


CSST 1102 Intermediate Microcomputer Database

Continuation of microcomputer database concepts by demonstrating multiple file/table capabilities using a QBE/SQL capable database. Includes linking multiple databases, extracting data from multiple files, designing custom input forms and reports.

(1 cr. hr.) (ASN). Prerequisite: CSST 1101 or equivalent. Credit cannot be earned for this course and the database modules (CSST 1101, 1102, 1103) and CSIT 2400.

CSST 1103 Advanced Microcomputer Database

Continuation of microcomputer database concepts by demonstrating programming concepts and capabilities using QBE/SQL capable database. Includes logical structures, scripts, and applications.

(1 cr. hr.) (ASN). Prerequisite: CSST 1102. Credit cannot be earned for this course and the database modules (CSST 1101, 1102, 1103) and CSIT 2400.

CSST 1161 Introduction to the Internet

Introduction to the Data Communications Super Highway (Internet). Methods of connecting to the Internet, searching the Internet for information, and communicating with other users.

(1 cr. hr.) (Fall, Spring). (Lecture/Laboratory)

CSST 1171 Local Area Networks Management

Data work group concepts, software installation and tuning, system architecture, configuration and documentation, resource management, security and disaster recovery, performance and accounting.

(1 cr. hr.) (ASN). Prerequisite: CSIT 1151.

CSST 1600 Visual Basic for Non-Computer Majors

An introduction for students with little or no programming background. Topics include the Visual Basic environment, properties, controls, and programming procedures and structures.

(3 cr. hrs.) (Fall, Spring). Lecture/laboratory. Students cannot receive credit for this course and CSCS 2210.

CSWT 1041 Introduction to Web Pages

Web page design techniques using HTML and prepackaged applications. Presents skills necessary to build and manage professional web pages using different browser and computing platforms, typography, color selection and navigation.

(1 cr. hr.) (Fall/Spring). Prerequisite: CSST 1161 or instructor consent. Lecture/laboratory.

CSWT 1051 Interactive Web Technologies

Experience developing animated and interactive web-based multimedia. Learn basic drawing and animating tools using Flash, and work with layers, libraries, scenes, symbols, and effects. The class is designed for students interested in digital media and web development.

(1 cr. hr.) (ASN). Prerequisite: CSST 1031 or instructor consent.

CSWT 1200 Web Site Development Fundamentals

Web page development techniques using HTML, XHTML, and web site authoring software. Presents skills necessary to build, deploy, and manage professional web pages. Topics include basic tags and more advanced features while emphasizing accessibility, compatibility, security, and emerging Internet trends.

(3 cr. hrs.) (Fall/Spring). Prerequisite: Be taking or have taken CSST 1031. Lecture/laboratory.

CSWT 2610 Client-Web Programming

Involves hands-on experience with common uses of JavaScript in commercial web sites, including but not limited to: form validation, web applications, and Dynamic HTML. Focus is on the DOM (Document Object Model), and also covers the evolving standards with XML and the integration of XML Style sheets with JavaScript to create robust, complex web applications.

(3 cr. hrs.) (Fall). Prerequisites: CSWT 1200 and taking or have taken ARTS 2550. Lecture/laboratory.

CSWT 2620 Server-Web Programming

Database connectivity and other areas related to the construction of commerce-related database driven web sites are the primary focus. Behind the scenes aspects of web programming. Hands-on experience with today's popular programming languages on the web, emphasis on the HTML-embedded scripting languages PHP (Perl-like in syntax) and ASP (VBScript.) Mod-Perl, JSP, Coldfusion, and other common languages also discussed.

(3 cr. hrs.) (Spring) Prerequisite: CSWT 2610. Lecture/laboratory.

ECED Early Childhood

Division of Social Sciences & Social Services
Faculty: Julie Dick, Catherine McLaughlin

**CRPL 1020 Job Search Strategies**

Development of an effective job search plan. Includes writing resumes and cover letters, networking and interviewing techniques, and using services of Advising & Counseling Services.

(1 cr. hr.) (Fall, Spring). Co-requisite: ENGL 1010.

CRPL 1030 Understanding Work Expectations

An in-depth exploration of employer expectations including values, ethical behavior, conduct, first impressions, diversity and problem solving. Importance is directed toward acquiring knowledge and skills in interpersonal relationships and performance on the job to improve job satisfaction and success.

(2 cr. hrs.) (Fall, Spring, Summer).

CRPL 1040 Field Experience

A shadowing experience in business, education, health, human services and technology work sites. Placement will vary depending upon employer need and student skill levels.

(3 cr. hrs.) (ASN).

CRPL 1050 Transfer College Planning

Topics include starting early, academic planning, the use of general education requirements and core courses to provide maximum flexibility in the transfer process, and financial aid and scholarship planning.

