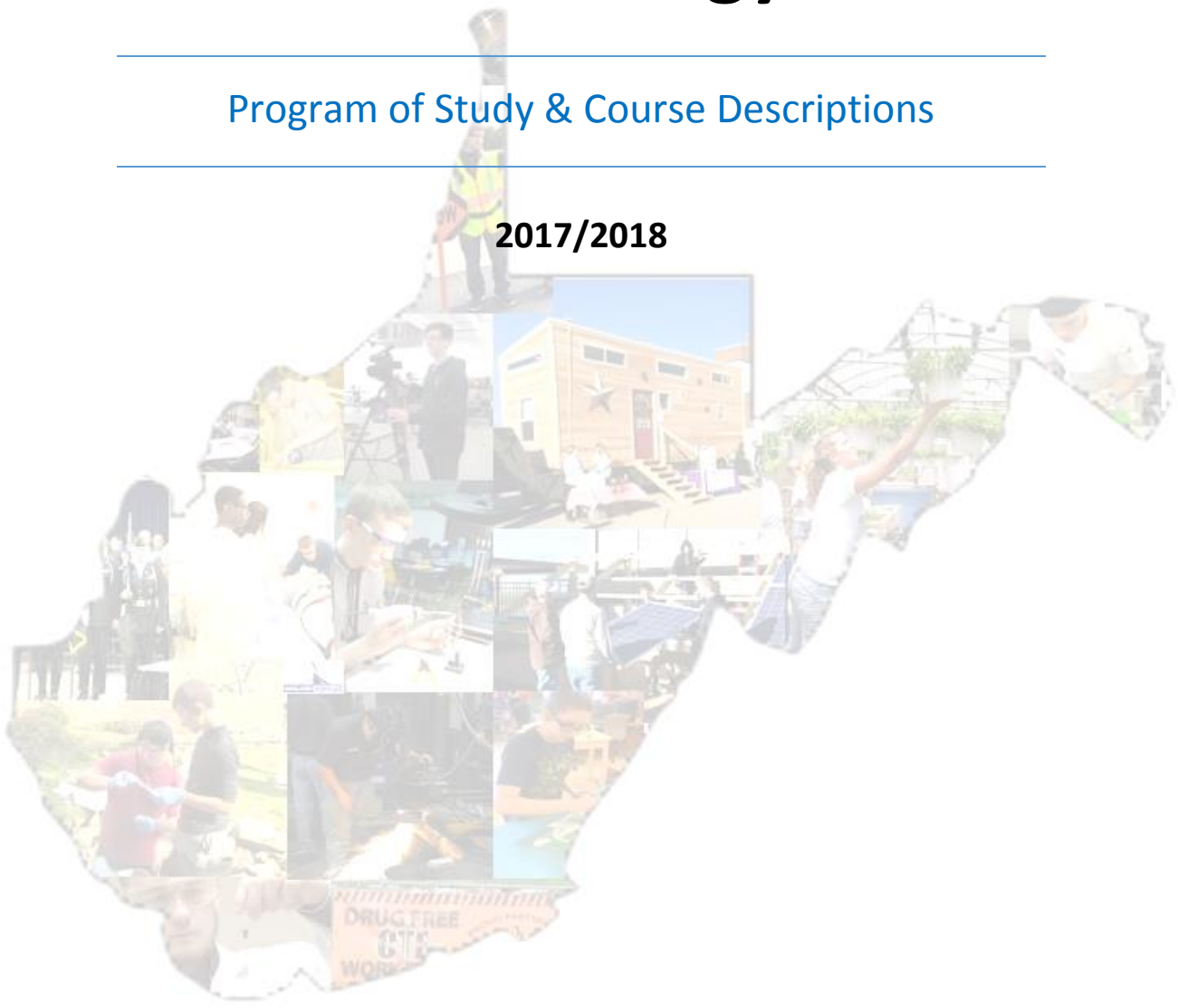
Information Technology

Program of Study & Course Descriptions

2017/2018



West Virginia DEPARTMENT OF EDUCATION

SIMULATED WORKPLACE

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* Virtual Program of Study Available

Information Technology Cluster

Cluster Description:
The Information Technology Cluster prepares students for careers in entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Computer Programming and Software Development Pathway

Pathway Description:
Careers in Programming and Software Development involve the design development implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. People with expertise in programming and software development work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers. While many of the career opportunities in this area are in software companies, large organizations of other types—such as Financial Services and Business—also offer many opportunities. People with expertise in programming and software development are in high demand, doing work such as creating the software that launches and runs NASA space shuttles.

