state-approved technical assessment processes.

- 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.
- 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.

Power, Structural & Technical Systems Career Pathway Standards

1. Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural and technical systems.
2. Operate and maintain AFNR mechanical equipment and power systems.
3. Service and repair AFNR mechanical equipment and power systems.
4. Plan, build and maintain AFNR structures.
5. Use control, monitoring, geospatial and other technologies in AFNR power, structural and technical systems.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AG0110 Power, Structural and Technical Systems	<p>0101 Introduction to Agriculture, Food and Natural Resources</p> <p>0112 Fundamentals of Agriculture Mechanics</p> <p>*0134 - Agricultural Experience Program</p> <p>(+ Specialization)</p>	<p><i>(Must select one):</i></p> <p>0113 Agriculture Structures - A</p> <p>0114 Agriculture Equipment and Repair - B</p>	<p>Basic Communication Skills – NCCER</p> <p>Basic Rigging – NCCER</p> <p>Introduction to Construction Drawings – NCCER</p> <p>Introduction to Hand Tools – NCCER</p> <p>Introduction to Power Tools - NCCER</p> <p>Basic Employability Skills - NCCER</p> <p>Basic Safety – NCCER</p> <p>Introduction to Construction Math – NCCER</p> <p>Introduction to Material Handling – NCCER</p>

			West Virginia Department of Agriculture Food Safety Practices OSHA 10 WV Welcome
<p>*0134 - Agricultural Experience Program <i>Students shall receive 1/2 credit per academic year based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet requirement. Refer to Guidelines to Awarding SAE Credit document for more information.</i></p>			
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

Architecture & Construction Career Cluster™ (AR)

<p>Construction Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Describe contractual relationships between all parties involved in the building process. 2. Describe the approval procedures required for successful completion of a construction project. 3. Implement testing and inspection procedures to ensure successful completion of a construction project. 4. Apply scheduling practices to ensure the successful completion of a construction project. 5. Apply practices and procedures required to maintain jobsite safety. 6. Manage relationships with internal and external parties to successfully complete construction projects. 7. Compare and contrast the building systems and components required for a construction project. 8. Demonstrate the construction crafts required for each phase of a construction project. 9. Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals. 10. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AR1820 Carpentry	1842 Carpentry I 1843 Carpentry II 1844 Carpentry III		NCCER OSHA 10

	1845 Carpentry IV		WV Welcome
WV CTE Program of Study: AR1760 Electrical Technician	Program Required Courses: 1756 Electrical Trades I 1757 Electrical Trades II 1758 Electrical Trades III 1759 Electrical Trades IV	Specialization Courses: <i>(Select four of the below listed courses to complete Journeyman Electrician License hours)</i> 1762 Blueprint Reading For Electricians 1765 Industrial and Commercial Wiring 1766 Integrated Electrical Lab 1767 National Electrical Code 1769 Residential Wiring 1771 Rotating Devices and Control Circuitry 0520 Work-Based Integration and Transition	Student Certification(s): NCCER OSHA 10 WV Welcome <i>NOTE: The Journeyman Electrician Licensing test is available to those students completing 1080 hours of instruction, to include the 4 Required and 4 Specialization courses.</i>
WV CTE Program of Study: AR1910 Masonry	Program Required Courses: 1846 Masonry I 1847 Masonry II 1848 Masonry III 1849 Masonry IV	Specialization Courses:	Student Certification(s): NCCER OSHA 10
WV CTE Program of Study: AR2140 Plumbing	Program Required Courses: 2081 Plumbing I 2082 Plumbing II 2083 Plumbing III 2084 Plumbing IV	Specialization Courses:	Student Certification(s): NCCER OSHA 10 WV Welcome
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

Design/Pre-construction Career Pathway Standards

1. Justify design solutions through the use of research documentation and analysis of data.

2. Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.
3. Describe the requirements of the integral systems that impact the design of buildings.
4. Apply building codes, laws and rules in the project design.
5. Identify the diversity of needs, values and social patterns in project design, including accessibility standards.
6. Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
7. Employ appropriate representational media to communicate concepts and project design.
8. Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.
9. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AR1720 Drafting	1729 Fundamentals of Drafting 1727 Drafting Techniques 1725 Mechanical Drafting 1721 Architectural Drafting		American Design and Drafting Association (ADDA) OSHA 10 WV Welcome

NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Maintenance/Operations Career Pathway Standards

1. Recognize and employ universal construction signs and symbols to function safely in the workplace.
2. Use troubleshooting procedures when solving a maintenance problem in buildings.
3. Apply construction skills when repairing, restoring or renovating existing buildings.
4. Determine work required to repair or renovate an existing building.
5. Plan and practice preventative maintenance activities to service existing buildings.
6. Maintain and inspect building systems to achieve safe and efficient operation of buildings.
7. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AR1800 Building Maintenance and Operations	1774 Building Maintenance and Operations I		NCCER OSHA 10

	1775 Building Maintenance and Operations II 1776 Building Maintenance and Operations III 1777 Building Maintenance and Operations IV		WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AR1600 HVAC Technician	1752 HVAC I 1753 HVAC II 1754 HVAC III 1755 HVAC IV		NCCER OSHA 10 WV Welcome
<p><i>NOTES:</i></p> <ol style="list-style-type: none"> 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i> 			

Arts, A/V Technology & Communications Career Cluster™ (AV)

<p>Journalism & Broadcasting Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Describe the diversity of functions within the Journalism & Broadcasting Career Pathway. 2. Demonstrate writing processes used in journalism and broadcasting. 3. Plan and deliver a media production (i.e., broadcast, video, Internet, mobile). 4. Demonstrate technical support related to media production (i.e., broadcast, video, Internet, mobile). 5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AV1682 Broadcast Journalism	1680 Fundamentals of Broadcast Journalism 1682 Advanced Principles of Broadcast Journalism 1686 Broadcast Journalism Practicum 1 1688 Broadcast Journalism Practicum 2		OSHA 10 WV Welcome

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AV1680 Broadcasting Technology	1681 Fundamentals of Broadcasting 1683 Radio Broadcasting Presentations 1685 Television Production Applications (+ Specialization)	<i>(Must select one):</i> 1687 Broadcast Management - A 1689 Producing Live TV - B 1684 Video Editing - C	Certified Broadcasting Technologist (CBT) OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AV1684 Multimedia Publishing	1514 Introduction to Visual Communication 1515 Digital Photography 1516 Videography 1517 Cross-Media Publishing		OSHA 10 WV Welcome
<p>NOTES:</p> <ol style="list-style-type: none"> 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i> 			

Printing Technology Career Pathway Standards

1. Manage the printing process, including customer service and sales, scheduling, production and quality control.
2. Demonstrate the production of various print, multimedia or digital media products.
3. Perform finishing and distribution operations related to the printing process.
4. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AV1830 Graphic Communications	1835 Fundamentals of Graphic Communications 1833 Electronic Imaging 1839 Image Assembly and Plate		Printing Industries of America OSHA 10

	Making 1841 Offset Press and Bindery		WV Welcome
<p>NOTES:</p> <p>1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i></p> <p>2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i></p> <p>3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i></p>			

<p>Visual Arts Career Pathway Standards</p> <p>1. Describe the history and evolution of the visual arts and its role in and impact on society.</p> <p>2. Analyze how the application of visual arts elements and principles of design communicate and express ideas.</p> <p>3. Analyze and create two and three-dimensional visual art forms using various media.</p> <p>4. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.</p>			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
AV1850 Graphic Design	1857 Fundamentals of Graphic Design 1851 Fundamentals of Illustration 1859 Graphic Design Applications 1861 Illustration		Adobe Certified Associated (flash/photo shop) Adobe Certified Digital Communication Skills Entry Level OSHA 10 WV Welcome
<p>NOTES:</p> <p>1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i></p> <p>2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i></p> <p>3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i></p>			

Business Management & Administration Career Cluster™ (BM)

Administrative Support Career Pathway Standards			
<ol style="list-style-type: none"> 1. Plan, staff, lead and organize human resources to enhance employee productivity and satisfaction. 2. Access, evaluate and disseminate information for business decision making. 3. Plan, monitor and manage day-to-day business activities. 4. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
BM0510 Career and Work Skills Training (CWST)	0511 Career and Work Skills Training I 0512 Career and Work Skills Training II 0513 CWST Work Experience I 0514 CWST Work Experience II		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
BM1465 Management and Administrative Support	1439 Business and Marketing Essentials (+ 3 Specializations)	<i>(Must select three):</i> 1401 Accounting Principles I 1403 Accounting Principles II (Prerequisite: 1401 Accounting Principles I) 1409 Business Communications 1411 Business Computer Application I Microsoft Word and Microsoft PowerPoint 1413 Business Computer Application II Microsoft Excel and Microsoft Access 1417 Business Law 1421 Business Recordkeeping 0451 Communications for the Global Economy 1471 Financial Analysis for Managers (Prerequisite: 1470 Introduction to Finance)	Microsoft Office Specialist Exam (Word and PowerPoint) Microsoft Office Specialist Exam (Excel and Access) Clerical Skills (OPAC) Computer Skills (OPAC) OSHA 10 WV Welcome