(1 cr. hr.) (Fall, Spring). Prerequisite: Eligible to take ENGL 1010.

CRST Computer Repair

Division of Math, Physics, Technology & Engineering Science

Faculty: Joseph DeLeone, Albert Gerth

CRST 1010 Computer Hardware Technologies

Course is designed to help prepare students for the PC Hardware portion of A+ Certification exams. Topics follow objectives as defined by current Comp TIA standards.

(4 cr. hrs.) (Fall) Lecture/laboratory. Course fee \$50. Course not recommended for students enrolled in developmental math/English/reading courses.

CRST 1030 Operating Systems Technologies

Operating system basics. DOS/Unix commands and usage, internal/external commands, directories and file naming, batch file creation/usage, windows/graphical user interfaces and concepts, program logic and sequence, reading/understanding technical documentation and error messages.

(4 cr. hrs.) (Fall, Spring). Lecture/laboratory.

CRST 2040 Systems Configuration & Maintenance

Use of diagnostic hardware and software, virus and spyware scanning tools, troubleshooting of various system level and application packages. Backup/disaster recovery techniques and preventative maintenance are discussed. Detailed discussion of mass storage devices such as CD/DVD standards and hard disks included. Attention will be given to current trends in hardware and software technology.

(4 cr. hrs.) (Fall). Lecture/laboratory. Lab fee.

CRST 2050 Computer Repair Practicum

A course containing a supervised work experience servicing computer workstations and networks in local industries, community agencies and/or educational institutions.

(4 cr. hrs.) (Fall, Spring).

CRST 2060 Computer Repair Seminar

Discussion of general topics of interest concerning PC's and networks. Topics derived from real-life problems and include advanced troubleshooting, optimization of systems, system security, repair/upgrade cost analysis, and system maintenance.

(4 cr. hrs.) (Spring). . Lecture/laboratory. Fee \$50.

**CSCS, CSIT, CSNT, CSST, CSWT
Computer**

*Division of Business Administration and Computing
Faculty: Nicholas Andre, Hans-Peter Appelt, Michael Bilynsky, Matthew Haas, Joseph Oppenheim, Alicia Strupp*

CSCS 1200 Computer Essentials

Theories and applications of computers. Includes computer architecture, hardware, software, number coding, problem solving paradigms, microcomputer applications, network technology, computer ethics, computer careers, e-commerce, and system software.

(4 cr. hrs.) (Fall, Spring). Recommended for computer majors only; non-majors see CSIT 1390. Lecture/laboratory.

**CSCS 1240 Structured & Object-Oriented
Problem-Solving**

Logic for analyzing problems and communicating problem-solving procedures to the computer. Data types and variables, control structures, arrays, sorting and searching, "common sense" analysis, problem-solving, logic flow charting, pseudocoding, and Unified



Modeling Language (UML).
(3 cr. hrs.) (Fall, Spring). Prerequisites: Be taking or have taken CSCS 1200 and MATH 1015. Lecture/Laboratory.

CSCS 1320 C/C++ Programming

C/C++ Programming for systems, commercial, and scientific applications. Topics include: procedural vs. object-oriented programming, data types, operators, standard control structures, functions, pointers, arrays, structures, classes, objects, encapsulation, inheritance, polymorphism, templates and libraries.
(4 cr. hrs.) (Spring). Prerequisite: CSCS 1240. Lecture/laboratory.

CSCS 1730 UNIX/Linux Fundamentals

UNIX Operations System basics. Command-line environment, use of the UNIX shell by moded editing, shell scripting, regular expressions, file manipulation, package management, and related topics. Familiarity with X Window system and related components such as X server, Window Manager, and Desktop environments.
(4 cr. hrs.) (Spring). Prerequisite: CSCS 1200. Lecture/laboratory.

CSCS 2210 Visual Basic – Object Oriented Programming

Prepares students to utilize Visual Basic as an object-oriented programming language. Topics include: the Visual Basic environment, properties, controls, procedures, interfaces and structures. Knowledge of these topics will evolve through extensive programming examples and projects.
(3 cr. hrs.) (Fall, Spring). Prerequisite: CSCS 1240. Students cannot receive credit for this course and CSST 1600. Lecture/laboratory.

CSCS 2320 Data Structures

Data and data structures, linear lists, strings, stacks, queues, linked lists, arrays, and orthogonal lists. Trees, multi-linked structure, table search, sorting techniques, storage allocation, and sequential and random file access.
(3 cr. hrs.) (Fall). Prerequisite: CSCS 1320.

CSCS 2330 Discrete Structures

Discrete mathematical foundations and their relationship to computing. The foundation of discrete structures, mathematical reasoning, combinatorics, graphs and trees, Boolean Algebra and logic gates, and Karnaugh mapping.
(3 cr. hrs.) (Fall). Prerequisite: MATH 1411. Students cannot receive credit for this course and MATH 2330.