Program of Study: IT2215 Computer Science (Project Lead The Way)

Courses:
1408 Introduction to Computer Science (PLTW)
1410 Computer Science Principles (PLTW)
1412 Computer Science Applications (PLTW)
Computer Science PLTW Specialization

Program of Study Description:
The PLTW Computer Science program of study engages high school students in computational thinking and prepares a computationally aware and capable workforce. This program comprises introductory, foundation, and specialty courses. Schools that choose to implement Computer Science will bring on two year-long foundation courses: Computer Science and Software Engineering (CSE) and Computer Science Applications (CSA). Schools can then choose from an introductory course and a variety of specialty courses to complete a minimum of three (3) years of content for the program.

The descriptions of the specialization and capstone courses are tentative and represent current thinking about options to complete a rigorous four-year high school computer science program of study.

Course Descriptions:
1408 Introduction to Computer Science (PLTW)
Designed to be the first computer science course for students who have never programmed before, ICS is an optional starting point for the PLTW Computer Science program. Students

work in teams to create simple apps for mobile devices using MIT App Inventor®. Students explore the impact of computing in society and the application of computing across career paths and build skills and awareness in digital citizenship and cybersecurity. Students model, simulate, and analyze data about themselves and their interests. They also transfer the understanding of programming gained in App Inventor to learn introductory elements of text-based programming in Python® to create strategy games.

1410 Computer Science Principles (PLTW)
Using Python® as a primary tool and incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. This course can be a student's first course in computer science, although we encourage students without prior computing experience to start with Introduction to Computer Science. CSP helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation. This course aligns with the AP Computer Science Principles course

PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of PLTW CSP's offerings are aligned to the AP Curriculum Framework standards and the AP CSP assessment. Using an endorsed provider affords schools access to resources including an AP CSP syllabus pre-approved by the College Board's AP Course Audit, and officially recognized professional development that prepares teachers to teach AP CSP.

1412 Computer Science Applications (PLTW)
CSA focuses on integrating technologies across multiple platforms and networks, including the Internet. Students collaborate to produce programs that integrate mobile devices and leverage those devices for distributed collection and data processing. Students analyze, adapt, and improve each other's programs while working primarily in Java™ and other industry-standard tools. This course prepares students for the AP Computer Science-A course.

Computer Science PLTW Specializations: Choose One

1414 Simulation and Modeling
In SAM, students create models and simulate social, physical, and biological systems. Students apply statistics and data analysis to understand systems and predict behavior, and they compare models to complex, real data. Students create simulations to communicate central ideas in the physical, biological, and social sciences and deepen their understanding of concepts in discrete math and computer science. This course emphasizes collaboration, professional writing, and the scientific method. It aligns with CSTA Level 3C Standards.

1416 Artificial Intelligence
AIl students will develop artificially intelligent systems that create solutions to real problems found in science and industry. Students analyze problems for computational difficulty and analyze solutions for computational efficiency. Students engage in a wide array of applications, including automated vehicles and computer vision. This course aligns with CSTA Level 3C Standards.

1418 Cybersecurity
SEC introduces the tools and concepts of cybersecurity and encourages students to create solutions that allow people to share computing resources while protecting privacy. Nationally, computational resources are vulnerable and frequently attacked; in SEC, students solve problems by understanding and closing these vulnerabilities. This course raises students' knowledge of and commitment to ethical computing behavior. It also aims to develop students' skills as consumers, friends, citizens, and employees who can effectively contribute to communities with a dependable cyber-infrastructure that moves and processes information safely. The course aligns with CSTA Level 3C Standards.

1420 Capstone Course: Computational Problem Solving
As a capstone course, CPS offers students the opportunity to work in a team to deliver a software solution to a real-world design problem. Teams start by defining problems, which might originate from CPS students, community, or industry clients, or students in other problem-based courses, and use the Agile design process to develop a software solution. Effective practices in problem solving, documentation, software development, presentation, and collaboration are central to the course. The course aligns with CSTA Level 3C Standards

Information Support and Services Pathway

Pathway Description:
The Information Support and Services Pathway involves IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems. Successful IT deployment – implementation of computer systems and software, provision of technical assistance, creation of technical documentation and management of information systems – is critical to the success of most 21st century organizations. People with expertise in Information Support and Services are in high demand for a variety of positions in organizations of all sizes and types, doing work such as integrating multiple databases at a global investment company, enabling employees to share information between the New York, Paris and Hong Kong offices and improving service to customers.

