CGD 160 Technical Desktop Publishing / Graphics

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU

Create multimedia presentations to effectively communicate ideas and market designs. Applies concepts, theories and principles of typography, color and design to create digitally based portfolios for application to four year colleges or for entry level employment. ADVISORY: Eligible for English 250, 260 and Mathematics 233. Familiarity with word processing, keyboarding, and DOS file management. Computer lab work can be done both in lab and off-site.

CGD 190 Occupational Work Experience / Computer Graphics & Design

Units: 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory
Transferable: CSU

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. REQUIRED: Declared vocational major.

COMPUTER SCIENCE & INFORMATION SYSTEMS

CSIS 1 Computer Literacy - MS Office

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU, UC; GAV-GE:E2; CAN:CSCI2

An introduction to terminology, design, operation for the novice user. Student will gain experience using the Internet for searches and email. They will complete projects using various software including word processing, spreadsheets, database, presentation graphics, and integration. This course has the option of a letter grade or pass/no pass. ADVISORY: Eligible for English 250 and English 260; completion of CSIS 122.

CSIS 2 Computers in Business

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU; GAV-GE:E2; CAN:BUS6

Introduction to business information management systems. Topics include database management systems, computer hardware and software, networking, ethics, data security, ecommerce; includes hands-on experience applying these concepts to solve practical business problems using word processing software, spreadsheets, database management systems, presentation graphics and Internet applications. Students cannot receive credit for both CSIS 2 and CSIS 2L. Please see a counselor about degree, certificate, and transfer requirements. This course has the option of a letter grade or pass/no pass. (C-ID: BUS 140) ADVISORY: Eligible for Mathematics 233, English 260 and English 250, and CSIS 122

CSIS 2L Computers in Business Lab

Units: 1.0 **Hours:** 3.0 Laboratory
Transferable: CSU

Hands-on experience solving practical business problems using word processing software, spreadsheets, database management systems, presentation graphics and Internet applications. Students cannot receive credit for both CSIS 2 and CSIS 2L. Please see a counselor about degree, certificate, and transfer requirements. This course has the option of a letter grade or pass/no pass.

CSIS 3 Research Skills

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

Research and evaluation skills using the Internet and other electronic resources, as well as traditional printed materials. Also listed as LIB 3. This course has the option of a letter grade or pass/no pass. ADVISORY: Eligible for English 250 and 260.

CSIS 5 C++ Scientific Programming

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; CAN:CSCI4

An introduction to computer problem solving and programming using the C++ language for science and engineering majors. Students will write programs for a variety of scientific and mathematical applications. This course has the option of a letter grade or pass/no pass. PREREQUISITE: Mathematics 1A ADVISORY: Completion of CSIS 10.

CSIS 6 Web Page Authoring I

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU; GAV-GE:E2

An introduction to using Hypertext Mark-Up Language (HTML) and Extensible HTML (XHTML) to create web pages which can be uploaded and displayed on the World Wide Web. Students will use HTML/XHTML to create web pages with text in various sizes and colors, links to other sites, background color or patterns, graphics, tables and mailto links. Principles of design and color as they apply to screen presentations will be included. This course has the option of a letter grade or pass/no pass. Also listed as LIB 6 and DM 6. ADVISORY: CSIS 1 or CSIS 2 or CSIS 3/LIB 3 advised.

CSIS 7 Web Page Authoring II

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

This course is a continuation of CSIS 6, Web Page Authoring I. Topics that will be covered include XHTML, frames, advanced tables, forms, scripting languages, image maps, Cascading Style Sheets (CSS), and new trends in web page technology. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 7. ADVISORY: CSIS 6

CSIS 8 Introduction to the Internet

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: CSU; GAV-GE:E2

Topics include networking fundamentals, webpages and HTML, online security basics, and business email etiquette. Students will learn techniques to search efficiently for information and evaluate its credibility. This is a pass/no pass course. ADVISORY: CSIS 124

CSIS 9 Computer Education for Teachers

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU

The history, uses and development of computers in education. Basic computer skills and terminology will be taught in context of teacher education. Students who successfully complete this course will understand general and specific skills and knowledge required to meet the Technology Standard for Multiple and Single Subject Credential Candidates. This course has the option of a letter grade or pass/no pass. This course is also listed as CD 12. ADVISORY: CSIS 122 Computer Keyboarding, or equivalent; English 250 with a grade of C or better.

