COMPUTER TECHNOLOGY

Programs

- Computer Technology Associate in Applied Science (https://catalog.gvltec.edu/school-business-computer-technology/computer-technology/computer-technology-aas/)

Courses

Computer Technology

CPT 113 Information Systems (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: Placement into MAT 100 and placement into RDG 100
This course is an introduction to the principles and technologies used in modern management information systems.

CPT 168 Programming Logic and Design (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 113, CPT 257 and placement into MAT 105 or higher
This course examines problem-solving techniques applied to program design. Topics include a variety of documentation techniques as a means of solution presentation. Basic computer programming will be taught using the Python language.

CPT 170 Microcomputer Applications (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT placement score or successful completion of COL 107; or placement into MAT 105 or higher and placement into ENG 101
This course introduces microcomputer applications software, including word processing, databases, spreadsheets, graphs and their integration.

CPT 209 Computer Systems Management (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: Placement into ENG 101 and placement into MAT 105 or higher
This course examines the methods and procedures used in maintaining microcomputer systems. Topics include hardware and software installation, configuration, operations and troubleshooting.

CPT 230 C# Programming I (3-0-3)
Offered Fall and Summer Semesters
Prerequisites: CPT 113 and CPT 168
This course introduces designing, coding, testing and debugging C# programs. Topics include procedural, functional and object-oriented techniques; programming; IDEs; .NET; processing data; data types; I/O; decision processing; control structures; modularized coding with methods; and arrays.

CPT 231 C# Programming II (3-0-3)
Offered Fall and Spring Semesters
Prerequisite: CPT 230
Co-requisite: IST 272 (required)
This course focuses on advanced programming concepts for C#. Topics include advanced string and character processing, user-defined classes and advanced .NET, multiform projects, inheritance and polymorphism, database processing, exception handling and GUIs with Windows Forms.

CPT 234 C Programming I (2-3-3)
Offered Fall and Spring Semesters
Prerequisites: EGR 269 or CPT 170 or CPT 113
This introductory course in C programming emphasizes the designing, coding, testing and debugging of C programs involving input/output operations, data types, storage classes, decision structures, looping, functions, preprocessor directives, arrays and simple pointers.

CPT 236 Introduction to Java Programming (3-0-3)
Offered Fall and Spring Semesters
Prerequisite: CPT 168
This course is an introduction to Java programming. Topics will cover Java syntax and classes for use in the development of Java applications and applets.

CPT 237 Advanced Java Programming (3-0-3)
Offered Fall and Spring Semesters
Prerequisite: CPT 236
This course is a study of advanced topics of the Java programming language by building on a basic knowledge of the Java language. Topics covered will include multi-reading, swing classes, swing event models, advanced layout managers, the JavaBean component model, network programming and server-side programming.

CPT 239 Active Server Pages (3-0-3)
Offered based on need
Prerequisites: CPT 230, IST 226, IST 272
This course is a study of Active Server Pages (ASP) programming to build, implement and execute ASP scripts and examines topics related to the syntax of server-side ASP scripting as well as the use of ASP with databases.

CPT 257 Operating Systems (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: Placement into ENG 101 and placement into MAT 105 or higher
This course examines the theory of operating systems and how the operating system theory is implemented in current operating systems.

CPT 264 Systems & Procedures (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 168 or IST 272
This course covers the techniques of system analysis, design, development and implementation.
CPT 267 Technical Support Concepts (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 209, CPT 257, IST 220
This course is a study of technical support/help desk concepts and techniques for supporting computers and computer services.

CPT 270 Advanced Microcomputer Applications (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisite: CPT 170
This course emphasizes the integration of popular microcomputer software packages using advanced concepts in microcomputer applications software. Note: MSOFFICE is used.

CPT 275 Computer Technology Senior Project (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 264; and CPT 231 or CPT 237 or IST 203 or IST 204 or IST 258 or IST 191 or IST 292 or IST 294; and SPC 205, SPC 208 or SPC 209; and MAT 103 or MAT 109 or MAT 120 or higher math
This course includes the design, development, testing and implementation of an instructor-approved project.

