

# Business and Information Technology

## Business and Information Technology Courses

### Accounting

Accounting students study the basic principles, concepts, and practices of the accounting cycle for a service business and a merchandising business. Topics covered include analyzing transactions, journalizing and posting entries, preparing payroll records and financial statements, and managing cash control systems. Business ethics and professional conduct are emphasized. Students learn fundamental accounting procedures.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School

Gar-Field High School

Hylton High School

Patriot High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

None

### Advanced Accounting

Advanced Accounting students gain knowledge of advanced accounting principles, procedures, and techniques used to solve business problems and make financial decisions. Students work in a technology-integrated environment, using accounting and spreadsheet software to analyze, synthesize, evaluate, and interpret business financial data related to inventory, fixed assets, notes/accounts payable and receivable, implementation of a partnership and a corporation, and other specialized accounting systems. Using authentic workplace scenarios that reflect current industry trends and standards, students analyze financial data and acquire knowledge of business ethics.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Forest Park High School

Freedom High School

Gainesville High School

Gar-Field High School

Hylton High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

[Accounting](#)

## Advanced Computer Information Systems

Students apply problem-solving skills to real-life situations through Advanced integrated software applications, including multimedia presentations, printed, electronic, and web publications. Students work individually and in groups to explore Advanced computer maintenance activities, website development, programming, networking, emerging technology, and employability skills.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Battlefield High School

Brentsville District High School

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School

Gar-Field High School

Hylton High School

Osbourn Park High School

Patriot High School

Potomac High School

Unity Reed High School

**Prerequisites**

[Computer Information Systems](#)

## Advanced Design, Multimedia, and Web Technologies

In this course, students acquire advanced skills in design, multimedia, and web development by applying project management principles to create professional quality digital media projects. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of print, multimedia, and website projects produced in the course.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (0.5W),

Weighted (1.0W)

**Schools**

Brentsville District High School

Colgan High School

Forest Park High School

Gainesville High School

Gar-Field High School

Osbourn Park High School

Potomac High School

Unity Reed High School

**Prerequisites**

[Design, Multimedia, and Web Technologies](#)

## Advanced Game Design and Development

Students will work collaboratively in teams to refine their game design skills as they apply graphic design, animation, audio and writing skills to create innovative games for education and entertainment. This project-based course

enhances problem-solving, project management, and communication skills through the analysis, design, construction, and critique of interactive games. Students will learn about career opportunities in game design and development and investigate the training and certification requirements.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Weighted (0.5W)

**Schools**

Colgan High School

Forest Park High School

Gainesville High School

Potomac High School

Woodbridge High School

**Prerequisites**

[Game Design and Development](#)

## Advanced Programming

Building on their foundation of programming skills, Advanced Programming students use object-oriented programming to develop database applications, interactive multimedia applications including game applications, mobile applications, and web applications. Students continue to develop their employability skills as they research pathways for continuing education and careers in the information technology industry and engage in various career-building activities.

**\*\*Check with your counselor to see if this course is offered as Dual Enrollment at your school.**

**Credits** 1

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (0.5W),

Weighted (1.0W)

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Freedom High School

Gar-Field High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

[Programming](#)

**Notes**

Advanced course: 0.5 weight

Dual Enrollment course: 1.0 weight

## Business Law

Students examine the foundations of the American legal system and learn the rights and responsibilities of citizens and businesses. Students gain knowledge and skills by exploring economic and social concepts related to laws governing business and individuals. Focus areas include contracts, consumer protection, criminal law, tort law, international law, family/domestic law, employment law, cyber law, and careers in the legal profession. Students may combine classroom instruction and work-based learning opportunities in an approved position with continuing supervision.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Gainesville High School

Hylton High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

None

## Business Management

Students study basic management concepts and leadership styles as they explore business ownership, planning, operations, marketing, finance, economics, communications, the global marketplace, and human relations. Quality concepts, project management, problem solving, and ethical decision making are an integral part of the course.

**Credits 1****Grades**

10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School

Forest Park High School

Gainesville High School

Gar-Field High School

Hylton High School

Osborn Park High School

**Prerequisites**

None

## Computer Information Systems

Students apply problem-solving skills to real-life situations through word processing, spreadsheets, databases, multimedia presentations, and integrated software activities. Students work individually and in groups to explore computer concepts, operating systems, networks, telecommunications, and emerging technologies.

**Credits 1****Grades**

9, 10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School

Brentsville District High School

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School

Gar-Field High School

Hylton High School

Osborn Park High School

Patriot High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

None

## Database Design and Management (Oracle)

This course includes database design and Structured Query Language (SQL) programming. Students study database fundamentals, including database development, modeling, design, and normalization. In addition, students are introduced to database programming with SQL. Students gain the skills and knowledge needed to use features of database software and programming to manage and control access to data.

