

CMUN 11 Business Communication

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

This course will explore business communication contexts by examining organizational cultures, strategic vision and goal setting, leadership managerial roles, and team building communication. Emphasis is placed on analytical and organizational skills, listening, nonverbal and verbal communication, public speaking communication methodology, and domestic and international relations through use of hybrid online and classroom environment for lecture and application. **PREREQUISITE:** English 250. **ADVISORY:** Communication 1A or English 1A.

CMUN 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 with text and objects. This course has the option of a letter grade or pass/no pass. May be repeated three times for credit. This course is also listed as CSIS 129. **ADVISORY:** CSIS 126 or word processing skills in the Windows environment.

Computer Art: see ART 48A/B, CGD, CSIS or Digital Media

COMPUTER GRAPHICS AND DESIGN

CGD 1 Industrial Sketching and Problem Solving

Units: 2.0 **Hours:** 1.0 lecture 3.0 Laboratory
Transferable: CSU

Graphical problem solving techniques used by professional designers in various fields of application using both traditional freehand and the computer. Emphasis is on developing the mental ability to visualize objects/shapes and their manipulation. This is an open entry exit supervised class. Students may concurrently enroll in CGD 110 or GCD 2L. May be repeated three times for a total of 8 units. **ADVISORY:** Eligible for English 250, English 260 and Mathematics 205. Computer lab work can be done both in lab and off-site.

CGD 2 2D/3D Technical Computer Graphics I

Units: 3.0 **Hours:** 2.0 lecture 3.0 Laboratory
Transferable: CSU

Introduction to graphic and design competencies architects, engineers, game/simulation developers, industrial designers and other careers use when producing and marketing real and/or virtual products. Prepares students to create consumer products, buildings and other designed objects by developing freehand sketches, creating SolidWorks models and/or other graphics while applying theory and knowledge of elements and principles of visual design, creative problem solving, typography, professional ethics and research skills. May be repeated once for credit. This course has the option of a letter grade or pass/no pass. **ADVISORY:** LIB 3 and MATH 404G.

CGD 4 2D/3D Technical Computer Graphics II

Units: 3.0 **Hours:** 2.0 lecture 3.0 Laboratory
Transferable: CSU

Intermediate computer graphics design course expands skills and concepts introduced in CGD 2. Develops design and graphic skills required to create, explain, model, render, and animate products using a problem solving process and knowledge of ergonomics, materials, design principles and color theories. Projects assigned integrate technology with design and focus upon creating, developing and marketing useful products by developing and visually communicating ideas that are necessary for succeeding in desired design career(s). May be repeated once for credit. **ADVISORY:** Completion of CGD 2 with a grade of C or better.

CGD 6 Advanced Technical Computer Graphics

Units: 4.0 **Hours:** 2.0 lecture 6.0 Laboratory
Transferable: CSU

Computer design in precision manufacturing. Applied geometry, mathematics for layout, and tolerancing. Advanced design processes and documentation for the designer. Students may concurrently enroll in CGD 110. An open entry/exit course. **ADVISORY:** Eligible for English 250, 260 and Mathematics 233. Computer lab work can be done both in lab and off-site.

CGD 8 Advanced Computer Graphics for Design Application I

Units: 3.0 **Hours:** 2.0 lecture 3.0 Laboratory
Transferable: CSU

Advanced course in applied computer graphics and associated interdisciplinary design proficiencies required by careers that design, engineer, manufacture and/or market products. Applies theories, principles and skills covered in CGD 4 and integrates business, sustainable design, and hybrid products. Design solutions reflect technical understanding, aesthetic principles and addresses societal needs in a cost effective manner. Presentations include animating and rendering models of real and/or virtual products that address human factors/ergonomics, usability, life cycle analysis and sustainability. Portfolios support advancement in student-selected career pathways by communicating competence in computer graphics and design. May be repeated once for credit. **ADVISORY:** Eligible for English 250, 260 and Mathematics 233.