CSCS 2420 Java Programming

Basic concepts of object-oriented programming, fundamentals of the language and syntax, algorithmic thinking, problem solving, control structures, data types, operators, input/output, method (user defined and API), single-subscripted arrays and strings, and class libraries. Extensive hands-on program development creating stand-alone applications and Java applets.
(3 cr. hrs.) (Spring). Prerequisite: CSCS 1240. Lecture/laboratory.

CSCS 2430 Digital Logic

Logic gates, flip-flops, circuit diagrams of different types of registers and counters, decoders, encoders, multiplexers, demultiplexers, adders, and characteristics of Asynchronous and Synchronous transmission.
(3 cr. hrs.) (ASN). Prerequisites: CSCS 1240 and MATH 1015.

CSCS 2650 Computer Organization

Computer architecture and assembly language programming methods. Includes addressing, binary and computer arithmetic, boolean logic, bus structures, control and data flow, data representation, debugging, input/output, instruction cycle, instruction sets, interrupts, linking, machine language, memory, processors, registers, storage, subroutines, and translation. Connection to compilers and operating systems discussed.
(4 cr. hrs.) (Spring). Prerequisite: CSCS 1320, CSCS 2420 or instructor consent. Lecture/laboratory.

CSCS 2700 Data Communications

Networks and communication techniques with computers or peripheral devices. Includes communications links and equipment, coding of information, line controls, protocols, multiplexor networks, network/socket programming, error correction algorithms, data transmission, and local area networks. Emphasis on modern internet protocols such as TCP/IP, including the application, transport, internet, and link layers.
(3 cr. hrs.) (ASN). Prerequisite: Instructor consent.

CSCS 2850 Projects

Independent or group project(s) under the guidance of the instructor. Projects will be designed to advance the student's knowledge and competence in computer science and related areas. The student develops a statement of goals and strategies, maintains a weekly log, and prepares written and oral reports.
(3 cr. hrs.) (ASN). Prerequisite: Instructor consent.



CSIT 1001 Introduction to Microcomputer Operating Systems

The operating systems of microcomputers. Hardware components and configuration, disk preparation, internal vs. external commands, filenames, disk maintenance, hard disk subdirectories.
(1 cr. hr.) (Fall, Spring). Lecture/laboratory.

CSIT 1002 Advanced Microcomputer Operating System Concepts

Continuation of microcomputer operating systems including configuration, management, and customization of microcomputer hardware. Hard disk technical data, system configuration and hardware control, safeguarding data, overcoming hard disk disasters, system file modification, an introduction to batch file programming.
(1 cr. hr.) (Fall, Spring). Lecture/Laboratory.
Prerequisite: CSIT 1001.

CSIT 1021 Microcomputer Architecture

Microcomputer hardware will be analyzed and defined for the novice user. Architectural design of micro-processors, memory chips, motherboard capacity, secondary storage and other peripherals. An introductory course for those planning to purchase a microcomputer or those who already own one. Provides a basic foundation for troubleshooting techniques.
(1 cr. hr.) (ASN).

CSIT 1151 Introduction to Networks

Microcomputer networks including history of networks, basic electronic concepts and terms, serial vs. parallel communications, network software, modems, private and public networks, network management and security, and future directions in the industry.
(1 cr. hr.) (Fall, Spring). Lecture/Laboratory.
Prerequisite: CSST 1161.

CSIT 1320 HPC Fundamentals

Introduces students to current computational trends and interdisciplinary collaboration. Survey of applications requiring visualization, data and time intensive processing, concurrency. Case studies drawn from current problems in the computing, business, scientific, and mathematical disciplines. Students will be exposed to design, implementation, and operational aspects of a high performance computing system, as well as skills in resource utilization, system performance optimization, and general problem solving techniques.
(3 cr. hrs.) (Spring). Prerequisites: CSCS 1730.

CSIT 1390 Computer Literacy and Microcomputer Applications

Student will complete projects integrating spreadsheets, databases, word processing, and graphic presentations with embedding and linking applications. Graphical User Interface (Windows operating system) will be utilized throughout the semester. Hardware analysis, operating system comparison, binary number system manipulation, and telecommunication and network technology literacy will be studied.
(4 cr. hrs.) (Fall, Spring). Lecture/laboratory.

CSIT 2240 Gaming Programming

Introduction to game development. Topics include: conceptual game design; game mechanics; rules and interaction; multimedia, interface, and implementation considerations. Students will apply game theory and programming skills to a game development project.
(3 cr hrs.) Prerequisites: CSCS 1320 and 1730.