**Credits** 1

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Battlefield High School

**Prerequisites**

None

## Database Design and Management with PL/SQL (Oracle)

Web-based technologies used throughout industry, including interactive websites, accounting programs, research tools, search engines, e-learning environments, email managers, and numerous other applications, depend upon relational databases. PL/SQL, an extension of the SQL programming language, provides additional database functionality through variables, conditional statements, iterative controls, and packaging. Students enhance their relational database design and algorithm design skills by learning to write PL/SQL code that includes anonymous blocks, sub programs, procedures, functions, control structures, packages, and triggers, all within a browser-based programming environment.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Battlefield High School

**Prerequisites**

[Database Design and Management \(Oracle\)](#)

## Design, Multimedia, and Web Technologies

Students apply creativity and technology to create visual design, multimedia projects, and web projects, using industry-standard software. Work-based learning experiences allow students to apply layout and design techniques in real-world situations. Students create portfolios that include a résumé, certifications earned, and a variety of projects produced in the course.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Brentsville District High School

Colgan High School

Forest Park High School  
Freedom High School  
Gainesville High School  
Gar-Field High School  
Osborn Park High School  
Potomac High School  
Unity Reed High School

**Prerequisites**

None

## Digital Applications

Students apply problem-solving skills to real-life situations through word processing, spreadsheets, databases, multimedia presentations, and integrated software activities. Students work individually and in groups to explore computer concepts, operating systems, networks, telecommunications, emerging technologies, and career opportunities related to the information technology field.

**Credits 1**

**Grades**

9, 10, 11, 12

**Schools**

Brentsville District High School  
Colgan High School  
Freedom High School  
Gainesville High School  
Gar-Field High School  
Hylton High School  
Osborn Park High School  
Potomac High School  
Unity Reed High School  
Woodbridge High School

**Prerequisites**

None

## Economics and Personal Finance

This course meets the graduation requirement for Economics and Personal Finance. The following PWCS courses may be substituted to meet this requirement: AP Economics, IB Economics, Personal Living and Finances, AP Macroeconomics and Microeconomics through Virtual Virginia (must take both classes), AICE Economics, IB Business Management. Students learn how to make informed decisions related to career exploration, budgeting, banking, credit, insurance, spending, taxes, saving, investing, buying/leasing a vehicle, living independently, and inheritance. Development of financial literacy skills and an understanding of economic principles help provide the basis for responsible citizenship and career success. In addition to developing personal finance skills, students in the 36-week course study basic occupational skills and concepts in preparation for entry-level employment in the field of finance. The course incorporates all economics and financial literacy objectives included in the Code of Virginia. Students must successfully complete the online curriculum in order to satisfy a graduation requirement.

**Credits 1**

**Grades**

10, 11, 12

**Course Designation**

Virtual Prince William (VPW)

**Schools**

Battlefield High School  
Brentsville District High School  
Colgan High School  
Forest Park High School  
Freedom High School  
Gainesville High School

Gar-Field High School  
Hylton High School  
Osbourn Park High School  
Patriot High School  
Potomac High School  
Unity Reed High School  
Woodbridge High School

**Prerequisites**

None

## Entrepreneurship

This course introduces students to the exciting world of creating, owning, and launching their own business. Students learn concepts and techniques for planning an innovative business and living the entrepreneurial lifestyle.

**\*\*Check with your counselor to see if this course is offered as Dual Enrollment at your school.**

**Credits 1**

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Battlefield High School  
Brentsville District High School  
Colgan High School  
Forest Park High School  
Freedom High School  
Gar-Field High School  
Osbourn Park High School  
Patriot High School  
Unity Reed High School  
Woodbridge High School

**Prerequisites**

None

## Game Design and Development

The game design industry is the fastest revenue growing entertainment medium and has created many new job disciplines. In this project-based course, students will create innovative games through the application of graphic design, animation, audio, and writing skills. Students will work in teams while developing problem-solving, critical thinking, and effective communication skills. They will analyze, design, prototype, and critique interactive games within a project management environment. Career opportunities across multiple industries, including the entertainment and educational arenas, will be explored.

**Credits 1**

**Grades**

9, 10, 11, 12

**Schools**

Colgan High School  
Forest Park High School  
Gainesville High School  
Patriot High School  
Potomac High School  
Woodbridge High School

**Prerequisites**

None

## IT Advanced Programming (DE)

Building on their foundation of programming skills, IT Advanced Programming students use object-oriented programming to develop database applications, interactive multimedia applications including game applications, mobile applications, and web applications. Students continue to develop their employability skills as they research pathways for continuing education and careers in the information technology industry and engage in various career-building activities.