Program of Study: IT2210 Informatics (Advanced Careers)

Courses:
1550 AC Informatics I
1551 AC Informatics II
1552 AC Informatics III
1553 AC Informatics IV

Program of Study Description:
Informatics leverages technology, data, and communication, instilling a new generation with the knowledge, imagination and flexibility to tackle complex issues in a digital world. There are a plethora of jobs available for professionals who have the ability to analyze information and use technology to communicate data in safe and effective ways, and students completing the Informatics program will be prepared to fill those positions. This program provides students with the knowledge and hands-on experiences to be successful in the new global workforce.

Course Descriptions:

1550 AC Informatics I
This course is designed to develop student knowledge and skills and engage students who are curious about systems that acquire, store and communicate data for a variety of career fields and how it relates to their world. In this project-based course, students will learn how to work collaboratively in teams to problem solve, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as computer forensics, global businesses, animation and identity theft. The content covered will include the following topics: methods used in computer forensics, online business collaboration, social media, and digital citizenship. This is the first course in the Informatics pathway and focuses on providing students with foundational knowledge and skills needed to connect in the digital world. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1551 AC Informatics II

This course is designed to develop student knowledge and skills and engage students who are interested in working collaboratively in teams on real world challenges such as designing, implementing, and testing programming languages, mobile devices, gaming and digital simulations, instructional technologies, mobile applications, health informatics solutions and applications of GPS/GIS technologies. In this project-based course, students will demonstrate their learned knowledge and skills by presenting their new and innovative ideas, techniques and solutions to business and industry partners. This is the second course in the Informatics pathway and focuses on providing students with foundational knowledge and skills they need to design in the digital world. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1552 AC Informatics III

This course is designed to develop student knowledge and skills and engage students who are interested in more complex challenges that business and industry face. This project-based learning course is for the more advanced students. Students at this level take more responsibility for their own learning, problem-solving, and thinking outside of the box. Real-world challenges require higher levels of research, building and testing, analyzing and improving systems such as voice and video infrastructures, network security systems, programming, robotics, green technology, computer and networks forensics, and GIS. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1553 AC Informatics IV

This course is designed to develop student knowledge and skills and engage students in a capstone endeavor as they select a business partner and develop an Informatics system that will apply the concepts from the three prior courses to design, build and test an Informatics system to meet the needs of the business partner. The student will work collaboratively with the business partner to develop a proposal for the project with evaluation criteria. Once the proposal is accepted by the business partner, the student will implement the proposal by designing, planning, and building the system then testing, and revising the system to successfully meet the needs of the business. Dual credit and/or articulation agreements will be available to students who successfully complete this course. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization,

FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Interactive Media Pathway

Pathway Description:
Interactive Media Pathway involves careers in creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. Organizations of all types and sizes use digital media to communicate with existing and potential customers, to track transactions and to collaborate with colleagues. Web and digital communications experts can find employment opportunities in organizations of all sizes and types, doing work such as creating e-business auction Web sites that allow people around the world to buy and sell items in real-time.

Program of Study: IT1442 Coding, App and Game Design

Courses: 1431 Digital Imaging/Multimedia I
1455 Web Page Publishing
1456 Coding, App and Game Design I
1457 Coding, App and Game Design II

Program of Study Description:
The Coding, App and Game Development provides knowledge and skills necessary for a career in coding, game and app design, web page publishing, computer programming, and software development industries. Students receive training in both the graphic design and technical programming elements of the industry.

Course Descriptions:

1431 Digital Imaging/Multimedia I (Core Course 1)
This course is designed to develop student knowledge and skills in such areas as producing images, operating a digital camera, using imaging software, using drawing software, creating simple animations and manipulating video images. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

1455 Web Page Publishing (Core Course 2)
This course is designed to develop student understanding and skills in such areas as Web page design including using Web page development software, creating page layouts, adding images and frames, creating elements and components, creating tables, managing files, publishing to the Internet, creating hyperlinks, organizing tasks and using codes (markup languages).