CSIS 10 BASIC Programming

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU, UC

This course is an introduction to programming using BASIC. No previous programming background is assumed. This is a good class for those new to programming and recommended for non-programmers that want to take other programming classes. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 1 or CSIS 2 or equivalent experience.

CSIS 12 Assembly Language Programming

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU, UC

Fundamentals of assembly language programming concepts and techniques. Topics include internal representation of data, arithmetic operations, logic statements, and general assembly language commands. Introduce low level language architecture including assemblers, linkage editors, and loaders. This course has the option of a letter grade or pass/no pass. COREQUISITE: CSIS 12L Assembly Language Programming Lab ADVISORY: CSIS 45 (C++ Programming) or programming experience. Math 233 (Intermediate Algebra)

CSIS 12L Assembly Language Programming Lab

Units: 1.0 **Hours:** 3.0 Laboratory
Transferable: CSU, UC

Supplemental practice in coursework associated with this course is provided. Concurrent enrollment in CSIS 12 is required. This is a pass/no pass course. COREQUISITE: CSIS 12 Assembly Language Programming

CSIS 18 UNIX / C++ Programming

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU, UC

An introduction to the C++ programming language and the UNIX operating system. Topics include programming on a UNIX system, including C/C++ language, shell programming, and the interface between C++ and UNIX. This course has the option of a letter grade or pass/no pass. Concurrent enrollment in CSIS 18L is required. COREQUISITE: CSIS 18L UNIX/C++ Programming Lab ADVISORY: CSIS 48 UNIX Operating System, CSIS 10 BASIC Programming or other programming experience.

CSIS 18L UNIX / C++ Programming Lab

Units: 1.0 **Hours:** 3.0 Laboratory
Transferable: CSU, UC

Supplemental practice in coursework associated with this course is provided. Concurrent enrollment in CSIS 18 is required. This course has the option of a letter grade or pass/no pass. COREQUISITE: CSIS 18 UNIX/C++ Programming

CSIS 20 COBOL Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU

An introductory course in the language COBOL. Suggested for students interested in business and commercial data processing. Structured COBOL statements, COBOL syntax, modular program planning techniques, and business data processing applications from initial job application phase through programming and testing will be studied. The student has the opportunity for extensive programming experience on the college computer. This course has the option of a letter grade or pass/no pass. ADVISORY: Other programming experience.

CSIS 24 Java Programming I

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

Introduction to Java programming. Includes learning the Java environment, using and creating Java applets, and writing stand-alone applications. Covers the Java environment, object-oriented programming, language basics, classes, interfaces, packages, threads, and exceptions. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 45 C++ Programming or equivalent programming experience.

CSIS 26 Discrete Structures

Units: 4.0 **Hours:** 4.0 Lecture
Transferable: CSU, UC; CSU-GE:B4, IGETC:2A; GAV-GE:B4

Topics covered include set theory, logic, relations and functions, mathematical induction and recursion, combinatorics, discrete probability, trees and graphs, analysis of algorithms, algebraic structures. Emphasis on topics of interest to computer science majors. This course has the option of a letter grade or pass/no pass. Also listed as MATH 26. PREREQUISITE: CSIS 5 or CSIS 45 or CSIS 46 with a grade of 'C' or better.

CSIS 42 Python Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

Introduction to the interpreted language called Python. Study and create programs that perform various tasks, including text and file manipulation, internet scripting, data structures, testing, and practical problem solving with examples. Covers object oriented programming and the Python Standard Library. ADVISORY: CSIS 10 or programming experience.

CSIS 43 C Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

This course introduces computer programming using the C programming language. Topics include variable and constant declarations, arithmetic operations, selection, input/output operations, repetition, functions and recursion, arrays, pointers, and other related topics. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 10 BASIC Programming, or other programming experience.