		0410 Global Business and Marketing 1470 Introduction to Finance 0400 Introduction to Management 1445 Management and Entrepreneurship 0422 Marketing Principles 1449 Office Management 1451 Personal Finance 1512 Workplace Practicum	
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
BM1465 Management and Administrative Support (Virtual)	1401 Accounting Principles I (A) 1411 Business Computer Applications I – Microsoft IT Word and PowerPoint (B) 1439 Business and Marketing Essentials (C) 1449 Office Management (D)	(A) Accounting Principles I - Semester 1 (0.5) Accounting Principles I - Semester 2 (0.5) (B) Computer Fundamentals A (0.5) Computer Fundamentals B (0.5) (C) International Business (0.5) Marketing/Advertising (0.5) (D) Business Communications (0.5) Web Design (0.5)	Microsoft Office Specialist Exam (Word and PowerPoint) Microsoft Office Specialist Exam (Excel and Access)
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			
<p>Business Finance and Accounting Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Describe and follow laws and regulations to manage business operations and transactions in the banking services industry. 			

<ol style="list-style-type: none"> 2. Create and maintain positive, ongoing relationships with banking customers. 3. Manage the use of financial resources to enhance banking performance. 4. Demonstrate the use of banking technology and equipment. 5. Plan, monitor and manage the day-to-day activities within a banking organization to ensure secure operations. 6. Utilize career-planning concepts, tools and strategies to explore, obtain and/or develop a career in banking services. 7. Determine client needs and wants and respond through planned, personalized communication to guide purchase decisions and enhance future business opportunities in banking services. 8. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
BM1410 Accounting	1401 Accounting Principles I 1403 Accounting Principles II (+ 2 Specializations)	<i>(Must select two):</i> 1411 Business Computer Applications I Microsoft Word & Microsoft PowerPoint 1413 Business Computer Applications II Microsoft Excel & Microsoft Access 1417 Business Law 1439 Business and Marketing Essentials 1471 Financial Analysis for Managers 1470 Introduction to Finance 0422 Marketing Principles 1451 Personal Finance 1512 Workplace Practicum	Microsoft Office Specialist Exam Word Microsoft Office Specialist Exam PowerPoint Bookkeeping Fundamentals Accounts Receivable/Billing Fundamentals OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
BM1410 Accounting (Virtual)	1401 Accounting Principles I (A) 1411 Business Computer Applications I – Microsoft IT Word and PowerPoint (B) 1439 Business and Marketing Essentials (C) 1451 Personal Finance (D)	(A) Accounting Principles I - Semester 1 (0.5) Accounting Principles I - Semester 2 (0.5) (B) Computer Fundamentals A (0.5) Computer Fundamentals B	Microsoft Office Specialist Exam (Word and PowerPoint) Microsoft Office Specialist Exam (Excel and Access)

		(0.5) (C) International Business (0.5) Marketing/Advertising (0.5) (D) Personal Finance (0.5) Economics (0.5)	
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

Education & Training Career Cluster™ (ED)

<p>Teaching/Training Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Use foundational knowledge of subject matter to plan and prepare effective instruction and design courses or programs. 2. Employ knowledge of learning and developmental theory to describe individual learners. 3. Use content knowledge and skills of instruction to develop standards-based goals and assessments. 4. Identify materials and resources needed to support instructional plans. 5. Establish a positive climate to promote learning. 6. Identify motivational, social and psychological practices that guide personal conduct. 7. Demonstrate organizational and relationship building skills used to manage instructional activities and related procedures. 8. Demonstrate flexibility and adaptability in instructional planning. 9. Utilize assessment and evaluation tools and data to advance learner achievement and adjust instructional plans. 10. Evaluate teaching and training performance indicators to determine and improve effectiveness of instructional practices and professional development. 11. Implement strategies to maintain relationships with others to increase support for the organization. 12. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ED1300 Careers in Education	1301 Foundation in Education 1302 Student Learning,		Praxis 1 – PPST Combined

	Development, and Diversity 1304 Educational Psychology and Learning 1135 Teacher Preparation: Seminar in Educational Practice		Family & Community Services Pre-Professional Assessments & Certifications (Pre-PAC) in Education Fundamentals WV Welcome OSHA 10
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

Finance Career Cluster™ (FI)

<p>Business Finance Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Describe laws and regulations in needed to manage business operations and transactions in corporate finance. 2. Explain the role of the U.S. Securities and Exchange Commission in the regulation of corporate finance. 3. Describe fundamental financial concepts involved in the management of corporate finances. 4. Perform calculations necessary for capital budgeting decision-making. 5. Conduct cash flow analysis to select an acceptable capital expenditure. 6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
FI1430 Business Finance	1439 Business and Marketing Essentials 1470 Introduction to Finance 1471 Financial Analysis for Managers (+ Specialization)	<i>(Must select one):</i> 1401 Accounting Principles I 0451 Communications for the Global Economy 0410 Global Business and Marketing 0400 Introduction to Management 1445 Management and Entrepreneurship	OSHA 10 WV Welcome

		0422 Marketing Principles 1512 Workplace Practicum	
<p><i>NOTES:</i></p> <ol style="list-style-type: none"> 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i> 			

Government & Public Administration Career Cluster™ (GO)

<p>National Security Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Instruct persons who will perform tasks relating to national homeland security. 2. Describe the appropriate duties, responsibilities and authority of a national security agency's personnel at all levels. 3. Describe the leadership characteristics necessary to ensure compliance with rules of engagement and applicable ethical standards. 4. Collect and analyze information from within and outside the United States to assess threats and opportunities regarding national security. 5. Develop strategies to defend against and respond to the effects of chemical, biological, radiological, nuclear (CBRN) or other emergent events. 6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
GO1070 JROTC	1065 JROTC I 1066 JROTC II 1080 JROTC III 1081 JROTC IV		<i>DoDI 1205.13 - 5.2.5.1. A student presenting evidence of successful completion of at least 2 academic years of the JROTC program under any Military Department is entitled to advanced promotion to the grade of no less than E-2 on initial enlistment in an Active or Reserve component of a Military Service. At their discretion, the Military Departments may award the</i>

			<i>grade of E-3 for successful completion of 3 academic years of the JROTC program.</i> OSHA 10 WV Welcome
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NOTES:

- 1) *JROTC is a cooperative effort between the United States Department of Defense (DoD) and the WVDE.*
- 2) *JROTC cadets who successfully pass JROTC I and JROTC II courses will fulfill the 1 credit Physical Education graduation requirement.*
- 3) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 4) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 5) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Health Science Career Cluster™ (HE)

Biotechnology Research & Development Career Pathway Standards

1. Summarize the goals of biotechnology research and development within legal and ethical protocols.
2. Apply the fundamentals of biochemistry, cell biology, genetics, mathematical concepts, microbiology, molecular biology, organic chemistry and statistics to conduct effective biotechnology research and development of products.
3. Demonstrate basic knowledge of recombinant DNA, genetic engineering, bioprocessing, monoclonal antibody production, nanotechnology, bioinformatics, genomics, proteomics and transcriptomics to conduct biotechnology research and development.
4. Demonstrate the principles of solution preparation, sterile techniques, contamination control, and measurement and calibration of instruments used in biotechnology research.
5. Determine processes for product design and production and how that work contributes to an understanding of the biotechnology product development process.
6. Summarize and explain the larger ethical, moral and legal issues related to biotechnology research, product development and use in society.
7. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE0780 Biomedical Science (PLTW)	0727 Principles of Biomedical Science		OSHA 10

	0766 Human Body Systems 0780 Medical Interventions 0795 Biomedical Innovation (Capstone)		WV Welcome
<p><i>NOTES:</i></p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

<p>Diagnostic Services Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Communicate key diagnostic information to healthcare workers and patients in an accurate and timely manner. 2. Assess and report patient's/client's health status in order to monitor and document patient progress. 3. Demonstrate the principles of body mechanics for positioning, transferring and transporting of patients/clients, and perform them without injury to the patient/client or self. 4. Explain procedures and goals to the patient/client accurately and effectively, using strategies to respond to questions and concerns. 5. Select, demonstrate and interpret diagnostic procedures. 6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE0718 Diagnostic Services	0711 Foundations of Health Science* 0715 Advanced Principles of Health Science* (+ Specialization)	<i>(Must select one specialization and enroll in the two courses to be a completer):</i> Medical Laboratory Technician 0755 Medical Laboratory and Diagnostic Procedures 0756 Medical Laboratory Diagnostic Procedures and Applications ** OR Radiography Aide 0787 Radiography for Health Care Provider	CPR/AED Healthcare Provider or Professional Rescuer, First Aid, Preventing Disease Transmission Certified Phlebotomy Technician Certified ECG Technician Medical Laboratory Assistant OSHA 10 WV Welcome

		0788 Radiography Applications ** OR Clinical Diagnostics 0810 Electrocardiograph Technician 0825 Phlebotomy Skills **	
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 4) *Foundations of Health Science (0711) is a prerequisite for Advanced Principles of Health Science (0715). These two courses provide the introductory core for all Health Science programs of study. 5) *Admission to Advanced Principles of Health Science (0715) requires a minimum course completion score of 80% in Foundations of Health Science (0711). 6) **These courses require 100% drug testing prior to entering clinical experiences. 			