1456 Coding, App and Game Design I (Core Course 3)
This course is designed to develop student knowledge and skills in programming and designing game and app ideas paper prototyping and other planning techniques. Using various design platforms, programming languages, drawing and animation techniques, students create an interactive demonstration of the games and apps.

1457 Coding, App and Game Design II (Core Course 4)

This course is designed to develop student knowledge and skills in developing apps and games using more advanced coding and graphic design including both 2D and 3D elements. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Program of Study: IT1450 Information Management/
Microsoft Computer Applications Specialist

Courses: 1411 Business Computer Applications I Microsoft IT Word and PowerPoint
1413 Business Computer Application II Microsoft Excel an Access
1429 Desktop Publishing
1431 Digital Imaging/Multimedia I
1432 Digital Imaging/ Multimedia II
1455 Web Page Publishing

Program of Study Description:
The Information Management Program of Study focuses on careers that produce images through hands-on activities and experiences which will include: operating a digital camera, using imaging software, using drawing software, creating simple animations and manipulating video images. Students will incorporate journalistic principles in design and layout of print and Web publications including integration of text and graphics and use of sophisticated hardware and software to develop and create quality materials for business-related tasks. Students will analyze the information and the audience and combine appropriate text, graphics and design to communicate the desired message effectively.

Course Descriptions:

1411 Business Computer Applications I Microsoft IT Word and PowerPoint
This course is designed to develop student understanding and skills in such areas as Microsoft Word and Microsoft PowerPoint. This course prepares students for the Microsoft Word Office Specialist Exam and for the Microsoft PowerPoint Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, DECA or FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1413 Business Computer Applications II Microsoft IT Excel and Access
This course is designed to develop student understanding and skills in such areas as Microsoft Excel and Microsoft Access. This course is recommended as an **Elective** in the Information Management and Microsoft Computer Applications Specialist (MCAS) Programs of Study. This course prepares students for the Microsoft Excel Office Specialist Exam and for the Microsoft Access Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, DECA or FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1431 Digital Imaging/Multimedia I

This course is designed to develop student knowledge and skills in such areas as producing images, operating a digital camera, using imaging software, using drawing software, creating simple animations and manipulating video images. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1432 Digital Imaging/Multimedia II

This course is designed to develop student understanding and skills in such areas as imaging, drawing, animation and video software which will be used to create advanced projects. These projects will involve advanced tools and techniques of each discipline. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets

1455 Web Page Publishing

This course is designed to develop student understanding and skills in such areas as Web page design including using Web page development software, creating page layouts, adding images and frames, creating elements and components, creating tables, managing files, publishing to the Internet, creating hyperlinks, organizing tasks and using codes (markup languages). Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1429 Desktop Publishing

This course is designed to develop student understanding and skills in such areas as journalistic principles in design and layout of print and Web publications including integration of text and graphics and use of sophisticated hardware and software to develop and create quality materials for business-related tasks. Students will analyze the information and the audience and combine appropriate text, graphics and design to communicate the desired message effectively. Planning and design principles are used to analyze and organize information, set up a design structure and to select or create appropriate visuals. Instructional strategies may include computer/technology applications, teacher demonstrations, collaborative instruction, interdisciplinary and/or culminating projects, problem-solving and critical thinking activities, simulations and project-based learning activities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia

teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Network Systems Pathway

Pathway Description:
The Network Systems Pathway involves network analysis, planning and implementation, including design, installation, maintenance and management of network systems. Successful establishment and maintenance of information technology infrastructure is critical to the success of almost every 21st century organization. People with expertise in Network Systems are in high demand for a variety of positions in organizations of all sizes and types, doing work such as creating and maintaining the infrastructure in medical facilities that enables multiple doctors to view the same patient's X-rays in real-time to determine the diagnosis and the best treatment.

Program of Study: IT1640 CISCO Networking Academies

Courses: 1642 CCENT 1
1644 CCENT 2
1646 CCENT 3
1648 CCENT 4

Program of Study Description:
The CISCO CCENT Certification validates the skills required for entry-level network support positions, the starting point for many successful careers in networking. CCENT certified professionals have the knowledge and skills to install, operate and troubleshoot a small enterprise branch network, including basic network security. CCENT Certification is the first step toward achieving Associate-level certifications including CCNA Routing and Switching, CCNA Voice, CCNA Security, CCNA Wireless and CCNA SP Ops. Students interested in pursuing advanced networking credentials will take electives: CCNA1, CCNA2, CCNA3 and CCNA4 to prepare for ICND1 and ICND2 exams.