CSIS 44 C# .NET Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU

This class will teach the program using the state of the art C# (C Sharp) language provided in the Microsoft .NET framework. You will learn about variables and constants, expressions and statements, operators and namespaces. Most important, you will learn how to create classes and instantiate objects. This course will provide a solid foundation for exploring the .NET framework as well as advanced topics in C#. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 45 C++ Programming

CSIS 45 C++ Programming I

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; GAV-GE:E2; CAN:CSCI18

An introduction to the concepts and methods of computer programming using C++. Students will be introduced to procedural and object-oriented programming design methodology. Topics covered include variable and constant declarations, selection statements, repetition, functions and recursion, arrays, strings, pointers, and an introduction to classes and objects. This course will prepare students for the Programming II class. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 10 or equivalent. Math 205 (Elementary Algebra)

CSIS 46 C++ Programming II

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

This course is a continuation of CSIS 45, intended for students majoring in programming and/or planning to transfer to a 4-year college or university Computer Science program. The course will cover topics discussed in CSIS 45 in more detail. In addition the course will cover more advanced C techniques such as pointers, recursion, and linked lists. Special emphasis will be placed on C++ features such as classes, objects, templates and operator overloading. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 45 or CSIS 5, and Mathematics 205.

CSIS 47 Visual C++ Programming

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU, UC

Visual C++ Programming to create professional GUI based applications using app and class wizard, common controls, dialogs, menus, tool bars, status bars, file mechanism, and custom controls. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 45

CSIS 48 UNIX / Linux Operating System

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

This course will provide the basics of the UNIX/Linux operating system, including the history and the use of UNIX/Linux with hands-on experience using commands and files. Topics to be covered include basic UNIX/Linux commands, text editing, files and directories, electronic mail, pipes and filters, and shell programming. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 1 or CSIS 2 or equivalent computer experience.

CSIS 49 UNIX / Linux Shell Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

A beginning course in UNIX/Linux shell programming using different commands including awk, sed, and Perl. The course will cover theory and concepts including interpretation of different quote characters, shell variables, decision-making commands, and looping mechanism. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 48

CSIS 51 Visual Basic .NET Programming

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; GAV-GE:E2

An introduction to the GUI software applications using Microsoft Visual Basic .NET. This course will give students the opportunity to learn how to create applications using Visual Basic programming in the .NET framework. This course will show the students to use forms, boxes, buttons, labels, menus, scroll bars, and drawing objects. This course will show the students how to develop professional looking and deployable Visual Basic .NET applications. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 10 or equivalent.

CSIS 54 Perl Programming

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU, UC

Introduction to the interpreted language called PERL, the Practical Extraction and Report Language. Writing of programs that perform various tasks, including text, file and process manipulation. Semantics and syntax of the Perl language, including discussion of the practical kinds of problems that Perl can solve and provides examples. This course has the option of a letter grade or pass/no pass. Concurrent enrollment in CSIS 54L is required. COREQUISITE: CSIS 54L Perl Programming Lab ADVISORY: CSIS 45 C++ Programming or equivalent programming experience.

CSIS 54L Perl Programming Lab

Units: 1.0 **Hours:** 3.0 Laboratory
Transferable: CSU, UC

Supplemental practice in coursework associated with this course is provided. Concurrent enrollment in CSIS 54 is required. COREQUISITE: CSIS 54 Perl Programming

CSIS 73 Desktop Publishing - Adobe InDesign

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU

This course will provide students the opportunity to learn to use basic features of desktop publishing software to create all types of publications: flyers, brochures, newsletters, and advertisements. Included in the course will be basic page layout and design principles and integrating text and graphics to create attractive business publications. The course will be taught with Adobe InDesign. This course has the option of a letter grade or pass/no pass. Also listed as DM 73. ADVISORY: Completion of CSIS 1 or completion of CSIS 2.