**Grades**

11, 12

**Course Designation**

Dual Enrollment (DE)

**Schools**

Battlefield High School

**Requirements**

Enrolled in IT Program

**Prerequisites**

[IT Programming](#)

## IT Advanced Web Technologies

Students will engage in website development process using HTML, XHTML, Dynamic HTML, XML, Server-side technologies, Java applets, tables, frames, metadata and Cascading Style Sheets. Industry certification competencies will be used for the course.

**Credits 1****Grades**

11, 12

**Schools**

Battlefield High School

**Prerequisites**

[IT Web Technologies](#)

## IT Advanced Web Technologies (DE)

Students will engage in website development process using HTML, XHTML, Dynamic HTML, XML, Server-side technologies, Java applets, tables, frames, metadata and Cascading Style Sheets. Industry certification competencies will be used for the course.

**Credits 1****Grades**

11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Forest Park High School

**Prerequisites**

[IT Web Technologies \(DE\)](#)

## IT Programming

IT Programming introduces students to systems design, programming for web applications, and programming hardware. Emphasis is placed on the programming process starting from system design to program completion. Current software and programming languages are taught.

**Credits 1****Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),  
Weighted (1.0W)  
**Schools**  
Battlefield High School  
**Prerequisites**  
None

## IT Web Technologies

Students will develop an in-depth understanding of the internet and essential webpage development skills using extensible HTML, and incorporating images, hyperlinks, tables, forms and frames. Students will learn to write code manually, as well as use GUI authoring tools. Industry certification competencies will be used for this course.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School

**Prerequisites**

None

## IT Web Technologies (DE)

Students will develop an in-depth understanding of the internet and essential webpage development skills using extensible HTML, and incorporating images, hyperlinks, tables, forms and frames. Students will learn to write code manually, as well as use GUI authoring tools. Industry certification competencies will be used for this course.

**Credits** 1

**Grades**

10, 11, 12

**Course Designation**

Dual Enrollment (DE),

Weighted (1.0W)

**Schools**

Forest Park High School

**Prerequisites**

None

## Information Technology (IT) Fundamentals

Information Technology Fundamentals introduces the essential technical and professional skills required for students to pursue programs leading to professional careers and information technology certifications. The course introduces skills related to digital technology, digital applications, maintenance/upgrading/troubleshooting, and networking fundamentals. Students also explore ethical issues related to computers and Internet technology and examine webpage and game design.

**Credits** 1

**Grades**

9, 10

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Potomac High School

**Prerequisites**

None

## Office Specialist 1 - Preparation

Students complete the Office Specialist sequence identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, desktop publishing, and records management.

**Credits** 1

**Grades**

9, 10, 11, 12

**Schools**

Battlefield High School

Patriot High School

**Prerequisites**

None

## Office Specialist 2 - Preparation

Students complete the Office Specialist sequence identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including keyboarding, word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in the following areas: word processing, spreadsheets, databases, telecommunications, desktop publishing, and records management.

**Credits** 1

**Grades**

10, 11, 12

**Schools**

Battlefield High School

Freedom High School

Patriot High School

**Prerequisites**

[Office Specialist 1 - Preparation](#)

## Office Specialist 3 - Preparation

Students complete the Office Specialist sequence as identified locally or progress in the sequence until prepared to transfer into other business courses. Students develop skills in areas including word processing, office procedures, and records management. If a fourth year is needed, the teacher should use simulated activities in word processing, spreadsheets, databases, telecommunications, graphic design, and records management.

**Credits** 1

**Grades**

11, 12

**Schools**

Battlefield High School

Patriot High School

**Prerequisites**

[Office Specialist 2 - Preparation](#)

## Principles of Business and Marketing

Students discover the roles of business and marketing in the free enterprise system and the global economy. Students examine basic financial concepts of banking, insurance, credit, taxation, and investments to provide a strong background for making sound decisions as consumers, wage earners, and citizens. The real-world effects of technology, effective communication, and interpersonal skills is evident throughout the course. This course also supports career-development skills and explores career options.

**Credits** 1

**Grades**

9, 10

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Freedom High School

Gainesville High School

Gar-Field High School

Hylton High School

Osbourn Park High School

Patriot High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

None

## Programming

Students in the Programming course explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding is used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students employ hypertext markup language (HTML) or JavaScript to create webpages. Students develop their employability skills through a variety of activities.

**Credits 1****Grades**

10, 11, 12

**Schools**

Battlefield High School

Colgan High School

Forest Park High School

Freedom High School

Gar-Field High School

Potomac High School

Unity Reed High School

Woodbridge High School

**Prerequisites**

None