Course Descriptions:
1642 CCENT1
This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT1, students will explore Introduction to Networks, Configuring a Network Operation System, Network Protocols and Communications, Network Access and Ethernet. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1644 CCENT2

This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA2, students will explore Network Layer, Transport Layer, IP Addressing, Subnetting IP Networks, Application Layer and It's a Network. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1646 CCENT3

This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT3, students will explore Routing and Switching Essentials, Basic Switching Concepts and Configuration, VLANs, Routing Concepts and Inter-VLAN Routing. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1648 CCENT4

This course introduces the students to the knowledge and technical skills in order to prepare for CCENT certification. In CCENT4, students will explore Static Routing, Routing Dynamically, Single-Area OSPF, Access Control Lists, DHCP and Network Address Translation for IPv4. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Program of Study: IT1680 Computer Systems Repair Technology

Courses: 1705 Fundamentals of Computer Systems
1664 CompTIA A+220-901
1665 CompTIA A+ 220-902
1694 Networking+

Program of Study Description:
The Computer Systems Repair Technology Program of Study validates foundation-level knowledge and skills necessary for a career in PC support. It is the starting point for a career. The CompTIA A+ and Network+ certifications are both international and vendor-neutral and prove competence in areas such as installation, preventative maintenance, networking, security and troubleshooting.

Course Descriptions:

1705 Fundamentals of Computer Systems
This course introduces the student to the knowledge and technical skills for all courses in the Computer Systems Repair Technology pathway. Areas of study include computer hardware, data representation, operating system, utility, productivity software, communications and networks and the Internet. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1664 CompTIA A+ 220-901
This course covers PC hardware and peripherals, mobile device hardware, networking and troubleshooting hardware and network connectivity issues. Content Skill Sets are based on testing objectives for the CompTIA A+ 220-901 certification. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1665 CompTIA A+ 220-902

This course covers installing and configuring operating systems including Windows, iOS, Android, Apple OS X and Linux. It also addresses security, the fundamentals of cloud computing and operational procedures. Content Skill Sets are based on testing objectives for the CompTIA A+ 220-902 certification. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1694 Networking+

This course introduces the student to the knowledge base and technical skills related to networking. Areas of study include media and topologies, protocols and standards, network implementation and network support. Content Skill Sets are based on testing objectives for the CompTIA Network+ certification. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, SkillsUSA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Information Technology Cluster Electives

Computer Programming and Software Development Pathway

Program of Study: IT2215 Computer Science (Project Lead The Way)

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

Interactive Media Pathway

Program of Study: IT1442 Coding, App and Game Design

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition
1472	Principles of Entrepreneurship (WVU Launch Pad)
1473	Advanced Entrepreneurship (WVU Launch Pad)
1432	Digital Imaging/Multimedia II
1692	Computer Hardware

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

1472 Principles of Entrepreneurship (WVU Launch Pad)

This course is designed to develop student understanding and skills in such areas as entrepreneurship in a market economy; entrepreneurial discovery processes; ideation; and preliminary start-up venture planning. This course familiarizes students with marketing's pivotal role in the development and success of a new business. The capstone activity involves the development of a detailed marketing plan to be included in a full business plan. Projects incorporate activities and situations involving problem-solving, decision-making, reading, reflection and contextual learning experiences.

1473 Advanced Entrepreneurship (WVU Launch Pad)

This course is designed to further develop student understanding and skills in such areas as planning and organizational processes integral to the start-up of new ventures. Students complete tasks such as developing personnel organizational plans; selecting sources of financing for their new ventures; preparing pro forma financial statements; and developing strategies to position their brands. The culminating activities in the course are the development of a detailed business plan and the completion of a loan application.