CSIS 74 Advanced PhotoShop

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU; GAV-GE:C1

This is an intermediate level course in mastering Adobe's Photoshop software. Students will learn advanced strategies in professional digital editing. Students will apply creative techniques for print, video, animation and the web. Students will develop skills in luminance, color and exposure to optimize images with adjustment layers and masks, and cutting-edge selection techniques. There will be a focus in post processing for landscape, portrait and panoramic imaging suited for the artist, photographer and design student. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 74. ADVISORY: DM/ART/CSIS 75 PhotoShop I

CSIS 75 Photoshop I - Adobe Photoshop

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU; GAV-GE:C1

This is an entry level course in mastering Adobe's Photoshop software. Students will learn creative and fundamental processes in professional digital image editing. Hands on lessons provide students with skills to manage today's image libraries. Students will be introduced to Photoshop's Bridge and Camera Raw utilities while crafting state of the art compositions for print, video, animation and the web. There is a focus on basic tonal and color adaptations, digital painting, black and white conversion, special effects, and correction and restoration techniques. This course has the option of a letter grade or pass/no pass. This course is also listed DM 75. ADVISORY: CSIS 124 (Windows Fundamentals), CSIS 2L

CSIS 76 Digital Illustration

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU; GAV-GE:C1

Illustration techniques using computer Bezier curve-based illustration software tools to do diagrams and graphics for use in art, desktop publishing, web graphics, multimedia, and computer presentations. This basic Illustrator course is focused on the technical and historical aspects of digital design and illustration as well as the development of personal artistic expression and visual perception through the use of the digital illustration medium. The course will include lectures and discussions about color, composition and content, computer and illustration program use, printing and presentation techniques. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 76. ADVISORY: CSIS 1 or CSIS 2 or equivalent computer experience.

CSIS 77 Introduction to Digital Media and its Tools

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC; GAV-GE:C1

An introduction to the field of digital media, including history, social impact, concepts, career options and industry trends. Applying learned visual and aural design principles, students will explore the use of computer-based tools in the design and production of digital media by creating and editing digital images, sounds, video, animation, and text. A comprehensive term project for publication on the web or CD ROM will be required. This course is also listed as DM 77. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 124, CSIS 1, CSIS 2/2L, CSIS 3, or familiarity using the Macintosh or Windows operating system.

CSIS 78 Web Sites with SQL and PHP

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU

Covers the programming of database-driven, web-based applications (such as an eCommerce web site) using PHP and MySQL. PHP is a powerful language for writing server-side Web applications. MySQL is the world's most popular open source database. Together these two technologies provide a powerful platform for building database-driven Web applications. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 128 Database - Access, or equivalent database experience.

CSIS 79 Portfolio Development

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: CSU; GAV-GE:C1

The planning and production of personal portfolios and self- promotion materials, including online, print, slides, and e-media (CD ROM, DVD) portfolios; cover letters, and resumes. Focuses on self-promotion for jobs, self-employment, or advanced education in the fields of Art, Computer Graphic Design and Digital Media. Students will leave the class with one or more portfolios representing their work. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 79. No college credit for those who have passed ART 79.

CSIS 80 Digital Photography

Units: 3.0 **Hours:** 2.0 Lecture and 4.0 Laboratory
Transferable: CSU, UC; GAV-GE:C1

The study of digital photography from digital camera to the computer-based printer or digital media. Artistic, theoretical, and technical aspects will be considered. Topics include information about types and purchasing of digital cameras; theory, mechanics, and art of digital imagery; digital darkroom; eccentricities of digital photo taking; stitching photos for virtual reality; and preparing digital images for print, World Wide Web and other digital media. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 80. ADVISORY: CSIS 1 or CSIS 2/2L or ART 8A or equivalent computer experience.

CSIS 84 JavaScript Programming

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU, UC

Fundamentals of JavaScript client-side programming for Web pages requiring data collection or other user interaction. Students will create Web pages that execute on the client (personal system) using JavaScript. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 6

CSIS 85 Web Design I: Dreamweaver

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU; GAV-GE:C1

Basic and intermediate principles of designing web pages using Dreamweaver, HTML and CSS. Emphasis will be on concept development, interface and navigation design, layout principles and the use of Dreamweaver and CSS to execute, develop, and maintain professional Web sites. Topics will include enhanced text formatting, tables, styles, forms, frames, image maps, and background colors and patterns. Course also includes the integration of multimedia components such as graphics, sound, animation, and video. This course is also listed as DM 85. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 6 or basic knowledge of HTML.