<p>Health Informatics Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Communicate health information accurately and within legal and regulatory guidelines, upholding the strictest standards of confidentiality. 2. Describe the content and diverse uses of health information. 3. Demonstrate the use of systems used to capture, retrieve and maintain confidential health information from internal and external sources. 4. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE0742 Health Informatics	0711 Foundations of Health Science - <i>must be taken prior to any specialization*</i> (+ 3 Specializations)	<i>(Must select three):</i> 1443 Medical Office Management 1411 Business Computer Applications I Microsoft Word and PowerPoint or Information Technology 101 0769 Introduction to Health	CPR/AED Healthcare Provider or Professional Rescuer, First Aid, Preventing Disease Transmission Electronic Health Record Specialist

		Informatics 0768 Health Care Statistics 0715 Advanced Principals of Health Science* 0777 Electronic Health Record Specialty 790 Clinical Specialty I **	Medical Administrative Assistant Certification OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE2220 Health Informatics (Advance Career)	1560 AC Health Informatics I 1561 AC Health Informatics II 1562 AC Health Informatics III 1563 AC Health Informatics IV		OSHA 10 WV Welcome

NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*
- 4) **Foundations of Health Science (0711) is a prerequisite for Advanced Principles of Health Science (0715). These two courses provide the introductory core for all Health Science programs of study.*
- 5) **Admission to Advanced Principles of Health Science (0715) requires a minimum course completion score of 80% in Foundations of Health Science (0711).*
- 6) ***These courses require 100% drug testing prior to entering clinical experiences.*

Support Services Career Pathway Standards

1. Describe, differentiate and safely perform the responsibilities of healthcare support services roles.
2. Demonstrate work practices that maintain a clean and healthy healthcare facility to reduce or eliminate pathogenic organisms.
3. Follow established internal and external guidelines in order to provide high-quality, effective support services in the healthcare facility.
4. Maximize available resources for proper care and use of healthcare equipment and materials.
5. Implement healthcare facility standards in order to maintain high-quality healthcare facilities.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE1215 Food Science and Nutrition	0951 Food Preparation 0950 Nutrition and Foods		Family & Community Services Pre-Professional

	<p>Foundation 0952 Nutrition and Food Science 0953 Nutrition and Food Advanced</p>		<p>Assessments & Certifications (Pre-PAC) in Nutrition, Food & Wellness</p> <p>Family & Community Services Pre-Professional Assessments & Certifications (Pre-PAC) in Food Science Fundamentals</p> <p>ServSafe Food Handler Certificate</p> <p>ServSafe Allergens</p> <p>WV Welcome Certificate in Customer Service</p> <p>OSHA 10</p> <p>WV Welcome</p>
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE1095 Personal Fitness and Wellness Training	<p>1051 Foundations of Wellness 1052 Models of Wellness Training 1053 Wellness Coaching Skills 1054 Practical Applications of Wellness Training</p>		<p>American Fitness Professionals and Association Certification</p> <p>OSHA 10</p> <p>WV Welcome</p>
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE0728 Support Services	<p>0711 Foundations of Health Science* 0715 Advanced Principles of Health Science* 0710 Employment in Health Occupations 0712 Introduction to Support Services Clinical **</p>		<p>CPR/AED Healthcare Provider or Professional Rescuer, First Aid, Preventing Disease Transmission</p> <p>WV Food Handlers Card</p> <p>OSHA 10</p>

			WV Welcome
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HE1095 Personal Fitness and Wellness Training (Virtual)	1051 Foundations of Wellness (A) 1052 Models of Wellness Training (B) 1053 Wellness Coaching Skills (C) 1054 Practical Applications of Wellness Training (D)	(A) Health and Personal Wellness (.5) Personal Fitness and Wellness (.5) (B) Exercise Science (.5) First Aid (.5) (C) Fitness Fundamentals I (.5) Fitness Fundamentals II (.5) (D) Health Science I (.5) Health Science II (.5)	
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HE0728 Support Services (Virtual)	0711 Foundations of Health Science (A) 0715 Advanced Principles of Health Science (B) 1100 Best Practices in Community Support (C) 1050 Wellness Issues in Special Populations (D)	(A) First Aid (.5) Medical Terminology (.5) (B) Anatomy I (.5) Nutrition and Wellness Community Health (.5) (C) Personal Psychology, The Road to Self-Discovery (.5) (D) Health Science I (.5) Health Science II (.5)	
NOTES:			

- 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.
- 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.
- 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.
- 4) *Foundations of Health Science (0711) is a prerequisite for Advanced Principles of Health Science (0715). These two courses provide the introductory core for all Health Science programs of study.
- 5) *Admission to Advanced Principles of Health Science (0715) requires a minimum course completion score of 80% in Foundations of Health Science (0711).
- 6) **These courses require 100% drug testing prior to entering clinical experiences.

Therapeutic Services Career Pathway Standards

1. Utilize communication strategies to answer patient/client questions and concerns on planned procedures and goals.
2. Communicate patient/client information among healthcare team members to facilitate a team approach to patient care.
3. Utilize processes for assessing, monitoring and reporting patient's/clients' health status to the treatment team within protocol and scope of practice.
4. Evaluate patient/client needs, strengths and problems in order to determine if treatment goals are being met.
5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HE0715 Allied Health Sciences	0711 Foundations of Health Science* 0715 Advanced Principles of Health Science* (+ Specialization)	<i>(Must select one specialization and enroll in the two courses to be a completer):</i> Dental Assisting 0746 Dental Science 0743 Dental Assisting Clinical Science** OR EMT-B 0792 Emergency Services 1 0732 Emergency Services 2** OR Medical Assisting 0737 Medical Assistant Laboratory and Diagnostic Procedures	CPR/AED Healthcare Provider or Professional Rescuer First Aid Preventing Disease Transmission OSHA 10 WV Welcome Certified Medical Assistant EMT-Basic Certified Nursing Assistant

		<p>0733 Medical Assistance Clinical**</p> <p>OR</p> <p>Practical Nursing</p> <p>0615 Certified Nursing Assistant**</p> <p>0616 Orientation to Practical Nursing</p> <p>OR</p> <p>Pre-Nursing</p> <p>0771 PTCB Prep</p> <p>0615 Certified Nursing Assistant**</p> <p>OR</p> <p>PTCP PREP</p> <p>0771 PTCB Preparation</p> <p>0772 PTCB Clinical Applications**</p> <p><i>0730 Health Science Clinical Experience may be scheduled in conjunction with 0772 to create a 2-credit block</i></p>	<p>EMR – Emergency Medical Responder</p> <p>Certified Dental Assistant (<i>must complete additional work hours prior to taking exam</i>)</p> <p>NELDA – National Entry Level Dental Assistant</p> <p>PTCB (Pharmacy Technician Certification Board) eligible (<i>may apply after graduation to take exam</i>)</p>
WV CTE Program of Study:	Program Required Courses:	Specialty:	Student Certification(s):
HE0723 Therapeutic Services	<p>0711 Foundations of Health Science*</p> <p>0715 Advanced Principles of Health Science*</p> <p>0789 Clinical Specialties I** <i>-Select 1 (from the column on the right)</i></p> <p>0790 Clinical Specialties II** <i>-Select 1 (from the column on the right)</i></p> <p><i>0730 Health Science Clinical Experience may be scheduled in</i></p>	<ul style="list-style-type: none"> ▪ Advanced Health Seminar ▪ Certified Nursing Assistant ▪ Certified ECG Technician ▪ Certified Health Unit Coordinator ▪ Certified Patient Care Technician ▪ Certified Phlebotomy Technician ▪ Community Emergency Response Team ▪ Dental Aide ▪ Direct Care Worker 	<p>CPR/AED Healthcare Provider or Professional Rescuer, First Aid, Preventing Disease Transmission</p> <p>Certified Patient Care Technician, Certified Phlebotomy Technician, Direct Care Worker</p> <p>Home Health Aide, Certified Nursing Assistant, Certified ECG Technician, Certified Health Unit Coordinator</p>