CSIT 2310 Structured & Object-Oriented Systems Analysis and Design

Techniques for processing data through computers. Input, output, and programming systems. Skills required in system design, the allied areas of form management, and records retention. Examination of flow charting and data flow diagrams for paperwork flow, unit record equipment, and computer systems. Forms and record design. Practical applications are developed, displayed and presented for integrated procedures and weighed from the viewpoint of economy, efficiency, and expansion.
(3 cr. hrs.) (Fall). Prerequisite: CSCS 1200. A student presentation is required.

CSIT 2390 Advanced System Analysis

Use of current decision-making concepts and an introduction to operations research to develop a comprehensive information system. EDP auditing, security, structured design with online database considerations, new data entry devices, consultant assistance, and information controls. Major deliverables will be included by the student.
(3 cr. hrs.) (ASN). Prerequisite: CSIT 2310. Offered evenings only.

CSIT 2400 Database System

Creating, modifying, and using a database and composing an original database system. Conceptual database design, relational database system, relational query language, programming, menu-driven systems, screen I/O and prompting. Database terminology.
(3 cr. hrs.) (Spring). Prerequisite: CSIT 2310. Lecture/laboratory. Credit cannot be earned for this course and the database modules (CSST 1101, 1102, 1103).

**CSIT 2510 Managing Microcomputer Systems**

Capstone course evaluates the computing needs of a small business: hardware and software selection, hardware setups, software installation, system maintenance, backup procedures, and security techniques.

(3 cr. hrs.) (Spring). Prerequisites: CSIT 1002, 1151; CSST 1031. Supervised field experience.

CSNT 1200 Network Fundamentals

Network standards and terminology are introduced. Different media and their properties. Introduction to protocols and architectures.

(4 cr. hrs.) (Fall). Lecture/laboratory.

CSNT 1400 LAN-WAN Networking

Discussion of local area networks, wide area networks, protocols, topologies, transmission media, internetworking, switching, bridging, and routing. Configuration of current networking operating systems, and transmission protocols (TCP/IP) for network access is covered. Practical, hands-on experience configuring and implementing the lecture topics.

(4 cr. hrs.) (Spring). Prerequisite: CSNT 1200. Lecture/laboratory.

CSNT 2000 Data/Voice Communication

Telecommunication is introduced and differences between data and voice transmissions over network are examined. Error detection and correction, signaling, and telephone topics introduced.

(4 cr. hrs.) (Fall). Prerequisites: CSNT 1200 and CSCS 1200. Lecture/laboratory. Fee \$50.

CSNT 2400 LAN Implementation & Configuration

Design, configuration, installation and administration of LANs and VLANs.

(4 cr. hrs.) (Fall). Prerequisite: CSNT 1400. Lecture/laboratory. Fee \$50.

CSNT 2800 Network Project

Hands-on course using a team approach. Students create and evaluate various network systems. Includes analysis, design, development, implementation, maintenance, and evaluation of different kinds of network systems.

(3 cr. hrs.) (Spring). Prerequisites: CSNT 2400. Lecture/laboratory.

CSST 1031 Introduction to Graphical User Interface (GUI)

Graphical environment for applications and documents. Use of icons, simultaneous on-screen applications, and sharing information between application software. Explores various applications within the graphical interface. Includes using a mouse and the "point and click" method.

(1 cr. hr.) (Fall, Spring). Lecture/laboratory.

CSST 1051 Introduction to Spreadsheets

Use of a microcomputer and current application software to introduce the accounting, arithmetic, and analytical capabilities of the electronic spreadsheet. Spreadsheet construction, pointer movement, arithmetic and logical operations, formulas and functions, file concepts, printing, graphics capabilities, and data management.

(1 cr. hr.) (Fall, Spring). Prerequisite: Math 1015 or instructor consent. Lecture/laboratory.

CSST 1052 Intermediate Spreadsheet Concepts

Reinforces basic spreadsheet skills and introduces printing and graphing options, file management, logical and lookup functions, range names and database concepts.

(1 cr. hr.) (Fall, Spring). Prerequisite: CSST 1051 or equivalent. Lecture/laboratory.

CSST 1053 Advanced Spreadsheet Concepts

Creation and use of macros, database management functions, branching, custom menu development.

(1 cr. hr.) (Fall, Spring). Prerequisite: CSST 1052 or equivalent. Lecture/laboratory.

CSST 1091 Introduction to Microcomputer Graphics

Introduction to creating quality graphic presentations. Includes basics of graphing, selection of the proper chart, use of the software.

(1 cr. hr.) (Fall, Spring). Lecture/laboratory.

CSST 1101 Microcomputer Database Concept

Creation, maintenance, and retrieval of data records utilizing a current database application package. Structure creation, data entry, editing, sorting, indexing, queries, reports, and record maintenance.

(1 cr. hr.) (Fall, Spring). Credit cannot be earned for this course and the database modules (CSST 1101, 1102, 1103) and CSIT 2400. Lecture/laboratory.