CSIS 107 Digital Media Design

Units: 2.0 **Hours:** 1.5 Lecture and 1.5 Laboratory
Transferable: CSU

Fundamentals of design for visual, time-based, interactive, and sound arts as applied to digital media. Includes basic storytelling, graphic design, information architecture, and human factors. Page layout, scriptwriting, storyboards, and flow charts will be used as tools applicable to the design and development of business presentations, interactive media, educational multimedia, animation, web sites, video games, and film/video. This course has the option of a letter grade or pass/no pass. Also listed as DM 107. ADVISORY: CSIS 1 or CSIS 2/2L or equivalent computer experience

CSIS 108 Digital Media Lab

Units: .5 TO 3.0 **Hours:** 1.5 TO 9.0 Laboratory
Transferable: CSU; GAV-GE:C1

Supervised practice and individualized computer assisted learning of software applications and techniques commonly found in the design and production of digital media (e.g., digital art and imaging, digital photography, digital print, digital audio/video, web design/authoring, DVD/CD ROMs, animation). Supplements lecture courses. Open entry/exit, so may be added at anytime during the semester. This is a pass/no pass course. Also listed as DM 108. ADVISORY: CSIS 1 or CSIS 2/2L or equivalent computer experience.

CSIS 110 Interactive Animation: Flash

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU; GAV-GE:C1

The production of vector graphics, animation, and interactive multimedia in Shockwave-Flash format for web pages and other digital media. Design of highly interactive web site interfaces and animated games using Flash actions (scripting). Useful for web designers/developers, animators, and multimedia authors. This course has the option of a letter grade or pass/no pass. Also listed as DM 110. ADVISORY: CSIS 1, CSIS 2/2L, CSIS 124 or basic computer knowledge.

CSIS 112 Keyboard Speed Building

Units: .5 TO 1.0 **Hours:** 1.5 TO 3.0 Laboratory
Transferable: CSU

This self-paced course is designed for students who know the alphabetic keyboard by touch and who want to develop their keyboarding speed. Students will use a microcomputer to keyboard a series of straight-copy timings, which will enable them to achieve a high level of skill. This is a pass/no pass course. ADVISORY: CSIS 122 or knowledge of keyboard with keyboarding speed of at least 25 wpm.

CSIS 113 Introduction to Digital Video

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU; GAV-GE:C1

Introduction to the aesthetic and technical aspects of digital video recording, non-linear editing, visual effect generation, and production of video (and associated audio) using the personal computer equipped with specialized software such as Final Cut Pro, Motion, and After Effects. Also considered will be the preparation of digital video for distribution in interactive media such as CDs, DVDs, mobile devices, and the World Wide Web. Students will produce a final digital video project for distribution in various media formats. This course has the option of a letter grade or pass/no pass. Also listed as DM 113. ADVISORY: CSIS 1 or CSIS 2/2L or equivalent computer experience

CSIS 114 Digital Media Production

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

A team oriented practicum that focuses on the application of learned skills to the production of digital media and digital print projects, such as web sites, CD ROM, and DVDs. Project development will be accomplished according to team derived master schedules. Lectures will be on project management, work coordination and production techniques, client-team interface, asset management and integration, budget estimates, testing, and copyright infringement. Please note that this is very much a team oriented class. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 114. ADVISORY: At least one of the following: ART 75, CGE 2, JOUR 18A, MUS 21, CSIS 7, CSIS 71, OR CSIS 77. or possess equivalent skills from any one of the following areas: digital media, computer graphics, digital print, film, TV/video, journalism (publishing), drawing or illustration, web design/ development, business/marketing, or programming.

CSIS 117 Visual Effects-Motion Graphics

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU, UC

Study of the design of visual effects and motion graphics used in digital video, film, web, multimedia, and interactive games. Includes video/graphics compositing techniques, 2D animation, basic 3D animation, and effects commonly done in digital post-production. Software such as Adobe After Effects and Apple's Motion and Shake will be used. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 117. ADVISORY: DM/ART/CSIS 113 or DM/ART/CSIS 140 or DM/ART/CSIS 77 or THEA 17A or basic knowledge of digital video/film editing.