	<i>conjunction with 0789 or 0790 to create a 2-credit block</i>	<ul style="list-style-type: none"> ▪ Physical Therapy Aide ▪ Pre-Pharmacy Technician ▪ Radiology Aide ▪ Veterinary Science Aide 	<p>Community Emergency Response Team</p> <p>OSHA 10</p> <p>WV Welcome</p>
<p>NOTES:</p> <ol style="list-style-type: none"> 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i> 4) <i>*Foundations of Health Science (0711) is a prerequisite for Advanced Principles of Health Science (0715). These two courses provide the introductory core for all Health Science programs of study.</i> 5) <i>*Admission to Advanced Principles of Health Science (0715) requires a minimum course completion score of 80% in Foundations of Health Science (0711).</i> 6) <i>**These courses require 100% drug testing prior to entering clinical experiences.</i> 			

Hospitality & Tourism Career Cluster™ (HO)

Restaurants & Food/ Beverage Services Career Pathway Standards

1. Describe ethical and legal responsibilities in food and beverage service facilities.
2. Demonstrate safety and sanitation procedures in food and beverage service facilities.
3. Use information from cultural and geographical studies to guide customer service decisions in food and beverage service facilities.
4. Demonstrate leadership qualities and collaboration with others.
5. Research costs, pricing, market demands and marketing strategies to manage profitability in food and beverage service facilities.
6. Explain the benefits of the use of computerized systems to manage food service operations and guest service.
7. Utilize technical resources for food services and beverage operations to update or enhance present practice.
8. Implement standard operating procedures related to food and beverage production and guest service.
9. Describe career opportunities and qualifications in the restaurant and food service industry.
10. Apply listening, reading, writing and speaking skills to enhance operations and customer service in food and beverage service facilities.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HO1015 Baking and Pastry	1013 Restaurant and Culinary Foundations 1024 Baking and Pastry I 1025 Baking and Pastry II 1026 Baking and Pastry Advanced		Certified Journey Baker (CJB) Certification On Baking Certification ServSafe Certification for Managers ServSafe Food Handler Certificate ServSafe Allergens WV Welcome OSHA 10
HO1010 ProStart Restaurant Management	1013 Restaurant and Culinary Foundations 1014 Restaurant Management Essentials 1019 Advanced Principles in Food Production 1020 Restaurant Professional		ProStart Certificate of Achievement On Cooking Certification On Baking Certification ServSafe Certification for Managers ServSafe Food Handler Certificate ServSafe Allergens WV Welcome American Culinary Foundation (ACF) Junior Culinarian OSHA 10

NOTES:

- 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.
- 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.
- 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.

Travel & Tourism Career Pathway Standards

1. Apply information about time zones, seasons and domestic and international maps to create or enhance travel.
2. Apply unit and time conversion skills to develop travel schedules and compute cost, distance and time (including travel time) factors.
3. Analyze cultural diversity factors to enhance travel planning.
4. Assess the potential (real and perceived) hazards related to multiple environments, and recommend appropriate safety, health and security measures for travelers.
5. Develop a safety and security plan containing proactive and reactive solutions to manage emergency situations for travelers and staff.
6. Use common travel and tourism terminology used to communicate within the industry.
7. Customize travel with diverse transportation, lodging, cruise and food options.
8. Compare and contrast services and products from related industries to understand and evaluate how they impact the delivery of travel and tourism products and services to customers.
9. Identify the community elements necessary to maintain cooperative tourism development efforts.
10. Develop a travel product that matches customer needs, wants and expectations.
11. Design promotional packages to effectively market travel and tourism.
12. Select the most effective communication technique and media venue to convey travel marketing information to a target audience.
13. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HO1210 Hospitality and Tourism	1211 Introduction to Hospitality and Tourism 7663 Travel West Virginia (+ Specialization)	<i>(Must select one specialization and complete two of the specialization courses to be a completer):</i> Event Planning and Design (A) 1115 Event Planning Essentials 1212 Event and Project Planning and Management	ServSafe Food Handler Certificate WV Welcome First Aid & Safety CPR/AED Leave No Trace Behind

		<p>1210 Hospitality and Tourism Internship</p> <p>OR</p> <p>Parks and Recreation (B) 1086 Outdoor Education 1125 Parks and Recreation Program Management 1210 Hospitality and Tourism Internship</p> <p>OR</p> <p>Hospitality, Travel and Tourism (C) 1015 Hospitality Products and Services 0437 Hospitality and Tourism Marketing 1210 Hospitality and Tourism Internship</p> <p>OR</p> <p>Adventure Tourism (D) 1086 Outdoor Education 0438 Adventure Tourism 1210 Hospitality and Tourism Internship</p> <p>OR</p> <p>Entrepreneurship (E) 1445 Management and Entrepreneurship 1220 Hospitality and Entrepreneurship Applications 1210 Hospitality and Tourism Internship</p>	<p>Certified Interpretive Guide Trainer</p> <p>Certified Hospitality & Tourism Management Professional (CHTMP)</p> <p>Certified Front Desk Representative (CFDR)</p> <p>Safety Matters</p> <p>Certified Guest Service Professional (CGSP)</p> <p>OSHA 10</p>
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NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE*

Human Services Career Cluster™ (HU)

Counseling & Mental Health Services Career Pathway Standards

1. Use clear written, spoken and nonverbal messages when communicating with clients about mental health services and the counseling process.
2. Utilize functional and specialized assessments to evaluate needs and solutions for counseling and mental health.
3. Evaluate client motivation, strengths and weaknesses to develop a client treatment program.
4. Demonstrate knowledge of an operational mental health or counseling program that meets organizational goals.
5. Demonstrate the ethical and legal responsibilities of counseling and mental health services.
6. Choose appropriate counseling and therapy techniques to serve identified needs.
7. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU1015 Prevention Support Specialist	0928 Fundamentals of Human Services 0903 Parenting and Strong Families 1060 Essentials of Addiction and Prevention 1061 Practical Applications of Prevention Assistance		WV Certification for Addictions Recovery Support Specialist (with additional qualifying education and work experience) WV Certification for Addictions Professional Prevention Specialist (with additional qualifying education and work experience) American Association of family and Consumer Sciences Pre-Professional Assessments and Certifications OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HU2323 Counseling and	0942 Introduction to Mental	(A)	AAFCS Pre-PAC Family &

Mental Health (Virtual)	<p>Health (A)</p> <p>0943 Aspects of Counseling (B)</p> <p>0944 Family Counseling (C)</p> <p>0945 Careers in Counseling (D)</p>	<p>Personal Psychology: The Road to Self-Discovery (.5)</p> <p>Personal Psychology: Living in a Complex World (.5)</p> <p>(B)</p> <p>Peer Counseling (.5)</p> <p>Drugs and Alcohol (.5)</p> <p>(C)</p> <p>Family Living (.5)</p> <p>Personal and Family Finance (.5)</p> <p>(D)</p> <p>Career Planning (.5)</p> <p>Leadership Skills Development I(.5)</p>	Community Services
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HU1015 Prevention Support (Virtual)	<p>0928 Fundamentals of Human Services (A)</p> <p>0903 Parenting and Strong Families (B)</p> <p>1060 Essentials of Addiction and Prevention (C)</p> <p>1061 Practical Applications of Prevention Assistance (D)</p>	<p>(A)</p> <p>Personal Psychology, Living in a Complex World (.5)</p> <p>Introduction to Sociology I - The Study of Human Relationships (.5)</p> <p>(B)</p> <p>Real World Parenting (.5)</p> <p>Family Living (.5)</p> <p>(C)</p> <p>Anatomy I (.5)</p> <p>Drugs & Alcohol (.5)</p> <p>(D)</p> <p>Personal Psychology, The Road to Self-Discovery (.5)</p>	

		Life Management Skills (.5) or Life Skills (.5)	
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HU1016 Wellness Coaching (Virtual)	1056 Health and Personal Wellness (A) 1057 Aspects of Wellness (B) 1058 Fitness Fundamentals (C) 1059 Careers in Wellness Coaching (D)	(A) Health and Personal Wellness (.5) Personal Fitness and Wellness (.5) (B) Drugs and Alcohol (.5) First Aid (.5) (C) Fitness Fundamentals I (.5) Fitness Fundamentals II (.5) (D) Personal Psychology, The Road to Self-Discovery (.5) Intro to Sociology I: The Study of Human Relationships (.5)	AAFCS Pre-PAC Nutrition, Food & Wellness
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

<p>Early Childhood Development & Services Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Demonstrate communication techniques with children to facilitate ongoing development and enhance learning. 2. Communicate effectively with fellow staff members to facilitate child development activities. 3. Maintain working knowledge of child development licensing and certification organizations to keep abreast of current procedures and changes. 4. Create and maintain relationships between staff and parents/family members to encourage involvement and facilitate child development and learning. 5. Evaluate safety and sanitation procedures associated with the early childhood education environment to assure compliance and prevent potential hazards.