CPT 280 SCWE in Computer Technology (0-12-3)
Prerequisite: Departmental Approval
This course integrates computer technology skills within an approved work site related to the computer industry.

CPT 283 PHP Programming I (3-0-3)
Offered based on need
Prerequisites: CPT 168, IST 226 and IST 272
This course is an introduction to the PHP programming language and will cover topics related to the syntax of PHP language and how PHP can be used to design and develop dynamic, database-driven web pages.

Information System Technology

IST 110 Introduction to Cyberspace and Cybersecurity (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 257 and IST 220 or AOT 162 and AOT 251
This course studies the fundamentals of cyberspace and cybersecurity. Topics of study include roles and functions within cyberspace, data security, digital forensics, incident management, training and awareness and physical and environmental security.

IST 190 LINUX Essentials (3-0-3)
Offered Fall and Summer Semesters
Prerequisites: CPT 257 and IST 220
This course will provide students with the fundamental knowledge and concepts of the LINUX operating system, including command-line functions, file systems, user and group administration, process management, text editors and network applications.

IST 191 LINUX Administration (3-0-3)
Offered Fall and Spring Semesters
Prerequisite: IST 190
This course will provide students with the skills necessary to administer a LINUX system, including hardware/software configuration, user and group administration, LINUX network configuration and file system management.

IST 198 Cloud Essentials (3-0-3)
Offered Fall and Spring Semesters
Prerequisites: CPT 257, IST 110, IST 220, IST 190, IST 257
This course is a study of cloud computing as a framework for providing network access to shared computing resources including storage, network, server and virtualization infrastructures.
IST 258  LAN Directory Services  (3-0-3)
Offered Fall and Spring Semesters
Prerequisites: IST 220, IST 257
This course is a study of LAN objects, object properties and the organization of network objects into a structure that is extensible and scalable. The course includes a hierarchical view of network resources and allows administrators, developers and end-users to gain access to those resources.

IST 266  Internet and Firewall Security  (3-0-3)
Offered Fall, Spring and Summer Semesters
Co-requisite: IST 110 (required)
This course is an introduction to firewalls and other network security components that can work together to create an in-depth defensive perimeter around a local area network (LAN).

IST 267  Network Vulnerability Assessment  (3-0-3)
Offered Fall and Spring Semesters
Prerequisites: IST 110, IST 266
This course provides students with the knowledge and skills necessary to test network security using network vulnerability assessment tools and methods. Students will also learn how to improve network security based on the assessment results.

IST 272  Relational Database  (3-0-3)
Offered Fall, Spring and Summer Semesters
Prerequisites: CPT 113 or CPT 170, Placement into MAT 109, MAT 110, MAT 120 or higher or college transferable math
This course provides a comprehensive foundation in both SQL and relational database design and implementation. Dynamic and embedded SQL programming techniques are emphasized. Note: SQL Server is used.

IST 278  Database Programming  (3-0-3)
Offered based on need
Prerequisites: IST 272 and MAT 105 or higher math
This course is a study of advanced database techniques. Topics will cover procedures, triggers, query optimization and user security.

IST 291  Fundamentals of Network Security  (3-0-3)
Offered Fall and Spring Semesters
Prerequisite: IST 110
This course introduces the basics of network security. Topics covered will include network vulnerabilities and threats, security planning, security technology, network security organization, as well as legal and ethical issues related to network security.

IST 292  Fundamentals of Network Security II  (3-0-3)
Offered Spring and Summer Semesters
Prerequisite: IST 291
Co-requisite: IST 202 (required)
This course is an introduction to features of Voice Over IP protocols, including VoIP hardware selection and network design considerations. Concepts include analog and digital voice encoding signaling and Quality of Service (QOS) and troubleshooting and configuration of VOIP networks.