CGD 9 Advanced Computer Graphics for Design Application II

Units: 3.0 **Hours:** 2.0 lecture 3.0 Laboratory
Transferable: CSU

Advanced computer graphics and design course that combines technical computer graphic skills with interdisciplinary design proficiencies including creating computer imagery, transformations, and rendering to create 3D model using geometric primitives, projections for computer animation and data visualization. Includes structural analysis and emphasis on developing products that include ergonomic features and sustainable materials. Work within electronic portfolio demonstrates skills and knowledge of technical graphic design to visualize, develop and present products to meet societal needs. **ADVISORY:** Satisfactory score on the English placement exam or a grade C or better in English 250, completion of Mathematics 233 or satisfactory Mathematics placement. Completion of CGD 2 and CGD 8 with a grade of C or better. Computer lab work can be done both in lab and off-site.

CGD 30 Introduction to Environmental Design

Units: 3.0 **Hours:** 2.0 lecture 3.0 Laboratory
Transferable: CSU

Develops skills and computer aided design (CAD) skills necessary for designing and producing a set of plans for an array of environmental projects, such as residential remodels, landscape projects, interior design and other small construction projects. Includes introduction to building codes, sustainable design concepts, specifications and other architectural construction document basics necessary for getting permits and entering environmental design careers.

CGD 110 Computer Graphics Lab

Units: 1.0 TO 4.0 **Hours:** 3.0 TO 12.0 Laboratory
Transferable: CSU

Complements computer graphics and art courses by providing additional competence in software applications, libraries, and graphical user interfaces to support computer graphics and design projects by providing supervised practice and individualized computer assisted learning on software and techniques commonly found in the computer graphic design field. This is an open entry/exit class and may be repeated three times for credit. This course has the option of a letter grade or pass/no pass. **ADVISORY:** Concurrent enrollment in corresponding computer graphic and design classes. Computer lab work can be done both in lab and off-site.

General Education Requirements, pages 47-57

CGD 160 Technical Desktop Publishing/Graphics

Units: 3.0 **Hours:** 2.0 lecture 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

College credit for learning experience obtained on the job in accordance with a training plan developed cooperatively between the employer, college and student. 75 hours per semester per unit or 60 hours per semester for unpaid experience. This is a pass/no pass course. May be taken for a maximum of 16 work experience units. REQUIRED: Declared vocational major. Concurrent enrollment in seven or more units (including CWE units, except for summer school. For summer school enrollment in one other class is required). Minimum 2.0 G.P.A. Computer lab work can be done both in lab and off-site.

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 - MS Office

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

Introduction to computerized business data processing, information management systems, computer hardware, office automation, telecommunications, computer languages, systems analysis and design; hands on experience with common business software packages including word processing, spreadsheets, data base management, presentation graphics as well as systems software and Internet applications. This course has the option of a letter grade or pass/no pass. ADVISORY: Eligible for Mathematics 233, English 260 and English 250, and CSIS 122

CSIS 2L Computers in Business Lab - MS Office

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

Computer Lab emphasizing business application in Microsoft Word, Excel, Access, Power Point and Integration. Internet searches are included. This course has the option of a letter grade or pass/no pass. Since supervised repetition and practice enhance skills/proficiencies. This course may be repeated once for credit.

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. May be repeated once for credit. ADVISORY: Eligible for English 250 and 260.

CSIS 5 C++ Scientific Programming

Units: 3.0 **Hours:** 2.0 lecture 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. May be repeated three times for credit. 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. May be repeated three times for credit. This course is also listed as DM 7. ADVISORY: CSIS 6

CSIS 8 Introduction to the Internet

Units: 1.0 **Hours:** 3.0 Lecture
Transferable: CSU; GAV-GE:E2

This course will provide students the opportunity to learn to use the Internet and the World Wide Web. Topics to be covered include history of the Internet and development of the WWW, web browsers, search engines, tools to develop web pages, how to get connected and local Internet providers. This is a pass/no pass course. May be repeated three times for credit. 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)