6. Adhere to ethical and legal responsibilities, laws and regulations to protect children and families.
7. Apply principles of child growth and development, including social, emotional, physical and cognitive milestones, to provide comprehensive program offerings.
8. Evaluate curriculum for inclusiveness of children with special needs.
9. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU1000 Early Childhood Education	1003 ECE I 1004 ECE II 1008 ECE III 1009 ECE IV	1010 Early Childhood Classroom Assistant Teacher Internship	West Virginia Department of Education – Teacher Assistant ACDS from Dept. of Labor Child Development Associate (CDA) Pre-PAC (AAFCS) ECE OSHA 10 WV Welcome

NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Family & Community Services Career Pathway Standards

1. Use formal and informal assessment practices to create and evaluate a prevention and/or treatment plan.
2. Identify community resources to provide family and community services.
3. Communicate effectively to gain support from the client's family and other support groups.
4. Comply with laws and procedures that govern abuse, neglect, confidentiality and other health and safety situations.
5. Evaluate crisis prevention, intervention and resolution techniques to formulate emergency plans.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.
- 7.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2320 Health and Safety Leadership	0912 Personal Empowerment and Leadership Skills 1049 Fundamentals of Health and Safety 1051 Foundations of Wellness 0911 Personal Resource Management		American Association of Family and Consumer Sciences (AAFS) Pre-Professional Assessments and Certifications OSHA 10 WV Welcome
HU1080 Rehabilitation Specialist	0928 Fundamentals of Human Services 0904 Human Development 0950 Nutrition and Foods Foundation 0911 Personal Resource Management		American Association of Family and Consumer Science Pre-Professional Assessments and Certification OSHA 10 WV Welcome
HU1025 Social Services Assistant	0928 Fundamentals of Human Services 0904 Human Development 1070 Practical Applications of Social Services (+ Specialization)	<i>(Must select one):</i> Behavioral Health Services 1071 Seminar in Behavioral Health Services Medical Social Services 1072 Seminar in Medical Social Services Family & Community Services 1073 Seminar in Family and Community Services	Family and Community Services Pre-Professional Assessment And Certifications (Pre-PAC from American Association of Family & Consumer Sciences OSHA 10 WV Welcome
HU2322 Childcare (Virtual)	0934 Childcare I (A) 0935 Childcare II (B)	Virtual School Courses: (A) Early Childhood Education (.5)	Student Certification(s):

	0936 Childcare III (C) 0937 Childcare IV (D)	Psychology (.5) (B) First Aid (.5) Nutrition (.5) (C) Family Living (.5) Real World Parenting (.5) (D) Life Skills (.5) Life Management Skills (.5)	
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HU2321 Family Services (Virtual)	0906 Family Systems (A) 1056 Health and Personal Wellness (B) 0907 Family Stressors (C) 0908 Life Skills (D)	(A) Family Living and Healthy Relationships or Family Living (.5) Parenting Skills (.5) (B) Nutrition and Wellness (.5) Health and Personal Wellness (.5) (C) Drugs and Alcohol (5) Social Problems I (.5) (D) Family and Consumer Science (.5) Life Management Skills (.5)	AAFS Pre-PAC Family & Community
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
HU2320 Health Safety Leadership (Virtual)	0912 Personal Empowerment and Leadership Skills (A) 1051 Foundations of Fitness and	(A) Leadership Skills Development (1)	American Association of Family and Consumer Sciences (AAFS)

	Wellness (B) 1049 Fundamentals of Health and Safety (C) 0911 Personal Resource Management (D)	(B) Fitness Lifestyle Design (.5) Personal Fitness (.5) (C) Life Management Skills (.5) Life Skills (.5) (D) Family Living (.5) Personal & Family Finance (.5)	
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NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
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- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Personal Care Services Career Pathway Standards

1. Analyze basic principles of biology, chemistry and human anatomy for safe and effective utilization and selection of personal care products and services.
2. Evaluate an individualized personal care plan that reflects client preferences, needs and interests for a course of treatment/action.
3. Utilize data and information to maintain electronic records of client services and make recommendations for personal care services.
4. Demonstrate policies and procedures to achieve a safe and healthy environment for personal care services.
5. Develop organizational policies, procedures and regulations that establish personal care organization priorities, accomplish the mission, and provide high-quality service to a diverse set of clients and families.
6. Identify personal care business opportunities enhanced by community involvement, self-improvement and current trends.
7. Apply methods of obtaining feedback to understand expectations and promote high-quality personal care services standards.
8. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2315 Aesthetics	1737 Barbers and Cosmetology Foundations		WV Board of Barbers and Cosmetologists Aesthetician

	1732 Skin Sciences I 1731 Aesthetics Science 1714 General Aesthetics I		Licensure OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2305 Barbering	1737 Barbers and Cosmetology Foundations 1150 Barbering Science I 1151 Barbering Science II 1152 Barbering Professional I	<i>Select the five courses listed below to complete the Minimum Curriculum for Barbers by the Board of Barbers and Cosmetologists:</i> 1155 Barbering Science Advanced 1153 Barbering Professional II 1156 Barbering Professional III 1157 Barbering Professional IV 1158 Barbering Professional Advanced	WV Board of Barbers and Cosmetologists Barber Licensure OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2050 Barbering Apprenticeship	1160 Barbering Apprenticeship 1 1161 Barbering Apprenticeship 2 1162 Barbering Apprenticeship 3 1163 Barbering Apprenticeship 4	<i>Student will be a completer when all four core courses in theory work are completed. Student will be eligible for licensure after completing the theory work and practical work (electives 5 thru 19):</i> 1164 Barbering Apprenticeship 5 1165 Barbering Apprenticeship 6 1166 Barbering Apprenticeship 7 1167 Barbering Apprenticeship 8 1168 Barbering Apprenticeship 9 1169 Barbering Apprenticeship 10 1170 Barbering Apprenticeship 11 1171 Barbering Apprenticeship 12 1172 Barbering Apprenticeship 13	WV State Board of Barbers and Cosmetologist OSHA 10 WV Welcome

		1173 Barbering Apprenticeship 14 1174 Barbering Apprenticeship 15 1175 Barbering Apprenticeship 16 1176 Barbering Apprenticeship 17 1177 Barbering Apprenticeship 18 1178 Barbering Apprenticeship 19	
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2310 Hair Stylist	1737 Barbers and Cosmetology Foundations 1734 Cosmetology Professional I 1735 Cosmetology Professional II 1736 Cosmetology Professional Advanced	<i>Select the four courses listed below to complete the Minimum Curriculum for Hair Stylist by the Board of Barbers and Cosmetologists:</i> 1738 Cosmetology Science I 1740 Cosmetology Science II 1730 Cosmetology Chemical I 1750 Cosmetology Chemicals II	WV Board of Barbers and Cosmetologists Hair Stylist Licensure OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
HU2055 Nail Technology	1737 Barbers and Cosmetology Foundations 1716 Nail Technology Science and Procedure 1717 Art of Nail Technology 1719 Nail Technology Clinical Experience		WV Board of Barbers and Cosmetologists Manicurist Licensure OSHA 10 WV Welcome
NOTES: 1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i> 2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i> 3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i>			

Information Technology Career Cluster™ (IT)

Computer Programming & Software Development Career Pathway Standards

1. Analyze customer software needs and requirements.
2. Demonstrate the use of industry standard strategies and project planning to meet customer specifications.
3. Analyze system and software requirements to ensure maximum operating efficiency.
4. Demonstrate the effective use of software development tools to develop software applications.
5. Apply an appropriate software development process to design a software application.
6. Program a computer application using the appropriate programming language.
7. Demonstrate software testing procedures to ensure quality products.
8. Perform quality assurance tasks as part of the software development cycle.
9. Perform software maintenance and customer support functions.
10. Design, create and maintain a database.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT2215 Computer Science (PLTW)	1408 Introduction to Computer Science (PLTW) 1410 Computer Science Principles (PLTW) 1412 Computer Science Applications (PLTW) (+ Specialization)	<i>(Must select one):</i> 1414 Simulation and Modeling (PLTW) 1416 Artificial Intelligence (PLTW) 1418 Cybersecurity (PLTW) 1420 Capstone Course: Computational Problem Solving (PLTW)	OSHA 10 WV Welcome

NOTES:

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- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Information Support & Services Career Pathway Standards

1. Provide technology support to maintain service.
2. Manage operating systems and software applications, including maintenance of upgrades, patches and service packs.
3. Apply appropriate troubleshooting techniques in resolving computer hardware, software and configuration problems.
4. Perform installation, configuration and maintenance of operating systems.