CSIS 120 Computerized Accounting - QuickBooks

Units: 3.0 **Hours:** 3.0 Lecture
Transferable: CSU

An introduction to computer assisted accounting. Hands-on use of a microcomputer menu-driven accounting package to do general ledger, sales journal, cash receipts journal, cash payments journal, purchases journal, payroll, receivables, payables and related financial reports. This course has the option of a letter grade or pass/no pass. This course is also listed as ACCT 120. ADVISORY: CSIS 1 or CSIS 2 or the equivalent computer experience. ACCT 20 or ACCT 101 or ACCT 103 or ACCT 105 or the equivalent accounting experience.

CSIS 121 Spreadsheet - MS Excel

Units: 1.0 OR 2.0 **Hours:** 1.0 OR 2.0 Lecture
Transferable: CSU

Introduction to the computer spreadsheet software. A hands-on approach to learning terms, commands, and applications of a spreadsheet program. This course will help prepare students for taking the Excel MOUS (Microsoft Office User Specialist) exams. This course has the option of a letter grade or pass/no pass. Also listed as ACCT 121. ADVISORY: CSIS 1 or CSIS 2 or equivalent computer experience.

CSIS 122 Computer Keyboarding

Units: .5 TO 2.0 **Hours:** 1.5 TO 6.0 Laboratory
Transferable: CSU

A self-paced course for students who wish to master the alphabetic and numeric keyboard on the computer. This course is designed for students who do not know the alphabetic keyboard by "touch" and for those who want to improve their ability to type straight copy with increased speed and accuracy. The course provides "hands-on" instruction to help students reach optimum computer keyboarding skills within a limited time. This is a pass/no pass course. Course may be repeated until 2 units are accrued.

CSIS 124 Windows Fundamentals

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: CSU

This course provides fundamental information on the Windows environment for the computer. Introductory Windows operations and file management are covered. This is a pass/no pass course. ADVISORY: Basic keyboarding skill.

CSIS 126 Word Processing - MS Word

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

This introductory course for word processing with Windows is designed for business and non-business majors. Students will develop word processing skills to create a document, select and edit text, move and copy text, use the spelling, grammar, and thesaurus features, format text, and create headers and footnotes for a research paper. This course has the option of a letter grade or pass/no pass. ADVISORY: Eligible for English 260 and basic keyboarding skills.

CSIS 128 Database - MS Access

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

Introduction to Microsoft Access, a relational database management software tool. Students will learn to create and manage a database. This course will help prepare students for taking the Access MOUS (Microsoft Office User Specialist) exams. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 1 or CSIS 2 or equivalent knowledge.

CSIS 129 Presentation Graphics - MS PowerPoint

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: CSU

This introductory course in presentation graphics will use Microsoft Office's "PowerPoint" software to create a computerized presentation (slide show) with text and objects. This course is also listed as CMUN 129. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 126 or word processing skills in the Windows environment.

CSIS 132 Intermediate Word Processing - MS Word

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

This course covers formatting with macros and styles, mail merge techniques, sorting data in tables, preparing and protecting forms. These techniques will be applied to a variety of different documents: contracts, reports, surveys, manuscripts, and various types of letters. Other topics include working with shared documents in a workgroup, integrating applications and creating hyperlinks for workgroup settings using Microsoft Word. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 126 Word Processing - MS Word

CSIS 134 Intermediate Excel

Units: 2.0 **Hours:** 2.0 Lecture
Transferable: CSU

This course continues on where CSIS 121 Spreadsheet - MS Excel left off. Intermediate level training in spreadsheets using the Microsoft Excel program. The course includes graphing, formatting, database features, macros, and financial business calculations for decision making. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 121 Spreadsheets - MS Excel

CSIS 140 Basic Digital Film / Video Production

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: CSU, UC; GAV-GE:C1

An on-line self-paced course covering the basics of film/video production and post production (editing) using "easy to use" computer software such as Apple's iMovie. Beneficial for students who are producing a video/film project as a requirement for another college course, extra skills development, or for self interest. Completion of the associated class or personal project in DVD format using either personal video equipment or the equipment in the Digital Media Studio is required. This course has the option of a letter grade or pass/no pass. This course is also listed as DM 140.