1432 Digital Imaging/Multimedia II

This course is designed to develop student understanding and skills in such areas as the elements of advanced digital imaging and multimedia knowledge and skills necessary for a career in the business and marketing field. This course is recommended as an **Elective** in the Microsoft Computer Applications (MCAS) Program of Study. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

1692 Computer Hardware

This course is designed to introduce the student to the knowledge base and technical skills required to identify, configure and upgrade microcomputer hardware and peripherals. Content skill sets are based on testing objectives for the CompTIA A+ certification. Areas of study include personal computer components, laptop and portable devices, printers and scanners, networks, security and safety and environmental issues. Students will demonstrate knowledge and technical expertise in hardware troubleshooting and repair. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an Elective in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

Program of Study: IT1450 Information Management/
Microsoft Computer Applications Specialist

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition
1453	Microsoft IT Excel Expert
1427	Microsoft IT Outlook and OneNote
1433	Work-Based Integration and Transition

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

1453 Microsoft IT Excel Expert

This course is designed to develop student understanding and skills in such areas as Microsoft Excel Expert. This course prepares students for the Microsoft Excel Expert Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1433 Microsoft IT Word Expert

This course is designed to develop student understanding and skills in such areas as Microsoft Word Expert. This course prepares students for the Microsoft Word Expert Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1427 Microsoft IT Outlook and OneNote

This course is designed to develop student understanding and skills in such areas as Microsoft Outlook and OneNote. This course prepares students for the Microsoft Outlook Office and Microsoft OneNote Office Specialist exams. Students utilize problem-solving techniques and

participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Network Systems Pathway

Program of Study: IT1640 CISCO Networking Academies

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition
1692	Computer Hardware
1693	Computer Operating Systems
1705	Fundamentals of Computer Systems
1696	Security+
1654	CCNA1
1658	CCNA2
1659	CCNA3
1660	CCNA4

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

1692 Computer Hardware

This course is designed to introduce the student to the knowledge base and technical skills required to identify, configure and upgrade microcomputer hardware and peripherals. Content skill sets are based on testing objectives for the CompTIA A+ certification. Areas of study include personal computer components, laptop and portable devices, printers and scanners, networks, security and safety and environmental issues. Students will demonstrate knowledge and technical expertise in hardware troubleshooting and repair. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with

real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1693 Computer Operating Systems
This course is designed to introduce the student to the knowledge base and technical skills related to the installation, configuration, and use of industry-standard operating systems. Areas of study include operating systems, security, communication and professionalism. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1705 Fundamentals of Computer Systems
This is designed to introduce the student to the knowledge and technical skills for all courses in the Computer Systems and Hardware Support Program of Study. Areas of study include computer hardware, data representation, operating system, utility, productivity software, communications and networks, and the Internet. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1696 Security+
This course introduces the students to the knowledge base and technical skills related to working with network security. Areas of study include Network Security, Compliance and Operational Security, Threats and Vulnerabilities, Application, Data and Host Security, Access Control and Identity Management and Cryptography. Courses are aligned with CompTia standards. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1654 CCNA1

This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA1, students will explore scaling Networks, LAN Redundancy Link Aggregation, Wireless LANs and Adjusting and Trouble Shoot Single-Area OSPF. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1658 CCNA2

This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA2, students will explore Multi-area OSPF, EIGRP, EIGRP Advanced Configurations and IOS Images and Licensing. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1659 CCNA3

This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA3, students will explore Hierarchical Network Design, connect to the WAN, explore Point-to-Point Connections, configure Frame Replay and configure/troubleshoot Network Address Translation for IPv4. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1660 CCNA4

This course introduces the students to the knowledge and technical skills in order to prepare for CCNA certification. In CCNA4, students will explore Broadband Solutions, Secure Site-to-Site Connectivity, Monitor the Network and Troubleshoot the Network. This course is recommended as an **Elective** in the CISCO Networking Academies Program of Study. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in the IT industry. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

Program of Study: IT1680 Computer Systems Repair Technology

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition
1698	Linux Essentials
1695	Server+
1696	Security+
1697	Wireless Network Essentials
1706	Imaging for the Web
1709	Technical Computer Applications
1711	Web Development and Support
1715	Multimedia Applications

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

1698 Linux Essentials

This course introduces the student to the knowledge base and technical skills for the Linux operating system. Areas of study include installation, management, configuration, security, documentation and hardware. Students will demonstrate knowledge and technical expertise in basic installation, operation, security, troubleshooting and basic Linux hardware services for the Linux operating system on workstations and servers. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to broadcasting occupations. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1695 Server+