5. Demonstrate the use of networking concepts to develop a network.
6. Evaluate the effectiveness of an information system.
7. Employ system installation and maintenance skills to setup and maintain an information system.
8. Employ system administration and control skills to monitor the performance of an information system.
9. Employ technical writing and documentation skills in support of an information system.
10. Apply quality assurance processes to maximize information system operation.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT2210 Informatics (Advanced Career)	1550 AC Informatics I 1551 AC Informatics II 1552 AC Informatics III 1553 AC Informatics IV		OSHA 10 WV Welcome

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- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Interactive Media Pathway Standards

1. Analyze customer requirements to design and develop a Web or digital communication product.
2. Apply the design and development process to produce user-focused Web and digital communications solutions.
3. Write product specifications that define the scope of work aligned to customer requirements.
4. Demonstrate the effective use of tools for digital communication production, development and project management.
5. Develop, administer and maintain Web applications.
6. Design, create and publish a digital communication product based on customer needs.
7. Evaluate the functionality of a digital communication product using industry accepted techniques and metrics.
8. Implement quality assurance processes to deliver quality digital communication products and services.
9. Perform maintenance and customer support functions for digital communication products.
10. Comply with intellectual property laws, copyright laws and ethical practices when creating Web/digital communications.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT1442 Coding, App and Game Design	1431 Digital Imaging / Multimedia I 1455 Web Page Publishing		Adobe Certified Associate (<i>Adobe Flash Professional,</i> <i>Adobe Dreamweaver, Adobe</i>

	1456 Coding, App and Game Design I 1457 Coding, App and Game Design II		<i>Photoshop, Adobe Premiere Pro</i> OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT1450 Information Management/Microsoft Computer Applications Specialist	1411 Business Computer Applications I Microsoft Word and PowerPoint 1431 Digital Imaging / Multimedia I 1455 Web Page Publishing (+ Specialization)	<i>(Must select one):</i> E-Business Publishing 1429 Desktop Publishing Interactive Media 1432 Digital Imaging/Multimedia II Application 1413 Business Computer Applications II Microsoft Excel and Access	Microsoft Office Specialist Exam (Word and PowerPoint) Microsoft Office Specialist Exam (Excel and Access) Adobe Certified Associate (<i>Adobe Flash Professional, Adobe Dreamweaver, Adobe Photoshop, Adobe Premiere Pro</i>) OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
IT1445 Simulation and Game Development (Virtual)	1431 Digital Imaging/Multimedia I (A) 1455 Web Page Publishing (B) 1465 Game Design I Virtual (C) 1466 Game Design II Virtual (D)	(A) Digital Photography I (0.5) Digital Photography II (0.5) (B) Web Page Publishing - Semester 1 (0.5) Web Page Publishing - Semester 2 (0.5) (C) Web Design (0.5) Game Design I (0.5)	

		(D) Game Design I (0.5) Visual Programming.NET (0.5)	
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

<p>Network Systems Career Pathway Standards</p> <ol style="list-style-type: none"> Analyze customer or organizational network system needs and requirements. Analyze wired and wireless network systems to determine if they meet specifications (i.e., IEEE, power, security). Design a network system using technologies, tools and standards. Perform network system installation and configuration. Perform network administration, monitoring and support to maintain a network system. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT1640 CISCO Networking Academies	1642 CCENT1 1644 CCENT2 1646 CCENT3 1648 CCENT4		CCNA/Cisco Certified Entry Level Technician (CCENT) OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
IT1680 Computer Systems Repair Technology	1705 Fundamentals of Computer Systems 1664 CompTIA A+220-901 1665 CompTIA A+220-902 1694 Networking+		CompTIA A+ 220-901 CompTIA A+ 220-902 CompTIA Network + PC Pro Test out OSHA 10 WV Welcome

NOTES:

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Law, Public Safety, Corrections & Security Career Cluster™ (LA)

Emergency and Firefighting Management Services Career Pathway Standards

1. Compare and contrast relevant aspects of different career fields available for professionals in fire and emergency management,
2. Execute protocols for handling emergency situations that range from minor medical and fire emergencies to area-wide incidents to demonstrate the application and enhancement of key skills used to respond effectively in such instances.
3. Execute operational and repair requirements when using equipment in order to maintain functional equipment ready for use in fire and medical emergency situations.
4. Examine equipment and summarize the various applications for equipment commonly used in emergency and fire management services.
5. Design and implement an appropriate Incident Command System to assure the effective management of logistical procedures at an incident scene.
6. Recognize materials as hazardous using common codes and icons used in the fire and emergency management environment.
7. Analyze and summarize hazardous materials transportation modes in order to assure the safe transport of substances from fire and emergency scenes.
8. Implement public relations plans involving key community audiences and the local fire and emergency management facilities in order to enhance public awareness and safety in fire and emergency situations.
9. Examine and summarize the various elements and issues involved in using Preparedness and Response Systems during disaster situations in order to demonstrate understanding of the systems available for managing large scale disasters.
10. Examine and summarize the key functions and techniques of critical infrastructure protection to assure protection of potential targets for terrorism and/or natural disasters.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
LA2200 Emergency and Firefighting Management	2203 Fire Fighting I 2205 Fire Fighting II	<i>(Must select one specialization and complete two of the</i>	NFPA 1001 Fire Fighter I, Fire Fighter II (120 Hours)

Services	(+ Specialization)	<i>specialization courses to be a completer):</i> Industrial Fire Safety 2250 Industrial Incident Command 2251 Industrial Hazardous Material OR Emergency Management 0792 Emergency Services 1 0732 Emergency Services 2 or 2202 Fire Science Technology	AHA Basic Life Support for Healthcare Providers NIMS 100, 200, 700, 800 National registry EMT-B/WV State-EMT-B Certification OSHA 10 WV Welcome
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

Law Enforcement Services Career Pathway Standards

1. Demonstrate knowledge of appropriate techniques for managing crisis situations in order to maintain public safety.
2. Demonstrate knowledge of protocols and procedures designed for handling and managing domestic violence, motor vehicle traffic stops, explosive and hazardous materials incidents, crime scenes, and evidence collection.
3. Describe and perform protocols and procedures designed to safely transport a person in custody.
4. Understand and demonstrate techniques and protocols for effectively and safely responding to crimes in progress in order to ensure individual and public safety.
5. Execute protocols and procedures involved with juvenile victims and offenders in order to protect their rights.
6. Investigate and document a motor vehicle accident in compliance with prescribed procedures.
7. Evaluate situations that require the use of force and demonstrate the appropriate level of force necessary.
8. Demonstrate the ability to recognize the signs and symptoms of possible child abuse and neglect.
9. Examine and summarize the various law enforcement issues involved in Preparedness and Response Systems for disaster and potential terrorist situations.
10. Demonstrate knowledge of Victims' Rights and procedures for protecting them.
11. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and

community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
LA1020 Law and Public Safety	1225 Fundamentals of Public Safety Leadership 1226 Ethical Issues in Public Safety 1039 Practical Applications of Public Safety (+ Specialization)	<i>(Must select one):</i> Corrections 1034 Seminar in Corrections OR Law Enforcement 1035 Seminar in Law Enforcement OR Strategic Security & Protection 1037 Strategic Security and Protection OR Courts and Legal System 1031 Seminar in Courts and Legal System OR Forensic Science 6044 Forensic Science	Certified Criminal Justice Professional - courses plus work exp. (WV credential with international reciprocity) American Red Cross/First Aid & CPR OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Virtual School Courses:	Student Certification(s):
LA1021 Criminology (Virtual)	1090 Introduction to Criminology (A) 1091 Forensic Science: Secrets of the Dead (B) 1092 Social Problems (C) 1093 Careers in Criminology (D)	(A) Criminology (.5) Law & Order Introduction to Legal Studies (.5) (B) Forensic Science I Secrets of the Dead (.5) Forensic Science II Secrets of the Dead (.5) (C) Social Problems I A World In Crisis (.5)	Certified Criminal Justice Professional-courses plus work experience (WV Credential with international reciprocity) American Red Cross/First AIS & CPR

		Drugs and Alcohol Community Health (.5) (D) Careers in Criminal Justice (.5) Leadership Skills Development (.5)	
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

<p>Legal Services Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Execute techniques for effective listening in order to manage receipt of orally communicated information delivered in a legal services environment. 2. Write accomplished materials to demonstrate specific academic writing skills desired from professionals in the legal services environment. 3. Model skills associated with the effective application of information technology tools used to perform daily tasks assigned to legal services professionals. 4. Execute the use of legal terminology in order to effectively communicate within the legal services community of practice. 5. Model the technical knowledge and skills required of legal services professionals in order to pursue the full range of careers in the legal services pathway. 6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
LA1490 Paralegal Assistant	<p>1411 Business Computer Applications I – <i>Microsoft IT Word and PowerPoint</i></p> <p>1413 Business Computer Applications II – <i>Microsoft IT Excel and Access</i></p> <p>1525 Computerized Legal Office Software</p> <p>1526 Legal Terminology/Transcription</p>		<p>Microsoft Office Specialist Exam (Word and PowerPoint)</p> <p>Microsoft Office Specialist Exam (Excel and Access)</p> <p>OSHA 10</p> <p>WV Welcome</p>

