Information Technology - Center for Applied Sciences, Interactive, and Information Technology Program

Degree Type
Specialty Programs

Information Technology Career Cluster

The Information Technology Career Cluster is focused on building linkages in information technology occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Center for Applied Sciences, Interactive, and Information Technology (CASIIT) Program

With the speed and breadth of innovative change, students entering the next-generation technological workplace will need to be able to adapt to rapid change while thinking critically and creatively. The ever-changing and interactive nature of the technology workplace will also require students to demonstrate highly developed social and technical intelligence. The Information Technology Programs will provide interested students the opportunity to become engaged in an intensive technological program of studies developed through a collaborative relationship with the business and academic community.

Some courses in these programs are offered for dual enrollment through a partnership with Northern Virginia Community College.

A series of professional certificate programs are designed for the Standard or Advanced Diploma student. These areas of study will immerse the student in a one- or two-year program of study, which after successful completion of the exam, could lead to professional industry certification.

Program Type
Transfer
Schools
Battlefield High School

Battlefield CASIIT Program

Students who complete four of the classes below, with an overall and CASIIT GPA* of 2.5, will receive a silver CASIIT medal

Students who complete six of the classes below, with an overall and CASIIT GPA* of 3.0, will receive a gold CASIIT medal

Students will take at least one of the following courses in each grade level:

Grade 9

Course Options	Prerequisite
Advanced Computer Mathematics	Algebra 1
Game Design and Development	None
Engineering Explorations 1	None
IT Graphic Design	None
Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE	None
Technology Foundations	None

Grade 10

Course Options	Prerequisite
AP Computer Science A	Geometry
Advanced Game Design and Development	Game Design and Development
IT Computer Graphics 1	IT Graphic Design
IT Programming or IT Programming DE	Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE, Recommended
IT Web Technologies or IT Web Technologies DE	Information Technology (IT) Fundamentals or Information Technology (IT) Fundamentals DE, Recommended
Engineering Analysis and Applications 2	Engineering Explorations 1

Interactive Technology Concentration

Grades 11 and 12

Students will take at least two of the following courses:

Title	Credits
IT Computer Graphics 2	1
IT Multimedia Software Design and Development 1	1
AP Studio Art Drawing	1
Art Portfolio Preparation	1
Photography 2	1
IT Photography	1
IT Advanced Web Technologies	1

Applied Sciences Concentration

Grades 11 and 12

Students will take at least two of the following courses:

Title	Credits
Data Structures and Algorithms	1
Advanced Computer Studies	1
IT Advanced Programming DE	1

Computer Networking (Cisco) Concentration

Grades 11 and 12

Careers in Network Systems involve 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.

Title	Credits
Computer Networking Hardware Operations 1 DE	0.5
Computer Networking Hardware Operations 2 DE	0.5
Computer Networking Hardware Operations 3 DE (Semester)	0.5
Computer Networking Hardware Operations 4 DE	0.5

Network Systems Concentration

Grades 9 through 12

Careers in Network Systems involve 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.

Title	Credits
Cybersecurity Systems Technology (DE)	1
Advanced Cybersecurity Systems Technology DE	2
Cybersecurity Network Systems DE	1

Programming and Software Development Concentration

Grades 9 through 12

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.

Title	Credits
Game Design and Development	1
Advanced Game Design and Development	1
IT Programming DE or Programming I	1
Advanced Programming or IT Advanced Programming DE	1