

Central Ohio Technical College
Course Description Listing – Computer Programming Technology Courses
2009-2010 Academic Year

CMP-1601 Principles of Computing

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: None. S/U Graded Course. Course is not open to students with credit for CMP-1600, BMS-2921, BMS-2900, CMP-2500, or CMP-3012.

Principles of Computing introduces the student to basic computer uses. The course includes an understanding of computers and how they function. The student will identify and use hardware and software. Both operating systems and application software will be introduced. The student will become familiar with common application programs including word processing, data base, spreadsheet, graphics, presentation, web authoring, and email accounts. The course is graded Satisfactory/Unsatisfactory.

CMP-2565 Directed Studies in Computers

3 Credit hours, 5 contact hours (1 hour lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2594 Database II and CMP-2593 Systems Analysis and Design.

This course involves the application of computer programming using a relational database and system development concepts, principles and practices to create a comprehensive system development project. The students are required to analyze, design, program, test and document realistic systems on a microcomputer using a specified current database technology. Students work on an independent-study basis with the guidance of the faculty.

CMP-2576 Visual Basic

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2596. Course is graded A-E.

The student will learn the essential aspects of creating a graphical user interface and its corresponding event-driven programming code in Visual Basic.Net. The student learns the fundamental aspects of coding a Visual Basic program, along with error handling and data validation techniques. The student utilizes a hands-on lab environment to design projects that use Visual Basic forms and controls, solve business problems, use variables, perform calculations, incorporate conditions and reach decisions in the Visual Studio environment. Programs are run on minicomputers using the Windows operating system.

CMP-2580 Visual Basic II

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2576. Course is graded A-E.

This course expands on the fundamentals of Visual Basic.Net as presented in CMP-2576. Learning in a hands-on computer lab environment, the student gains an advanced understanding of the controls, calculation methods, condition structures, menu options, functions, looping structures, array construction and usage, Web form issues, accessing database files, saving objects in files, and graphics and animation offered through Visual Basic.Net.

CMP-2585-Data Communications

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of Satisfactory in CMP-1601. Course is graded A-E.

This course introduces the principles, design approaches, and standards involved in computer data communications. Networking considerations, communication architecture, data encoding and transmission, switching, network access protocols, and transport protocols will be emphasized as well as an overview of the concepts of the open systems Interconnections model. Lab work will involve hands-on experiences dealing with communications software and hardware.

CMP-2586 Object Oriented Programming with C++

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2596. Course is graded A-E.

This course offers a basic introduction of Object-Oriented concepts and programming techniques. Issues such as declaring, defining, and using classes, declaring and defining objects and functions in the context of classes are covered. The concepts and techniques of Object class hierarchy and inheritance are applied. Using pointers as a means of creating dynamic arrays and for using strings is covered. The process of building Object algorithms is also emphasized.

**COTC Course Description Listing – Computer Programming Technology Courses
2009-2010 Academic Year****CMP-2587 Advanced C++**

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2586. Course is graded A-E.

This course is a continuation of 2586 Object Oriented C++. The course provides hands-on experience in the design and writing of more complex business oriented programs.

CMP-2592 Operating Systems and Security

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: None. Course is graded A-E.

This course offers a broad survey of common Operating systems including the history, types, and functions of operating systems. The student will be introduced to command line statements used for configuring operating systems. System security issues will be covered, including the skills needed for planning, implementing and auditing a system's security.

CMP-2593 Systems Analysis and Design

5 credit hours, 7 contact hours (3 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2576 or CMP-2586. Course is graded A-E.

This course is an overview of the systems development methodology and its use in the implementation of new computer systems. The student plays a role as a systems analyst using data modeling, process modeling, feasibility analysis, information system modeling, and input and output design. The student will learn and apply normalization, use various modeling structures and examine the pros and cons of conventional file systems in comparison to a distributed database. The student will learn and analyze various client/server architectures.

CMP-2594 Database II

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in BMS-2067. Course is graded A-E.

This course provides the student with the necessary skills and knowledge to identify and perform the tasks in implementing and managing databases using Structured Query Language (SQL) with a Microsoft SQL Server. In a hands-on, computer lab environment, the student will use SQL to store and retrieve data from a relational database management system. The student will learn how to use Select statements, arithmetic and comparison operators, build-in functions, and sub-queries.

CMP-2596 Principles of Computer Programming

4 credit hours, 6 contact hours (3 hours lecture and 3 hours lab). Prerequisite: None. Course is graded A-E.

This course introduces the student to the logic of computer programming. Through the use of flowcharts, pseudocode, and a procedural programming language such as RPG, COBOL, or C++, the student will develop algorithms for solutions to business related programming problems. Hands-on lab exercises allow the student to apply the algorithms to real computer programs.

CMP-2597 Current Industry Software

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: None. Course is graded A-E.

This course is designed to present the student with an overview of software currently used in organizations. Software covered will reflect software in prominent usage, as well as discuss software predicted to be adopted by organizations. The student will be guided to any similarities in seemingly disparate software and be led into discussions regarding what may be predicted to be utilized in the future.

**COTC Course Description Listing – Computer Programming Technology Courses
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CMP-2598 Internet Programming I

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in DMD-3839. Course is graded A-E.

This course builds on the concepts and skills learned in 3839. The student is introduced to Web page programming with dynamic contents. The student will be introduced to a scripting language such as Java, Javascript, or VBScript as well as XML. The emphasis is on Client-Side programming.

CMP-2599 Internet Programming II

4 credit hours, 6 contact hours (2 hours lecture and 4 hours lab). Prerequisite: Grade of C (2.00) or better in CMP-2598. Course is graded A-E.

This course is a continuation of 2598 with an emphasis on Server-Side programming. The course focuses on using Active Server Pages (ASP) to create dynamic, interactive web content. Practical, real-world lab exercises provide the student with hands-on experience. The course includes the use of web tools and web servers and introduces the student to E-commerce. Database communication mechanisms are included.