CSIS 151 Introduction to XML Authoring

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU

This course provides an introduction and overview of eXtensible Markup Language (XML) and XML related technologies used to develop content and manipulate data for commercial web sites. XML is a revolutionary language which is rapidly becoming a Web development standard for business-to-business transactions, and for database manipulation and searching. The class will cover well-formed and valid XML documents, namespaces, schemas, cascading style sheets (CSS), and XSLT. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 6

CSIS 178 Applied Networking

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU

This course covers fundamental networking concepts and develops the skills and knowledge to set up and maintain small business/home networks. The course is not hardware or vendor specific. It helps students prepare for the "Network +" certification exam, an industry- wide, vendor-neutral certification program developed and sponsored by the Computing Technology Industry Association (CompTIA). This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 124

CSIS 179 Introduction to Information Security

Units: 4.0 **Hours:** 4.0 Lecture
Transferable: CSU

This course introduces students to network security concepts and prepares them for computer systems and network management duties. This course covers security concepts, communications and infrastructure security, basic cryptography, and operational and organizational security. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 178.

CSIS 181 PC Hardware

Units: 4.0 **Hours:** 4.0 Lecture
Transferable: CSU

This course examines computing hardware, operating systems, and software applications from a technical side to enable students to select, install, maintain and optimize a computer system. This course will help prepare students to pursue the A+ Hardware Certification. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 124, CSIS 1 OR CSIS 2, or equivalent computer experience.

CSIS 182 Operating Systems

Units: 4.0 **Hours:** 4.0 Lecture
Transferable: CSU

This course will survey current computer operating systems. Topics include file system management, systems requirements, network systems integration, security, and regular maintenance procedures. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 1 or CSIS 2 or equivalent computer experience

CSIS 183 Introduction to Microsoft Servers

Units: 4.0 **Hours:** 3.0 Lecture and 3.0 Laboratory
Transferable: CSU

This course introduces students to the fundamentals of Microsoft Server setup and administration. Topics include managing file systems (including Active Directories), devices, user accounts, backups, and basic security. This course has the option of a letter grade or pass/no pass. ADVISORY: CSIS 182.

CSIS 184 Computer Forensics

Units: 3.0 **Hours:** 2.0 Lecture and 3.0 Laboratory
Transferable: CSU

Introduction to computer crime investigation processes. The student is introduced to the hardware, software, networks and devices found in typical home and business settings. Techniques and equipment used to collect evidence, ensure integrity, locate and prepare data for forensic investigation. Covers chain of custody requirements for admissible evidence, data formats for a variety of modern equipment, and recovery of deleted or encrypted information. This course has the option of a letter grade or pass/no pass. This course is also listed as AJ 184.

CSIS 190 Occupational Work Experience / Computer Science

Units: 1.0 TO 4.0 **Hours:** 5.0 TO 20.0 Laboratory
Transferable: CSU

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. May be taken for a maximum total of 16 units. Minimum 2.00 GPA. REQUIRED: Declared vocational major.

CSIS 570 Computer Access Evaluation

Units: .5 **Hours:** 1.5 Laboratory
Transferable: No

This course is intended to provide an in-depth computer access evaluation in order to determine an appropriate access environment for a student with a disability or multiple disabilities. This is a pass/no pass course. May be repeated as necessary based on measurable progress as documented in the Student Educational Contract. This is an open entry, open exit course. ADVISORY: This course is intended for students with a verified disability who show a need for the use of assistive computer programs and/or equipment or demonstrated academic deficit.

CSIS 571A Introduction to Assistive Computer Instruction Lab

Units: .5 TO 2.0 **Hours:** 1.7 TO 6.8 Laboratory
Transferable: No

The Assistive Computer Instruction Lab (Intro) is designed for students who are eligible for Disability Services. The course is designed to improve basic academic skills and/or cognitive processes through the use of appropriate software or to learn adaptive devices designed to make computers accessible. Course content is based on Student Educational Contracts which are developed for each student. This is as pass/no pass courses. May be repeated as necessary based on measureable progress as documented in the Student Educational Contract. This is an open entry, open exit course. ADVISORY: This course is intended for students with a verified disability or demonstrated academic deficit who show a need for the use of assistive computer programs and/or adaptive equipment.