NOTES:

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- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Manufacturing Career Cluster™ (MA)

Maintenance, Installation, & Repair Career Pathway Standards

1. Demonstrate maintenance skills and proficient operation of equipment to maximize manufacturing performance.
2. Demonstrate the safe use of manufacturing equipment to ensure a safe and healthy environment.
3. Diagnose equipment problems and effectively repair manufacturing equipment.
4. Investigate and employ techniques to maximize manufacturing equipment performance.
5. Implement a preventative maintenance schedule to maintain manufacturing equipment, tools and workstations.
6. Implement an effective, predictive and preventive manufacturing equipment maintenance program.
7. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
MA1780 Electronics Technician	1666 DC Circuit Concepts 1667 AC Circuit Concepts 1668 Analog Circuits and Systems 1669 Digital and Computer Concepts		Electronics Technicians Association (ETA) CETa NCCER OSHA 10 WV Welcome
MA1870 Industrial Equipment Maintenance	1763 Fundamentals of Electricity 1807 Industrial Electricity 1771 Rotating Devices and Control Circuitry 1765 Industrial and Commercial Wiring		OSHA 10 WV Welcome

NOTES:

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- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*

3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Manufacturing Production Process Development Career Pathway Standards

1. Produce quality products that meet manufacturing standards and exceed customer satisfaction.
2. Research, design and implement alternative manufacturing processes to manage production of new and/or improved products.
3. Monitor, promote and maintain a safe and productive workplace using techniques and solutions that ensure safe production of products.
4. Implement continuous improvement processes in order to maintain quality within manufacturing production.
5. Develop procedures to create products that meet customer needs.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
MA2235 Advanced Manufacturing (Advanced Career)	1575 AC Advanced Manufacturing I 1576 AC Advanced Manufacturing II 1577 AC Advanced Manufacturing III 1578 AC Advanced Manufacturing IV		OSHA 10 WV Welcome
MA1630 Robotics	1866 Robotics REC 1 1867 Robotics REC 2 1868 Robotics REC 3 1869 Robotics REC 4		EETC, Small Engine Certification OSHA 10 WV Welcome

NOTES:

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- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Production Career Pathway Standards

1. Diagnose production process problems and take corrective action to meet production quality standards.
2. Manage safe and healthy production working conditions and environmental risks.
3. Make continuous improvement recommendations based on results of production process audits and inspections.
4. Coordinate work teams when producing products to enhance production process and performance.
5. Demonstrate the safe use of manufacturing equipment.
6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
MA1900 Machine Tool Technology	1903 Fundamentals of Machine Tool Technology 1905 Fundamentals of Machine Processes 1907 Machine Tool Operations 1909 Metal Trades Processes and Applications		National Institute for Metalworking Skills (NIMS) OSHA 10 WV Welcome
MA2110 Metals Technology	1985 Fundamentals of Welding Technology 1993 Shielded Metal Arc Welding 1903 Fundamentals of Machine Tool Technology 1907 Machine Tool Operations		OSHA 10 WV Welcome
MA2120 Millwork and Cabinetmaking	2126 Millwork and Cabinetmaking I 2127 Millwork and Cabinetmaking II 2128 Millwork and Cabinetmaking III 2129 Millwork and Cabinetmaking IV		NCCER OSHA 10 WV Welcome
MA1980 Welding	1862 Welding I 1863 Welding II 1864 Welding III 1865 Welding IV		American Welding Society (AWS) WV Welders Certification

			NCCER OSHA 10 WV Welcome
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

Marketing Career Cluster™ (MK)

<p>Marketing Management Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Plan, organize and lead marketing staff to achieve business goals. 2. Plan, manage and monitor day-to-day marketing management operations. 3. Plan, manage and organize to meet the requirements of the marketing plan. 4. Access, evaluate and disseminate information to aid in making marketing management decisions. 5. Determine and adjust prices to maximize return and meet customers' perceptions of value. 6. Obtain, develop, maintain and improve a product or service mix in response to market opportunities. 7. Communicate information about products, services, images and/or ideas. 8. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
MK0420 Marketing Management	1439 Business and Marketing Essentials 0425 Marketing Applications 0422 Marketing Principles (+ Specialization)	<i>(Must select one):</i> 1401 Accounting Principles I 0401 Advertising 1431 Digital Imaging/Multimedia I 0404 Economics Of Business 0407 Fashion Marketing 0410 Global Business And Marketing 0437 Hospitality And Tourism	WV Welcome - Customer Service Concepts of Entrepreneurship and Management OSHA 10 WV Welcome

		Marketing 0428 Marketing Work Experience/Internship 0431 Professional Sales 0441 Real Estate Marketing 0434 Sports, Entertainment & Rec Marketing 1512 Workplace Practicum	
<p>NOTES:</p> <p>1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</p> <p>2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</p> <p>3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</p>			

Science, Technology, Engineering & Mathematics Career Cluster™ (ST)

<p>Engineering & Technology Career Pathway Standards</p> <ol style="list-style-type: none"> 1. Use STEM concepts and processes to solve problems involving design and/or production. 2. Display and communicate STEM information. 3. Apply processes and concepts for the use of technological tools in STEM. 4. Apply the elements of the design process. 5. Apply the knowledge learned in STEM to solve problems. 6. Apply the knowledge learned in the study of STEM to provide solutions to human and societal problems in an ethical and legal manner. 7. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ST2200 Aerospace Engineering (Advanced Career)	1540 AC Aerospace Engineering I 1541 AC Aerospace Engineering II 1542 AC Aerospace Engineering III 1543 AC Aerospace Engineering IV		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):

ST2225 Clean Energy (Advanced Career)	1565 AC Clean Energy I 1566 AC Clean Energy II 1567 AC Clean Energy III 1568 AC Clean Energy IV		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ST2175 Energy, Power and Engineered Systems (Advanced Career)	2485 AC Energy, Power and Engineered Systems I 2486 AC Energy, Power and Engineered Systems II 2487 AC Energy, Power and Engineered Systems III 2488 AC Energy, Power and Engineered Systems IV		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ST2205 Innovations in Science and Technology (Advanced Career)	1545 AC Innovations in Science and Technology I 1546 AC Innovations in Science and Technology II 1547 AC Innovations in Science and Technology III 1548 AC Innovations in Science and Technology IV		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ST2460 Pre-Engineering – Project Lead the Way	2461 Introduction to Engineering Design (PLTW) 2463 Principles of Engineering (PLTW) (+ 2 Specializations)	<i>(Must select two):</i> 2468 Aerospace Engineering (PLTW) 2466 Civil Engineering and Architecture (PLTW) 2465 Computer Integrated Manufacturing (PLTW) 2462 Digital Electronics (PLTW) 2464 Engineering Design and Development (PLTW) 2469 Environmental Sustainability (PLTW)	OSHA 10 WV Welcome

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
ST1790 STEM	2421 Communication Systems 2424 Construction Systems 2442 Manufacturing Systems 2448 Transportation Systems		NCCER OSHA 10 WV Welcome
<p><i>NOTES:</i></p> <p>1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i></p> <p>2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i></p> <p>3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i></p>			

Transportation, Distribution & Logistics Career Cluster™ (TR)

Facility & Mobile Equipment Maintenance Career Pathway Standards			
<ol style="list-style-type: none"> 1. Develop preventative maintenance plans and systems to keep facility and mobile equipment inventory in operation. 2. Design ways to improve facility and equipment system performance. 3. Demonstrate the effective use of computer based equipment (containing embedded computers or processors) to control electromechanical devices commonly used in conducting work within industry. 4. Manage ongoing customer relationships with both internal and external customer groups in order to maintain ongoing business. 5. Assess and implement measures to maintain safe and healthful working conditions within the organization. 6. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities. 			
WV CTE Program of Study:	Program Required Courses:	Elective Courses:	Student Certification(s):
TR1620 Automotive Technology	1631 Automotive Technology MLR-1 1623 Automotive Technology MLR-2 1625 Automotive Technology MLR-3 1637 Automotive Technology MLR-4 <i>Maintenance and Light Repair (MLR)</i>	1629 Automotive Technology AST-1 1633 Automotive Technology AST-2 1635 Automotive Technology AST-3 1627 Automotive Technology AST-4 <i>Automotive Service Technician (AST)</i>	Automotive Service Excellence (ASE) ASE/National Automotive Technicians Education Foundation (NATEF) OSHA 10 WV Welcome

WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
TR1670 Collision Repair Technology	1671 Fundamentals of Collision Repair Technology 1675 Non-Structural Analysis and Damage Repair 1677 Structural Analysis and Damage Repair 1679 Surface Preparation and Refinishing		Automotive Service Excellence (ASE) ASE/National Automotive Technicians Education Foundation (NATEF) OSHA 10 WV Welcome
TR1740 Diesel Equipment Technology	1751 Fundamentals of Diesel Equipment Technology 1744 Electronic Engine Control 1741 Diesel Engine Components 1747 Diesel Support Systems		Automotive Service Excellence (ASE) ASE/National Automotive Technicians Education Foundation (NATEF) OSHA 10
TR1960 Power Equipment Systems	1962 Fundamentals of Power Equipment I 1964 Fundamentals of Power Equipment II 1966 Power Equipment Service I 1968 Power Equipment Service II		Equipment and Engine Training Counsel (EETC) Small Engine Certification OSHA 10 WV Welcome
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

Transportation Systems / Infrastructure Planning, Management & Regulation Career Pathway Standards

1. Develop plans to maintain and/or improve the transportation infrastructure.
2. Assess, plan and manage the implementation of transportation services.