This course introduces the student to the knowledge base and technical skills related to working with network servers. Areas of study include server hardware, server installation, server configuration, server upgrade, proactive maintenance, security and environmental issues, troubleshooting, and disaster recovery. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Content Skill Sets are based on testing objectives for the Server+ Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1696 Security+

This course introduces the students to the knowledge base and technical skills related to working with network security. Areas of study include Network Security, Compliance and Operational Security, Threats and Vulnerabilities, Application, Data and Host Security, Access Control and Identity Management and Cryptography. Courses are aligned with CompTia standards. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in computer repair and networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1697 Wireless Network Essentials

This course introduces the student to the knowledge base and technical skills to install, maintain, repair and troubleshoot the hardware and software functionality of RFID products. Areas of study include interrogation zone basics, testing and troubleshooting, standards and regulations, tag knowledge, design selection, installation, site analysis, RF physics and RFID peripherals. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in networking. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1706 Imaging for the Web
This course introduces the student to the knowledge base and technical skills for producing digital images for use in web sites and multimedia applications. Areas of study include digital imaging concepts, imaging hardware, imaging applications, and legal and ethical consideration. Students will demonstrate knowledge and technical expertise in creating, capturing, and altering digital images. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in information technology. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1709 Technical Computer Applications
This course introduces the student to a variety of applications used for Workplace Productivity. Areas of study include file management and individual applications including word processing, spreadsheet, database management, presentations and personal information management. Students will demonstrate knowledge and technical expertise in the efficient use of software and application integration. Students will explore a variety of career and certification opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in information technology. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1711 Web Development and Support
This course introduces the student to the knowledge base and technical skills required for web site development and maintenance. Areas of study include an introduction to the World Wide Web, site planning, page creation, typography and color, advanced coding, publishing, and site support. Emphasis will be placed on personal and professional ethics, and students will explore a variety of certification and career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in information technology. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

1715 Multimedia Applications

This course introduces the student to the knowledge base and technical skills for a variety of Multimedia Applications. Areas of study include basic concepts, 2D graphics, 3D graphics, video, sound, application integration, and career exploration. Students will demonstrate knowledge and technical expertise in creating and editing multimedia objects. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities. This course is recommended as an **Elective** in the Computer Systems Repair Technology Program of Study. Students will utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers should provide each student with real world learning opportunities and instruction related to occupations in information technology. Students are encouraged to become active members of the student organization, SkillsUSA. Safety instruction is integrated into all activities.

Adult Program of Study

Cluster Description:
The Information Technology Cluster prepares students for careers in entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Interactive Media Pathway

Pathway Description:
Interactive Media Pathway involves careers in creating, designing and producing interactive multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. Organizations of all types and sizes use digital media (the World Wide Web, CD-ROM, DVD) to communicate with existing and potential customers, to track transactions and to collaborate with colleagues. Web and digital communications experts can find employment opportunities in organizations of all sizes and types, doing work such as creating e-business auction Web sites that allow people around the world to buy and sell items in real-time.

Program of Study: IT1441 Microsoft Computer Applications Specialist (MCAS) – Microsoft Imagine IT Academy

Courses:
1433 Microsoft IT Word Expert
1453 Microsoft IT Excel Expert

Select Two Courses to Complete Program of Study:
1411 Business Computer Applications I Microsoft IT Word and PowerPoint
1413 Business Computer Applications II Microsoft Excel and Access
1427 Microsoft IT Outlook and OneNote
1512 workplace Practicum

Program of Study Description:
The Microsoft Applications Specialist (MCAS) Program of Study focuses on careers that facilitate business operations through a variety of administrative and clerical duties including information and communication management, data processing and collection and project tracking. This Program of Study prepares students to take and pass the Microsoft Office Specialists tests.