CSIS 571B Intermediate Assistive Computer Instruction Lab

Units: .5 TO 2.0 **Hours:** 1.7 TO 6.8 Laboratory
Transferable: No

The Assistive Computer Instruction Lab (Intermediate) is designed for students who are eligible for Disability Services. The course is designed to improve basic academic skills and/or cognitive processes through the use of appropriate software or to learn adaptive devices to make computers accessible. Course content is based on Student Educational Contracts which are developed for each student. This is a pass/no pass course. May be repeated as necessary based on measurable progress as documented in the Student Educational Contract. This is an open entry, open exit course. ADVISORY: This course is intended for students with a verified disability or demonstrated academic deficit who show a need for the use of assistive computer programs and/or adaptive equipment.

CSIS 571C Advanced Assistive Computer Instruction Lab

Units: .5 TO 2.0 **Hours:** 1.7 TO 6.8 Laboratory
Transferable: No

The Assistive Computer Instruction Lab (Advanced) is designed for students who are eligible for Disability Services. The course is designed to improve basic academic skills and/or cognitive processes through the use of appropriate software or to learn adaptive devices designed to make computers accessible. Course content is based on Student Educational Contracts which are developed for each student. This is a pas/no pass course. May be repeated as necessary based on measurable progress as documented in the Student Educational Contract. This is an open entry, open exit course. ADVISORY: This course is intended for students with a verified disability who show a need for the use of assistive computer programs and/or equipment or demonstrated academic deficit.

CSIS 572 Adaptive Computer Basics

Units: 1.0 **Hours:** 3.0 Laboratory
Transferable: No

This course will include an introduction to the basic concept of how computers work, using the computer keyboard, word processing, beginning Internet and presentation graphics. This course will be self-paced and adjusted so that students with disabilities can learn a number of adaptive devices designed to make computers accessible. This is a pass/no pass course. May be repeated as necessary based on measurable progress as documented in the Student Educational Contract. ADVISORY: This course is intended for students with a verified disability who show a need for the use of adaptive computer programs and/or equipment or demonstrated academic deficit.

Construction: see Industrial Technology

COSMETOLOGY

COS 191A Workplace Skills

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: No

Workplace Skills teaches skills vital to workplace success. The topic for 191A is Interpersonal Communication. Need not be taken in sequence. This is a pass/no pass course.

COS 191B Workplace Skills

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: No

Workplace Skills teaches skills vital to workplace success. The topic for 191B is team building. Need not be taken in sequence. This is a pass/no pass course.

COS 191C Workplace Skills

Units: 1.0 **Hours:** 1.0 Lecture
Transferable: No

Workplace Skills teaches skills vital to workplace success. The topic for 191C is Problem Solving. Need not be taken in sequence. This is a pass/no pass course.

COS 200 Beginning Cosmetology

Units: 12.0 **Hours:** 5.0 Lecture and 20.0 Laboratory
Transferable: No

Fundamental principles of the science/art of beauty culture including hair design, chemical services and cosmetic therapy. ADVISORY: Eligible for English 250, 260 and Mathematics 205.

COS 201 Intermediate Cosmetology

Units: 12.0 **Hours:** 5.0 Lecture and 20.0 Laboratory
Transferable: No

Extended studies and techniques in tinting, bleaching, permanent waving, soft perming, chemical straightening, pedicuring, waxing, and shaping and styling. ADVISORY: Satisfactory completion of Cosmetology 200. Eligible for English 250, 260 and Mathematics 205.

COS 202 Advanced Cosmetology

Units: 12.0 **Hours:** 5.0 Lecture and 20.0 Laboratory
Transferable: No

Advanced techniques in tinting, lightening, hair design and cosmetic chemistry. PREREQUISITE: Completion of COS 200 & 201. ADVISORY: Eligible for English 250, 260 and Mathematics 205.

COS 203 Practicum

Units: .5 TO 12.0 **Hours:** .0 TO 5.0 Lecture, .0 TO 20.0 Laboratory
Transferable: No

Advanced techniques in tinting, lightening, hair and design and cosmetic chemistry. May be repeated once for credit. PREREQUISITE: Completion of COS 200, 201 and 202. ADVISORY: Eligible for English 250, 260 and Mathematics 205.