<p>3. Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.</p> <p>4. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.</p>			
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
TR2215 Global Logistics and Supply Chain Management (Advanced Career)	1555 AC Global Logistics and Supply Chain Management I 1556 AC Global Logistics and Supply Chain Management II 1557 AC Global Logistics and Supply Chain Management III 1558 AC Global Logistics and Supply Chain Management IV		OSHA 10 WV Welcome
WV CTE Program of Study:	Program Required Courses:	Specialization Courses:	Student Certification(s):
TR1625 Transportation Technology	1411 Business Computer Applications I – Microsoft IT Word and PowerPoint 2411 Transportation Systems and Technology 2412 Transportation Geography and Economics (+ Specialization)	<i>(Must select one):</i> 2413 Introduction to Transportation Management 2414 Introduction to Aviation 2415 Intelligent Transportation Systems 2416 Introduction to Maritime Transportation 2417 Introduction to Railway Transportation	OSHA 10 WV Welcome
<p>NOTES:</p> <p>1) <i>Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.</i></p> <p>2) <i>EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.</i></p> <p>3) <i>CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.</i></p>			

West Virginia Career Cluster (WV)

<p>Career Integrated Experiential Learning Career Pathway Standards</p> <p>1. Develop skills to apply for and keep a job within a chosen career field.</p> <p>2. Apply mathematical, reading, writing, critical and creative thinking, decision-making, and problem-solving skills to effectively perform career tasks.</p>

3. Demonstrate positive work behaviors and personal qualities, including displaying a willingness to acquire new knowledge and skills, demonstrating integrity in a work situation, and indicating a willingness to follow rules and procedures.
4. Demonstrate interpersonal skills, including teamwork, conflict management, and problem solving.
5. Participate in a co-curricular career technical student organization that provides a variety of ongoing school and community-based service projects to enhance leadership opportunities.

WV CTE Program of Study:	CTE Anchor Course(s):	CIEL Courses:	Student Certification(s):
WV5501 Career Integrated Experiential Learning (CIEL)	<p>To be a CIEL completer, the program of study must contain at minimum one required CTE program of study course.</p> <p>These courses are listed within the policy under the tables listed Program Required Courses.</p>	<p>The following courses can be completed in any high school once initiated by the WVDE – Office of Institutional Education Programs.</p> <p>To be a CIEL completer, the program of study may not include more than three of the following courses:</p> <p>0522 Ready to Work 1 0524 Ready to Work 2 0523 Entrepreneurial Preparedness 0520 Work-Based Integration and Transition 1 0521 Work-Based Integration and Transition 2</p>	<p>OSHA 10</p> <p>ServSafe Food Handlers</p> <p>ServSafe Alcohol Servers</p> <p>ServSafe Managers</p> <p>CPR/First Aid</p> <p>West Virginia Welcome</p> <p>Digital Literacy</p> <p>Tooling U Lean Manufacturing</p> <p>Tooling U OSHA Overview</p>

NOTES:

- 1) *Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes.*
- 2) *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*
- 3) *CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13.*

Individual Work Readiness Certificate Career Pathway

1. The **IWRC** is designed to provide some students with IEPs the opportunity to gain work readiness and occupation specific skills related to CTE career programs of study during high school.
2. All students working toward the IWRC enroll for the four required CTE program of study courses.
3. Once a student is selected for the IWRC, the CTE and special educators will review the IWRC skill sets established by

the WVDE for student attainment of the certificate.

4. A copy of the approved WVDE skill sets must be provided by CTE staff, special educators and student and family of IWRC candidates to assure they understand the program.
5. The IEP for the student describes any specially designed instruction, supports or accommodations necessary for student success.
6. Participating students who earn the IWRC must complete the four core courses of a state approved CTE program of study.

WV CTE Program of Study:	Participant Recruitment:	Program Evaluation:	Student Certification(s):
WV5502 Individual Work Readiness Certificate (IWRC)	<p>The potential student:</p> <ul style="list-style-type: none"> • Has an IEP • Is pursuing a standard high school diploma • Has selected an occupation that aligns with a CTE program of study area that is available at the local CTE center, comprehensive high school or high school • Demonstrates learning challenges and documented academic deficits in the core areas of reading, math and written expression that are significantly (more than three years) below the current grade level • Plans to enter the workforce directly after high school with on-the-job-training, apprenticeship or continued technical training as an adult • Has excellent attendance • Demonstrates poor performance or is failing despite individual or small group tutoring for success in a regular CTE career program of study 	All students will complete the appropriate technical assessment for the CTE program of study and the CTE portfolio with accommodations or supports as indicated in the IEP.	The IWRC Certificate will list the specific skill sets the student has mastered during the program.

	<ul style="list-style-type: none"> • Is highly motivated, demonstrates a strong work ethic and positive work habits • Can successfully pass the required safety examination with accommodations or supports as indicated in the IEP • Demonstrates the ability to acquire basic/core CTE skills to become employed in a support position • Has family support and approval for participation 		
<p>NOTES:</p> <ol style="list-style-type: none"> 1) Successful program of study completers will demonstrate their technical skills attainment through the CTE portfolio and state-approved technical assessment processes. 2) EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment. 3) CTE Elective courses for all state-approved programs of study can be located in the Guidance Document of WVBE Policy 2520.13. 			

Career and Technical Education: Foundational Standards and Courses

CTE Foundational Course Standards

1. Students understand the academic content required for entry into postsecondary education and/or the workforce.
2. Students understand the principles of effective oral, written, and multimedia communication in a variety of formats and contexts.
3. Students understand how to make effective decisions, use career information, and manage personal career plans:
 - (a) explore job qualifications, interests, aptitudes, information, and skills necessary to succeed in a career;
 - (b) understand the scope of career opportunities and the requirements for education, training, and licensure within a career;
 - (c) develop a career plan that is designed to reflect career interests, pathways, and post-secondary possibilities;
 - (d) explore strategies for self-promotion in the interviewing process, such as job applications, résumé writing, interviewing skills, and preparation of a portfolio.
4. Students utilize career-planning concepts, tools and strategies to explore, obtain and/or develop a career.
5. Students understand the use of technological resources as they apply to career preparedness.
6. Students understand how to develop alternate solutions by integrating critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques.

7. Students demonstrate the proper behaviors associated with workplace etiquette and business processes.
8. Students understand effective leadership styles, key concepts of group dynamics, team and individual decision making, the benefits of workforce diversity, and conflict resolution.

The following courses are foundational and are considered non-occupational:

Course Name	Course #
Exploration in Agriculture (5-8)	0290
Exploring Business, Marketing and Entrepreneurialship (5-8)	0295
Exploring Health Professions (5-12)	0700
Life Connections (9-12)	0901
Parenting and Strong Families (8-12)	0903
Life Basics (5-8)	0922
Learning for Independence Family and Employment (9-12)	0929
Applied Design-Housing and Interior Design (9-12)	0941
Foundational Food Preparation (9-12)	0954
Applied Design-Fashion (9-12)	0961
Business Prep (5-8)	1404
Keyboarding (5-12)	1441
Gateway Automation and Robotics	1893
Gateway Design and Modeling	1894
Gateway Energy and Environment	1895
Gateway Flight and Space	1896
Gateway Green Architecture	1897
Gateway Magic of Electrons	1898
Gateway Science of Technology	1899
Gateway Medical Detectives	1900
Gateway Computer Science 1	1918
Gateway Computer Science 2	1920
Middle Exploring Technology 6	2406
Middle Exploring Technology 7	2407
Middle Exploring Technology 8	2408
Middle Exploring Technology 9	2409
Touring West Virginia (5-12)	7664

- *EVERY student must pass ALL safety exams with a score of 100% before having access to available equipment.*