Course Descriptions:

1433 Microsoft IT Word Expert
This course is designed to develop student understanding and skills in such areas as Microsoft Word Expert. This course prepares students for the Microsoft Word Expert Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real

world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1453 Microsoft IT Excel Expert
This course is designed to develop student understanding and skills in such areas as Microsoft Excel Expert. This course prepares students for the Microsoft Excel Expert Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Select Two Courses to Complete Program of Study:
1411 Business Computer Applications I Microsoft IT Word and PowerPoint
This course is designed to develop student understanding and skills in such areas as Microsoft Word and Microsoft PowerPoint. This course prepares students for the Microsoft Word Office Specialist Exam and for the Microsoft PowerPoint Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1413 Business Computer Applications II Microsoft IT Excel and Access
This course is designed to develop student understanding and skills in such areas as Microsoft Excel and Microsoft Access. This course prepares students for the Microsoft Excel Office Specialist Exam and for the Microsoft Access Office Specialist Exam. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1427 Microsoft IT Outlook and OneNote
This course is designed to develop student understanding and skills in such areas as Microsoft Outlook and OneNote. This course prepares students for the Microsoft Outlook Office and Microsoft OneNote Office Specialist exams. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1512 Workplace Practicum
This course is designed to develop student understanding and skills in such areas as office management skills, communications and technical application of skills learned in the Microsoft Office courses. Students utilize problem-solving techniques and participate in hands-on

activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Adult Program of Study Electives
Interactive Media Pathway

Program of Study: IT1441 Microsoft Computer Applications Specialist (MCAS) – Microsoft Imagine IT Academy

WVEIS CODE	COURSES
0520	Work-Based Integration and Transition
1429	Desktop Publishing
1431	Digital Imaging/Multimedia I
1432	Digital Imaging/Multimedia II
1455	Web Page Publishing

Course Descriptions:

0520 Work-Based Integration and Transition

This course gives 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 Simulated Workplace portfolios.

1429 Desktop Publishing

This course is designed to develop student understanding and skills in such areas as the elements of desktop publishing knowledge and skills necessary for a career in the business and marketing field. This course is recommended as an **Elective** in the Microsoft Computer Applications (MCAS) Program of Study. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1431 Digital Imaging/Multimedia I

This course is designed to develop student understanding and skills in such areas as the elements of digital imaging and multimedia knowledge and skills necessary for a career in the business and marketing field. This course is recommended as an **Elective** in the Microsoft Computer Applications (MCAS) Program of Study. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers

should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1432 Digital Imaging/Multimedia II

This course is designed to develop student understanding and skills in such areas as the elements of advanced digital imaging and multimedia knowledge and skills necessary for a career in the business and marketing field. This course is recommended as an **Elective** in the Microsoft Computer Applications (MCAS) Program of Study. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1455 Web Page Publishing

This course is designed to develop student understanding and skills in such areas as the elements of web page publishing knowledge and skills necessary for a career in the business and marketing field. This course is recommended as an **Elective** in the Microsoft Computer Applications (MCAS) Program of Study. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Virtual Programs of Study and Courses

Program of Study	CTE Course	Virtual Course
IT1445 Simulation and Game Development	1431 Digital Imaging/Multimedia I	Digital Photography I (0.5) WV Virtual School – eDynamic Digital Photography II (0.5) WV Virtual School - eDynamic
	1455 Web Page Publishing	Web Page Publishing 1 (0.5) WV Virtual School – Florida Virtual School Web Page Publishing 2 (0.5) WV Virtual School – Florida Virtual School
	1465 Game Design I Virtual	Web Design (0.5) WV Virtual School – Fuel Education Game Design (0.5) WV Virtual School – Fuel Education
	1466 Game Design II Virtual	Game Design I (0.5) WV Virtual School – Virtual Greenbush Visual Programming.Net (0.5) – WV Virtual School – Fuel Education

Foundational/Non-Occupational Courses

Course Description:

1441 Keyboarding

This course is designed to develop student understanding and skills in such areas as the elements of introductory keyboarding techniques necessary for a career in the business and marketing field. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, DECA or FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

Middle School Career Technical Education Courses

Course Descriptions:

0295 Exploring Business, Marketing and Entrepreneurship

This course is designed as an exploratory course to develop student understanding and skills in the nature of business and marketing in an economy and to study related careers in fields such as entrepreneurship, financial services, marketing, public relations, promotion and travel tourism. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organizations, DECA or FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1404 Business Preparation

This course is designed as an exploratory course to develop student understanding and skills in such areas as information literacy, social responsibility, writing, listening, speaking and media literacy, information and communication and personal and workplace skills. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.

1441 Keyboarding

This course is designed to develop student understanding and skills in such areas as the elements of introductory keyboarding techniques necessary for a career in the business and marketing field. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, FBLA. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and skill sets.