COMP - Computer Science Courses

COMP B2 Introduction to Computer Information Systems
3 units
Prerequisites: BC placement into reading level 06 or successful completion of ACDV B50 or ACDV B61 or equivalent with a grade of C or better.
Description: Introduction to the concepts of computer information systems as problem-solving tools in business, economics, mathematics, and the sciences. Includes the history of computer system components, and sequential and direct-access processing. Database management systems, teleprocessing, and distributed processing are covered. An overview of personal computer applications software (word processing, electronic spreadsheets, and personal database management systems) is also included.
Note: Not open to students who have successfully completed COMS B2, COMS B3, COMP B3.
C-ID: BUS 140
Hours: 54 lecture
Transferable: CSU, UC, and private colleges

COMP B5 Introduction to Microsoft Office
3 units
Recommended: BC placement into reading level 06.
Description: Intended for home users and business people who desire a working knowledge of personal computer hardware and software. Special emphasis on software that is most widely used in Kern County as well as the nation. Mainly focuses on business and home applications of personal computers. Hands-on training with word processing, spreadsheets, database management systems, electronic presentations, and the necessary operating system fundamentals to the listed application software.
Note: Not open to students who have successfully completed COMS B5.
Hours: 54 lecture
Transferable: CSU and private colleges.

COMP B10 Introduction to Programming Methodologies using Python
3 units
Recommended: BC placement into reading level 06.
Description: This course is designed as a first course in software engineering for mixed-majors, with an emphasis on the Computer Science major. Students will use the object-oriented programming language Python to learn the fundamentals of programming. Topics include: variables, sequence, selection, iteration, the software life-cycle, as well as common programming algorithms such as sorting and searching.
Note: Not open to students who have successfully completed COMS B10.
Hours: 54 lecture
C-ID: COMP 112
Transferable: CSU, UC, and private colleges.

COMP B11 Programming Concepts and Methodology I
3 units
Prerequisites: BC placement into reading level 06 and math Level 04 or successful completion of ACDV B50 or ACDV B61 or equivalent and MATH B70 or equivalent with a grade of C or better.
Recommended: Successful completion of COMP B10 with a grade of 'C' or better or instructor approval.
Description: This course is an introduction to the discipline of computer science, with a focus on the design and implementation of algorithms to solve simple problems using a high-level programming language. Topics include fundamental programming constructs, problem-solving strategies, debugging techniques, declaration models, and an overview of procedural and object-oriented programming languages. Students will learn to design, implement, test, and debug algorithms using pseudocode and a high-level programming language.
Note: Not open to students who have successfully completed COMS B14.
Hours: 54 lecture
C-ID: COMP 122
Transferable: CSU, UC, and private colleges

COMP B12 Programming Concepts and Methodology II
3 units
Prerequisites: Successful completion of COMP B11 or equivalent with a grade of C or better.c
Description: This is a software engineering course focused on the application of software engineering techniques for the design and development of large programs. Topics include object oriented programming, data abstraction, data structures and their associated algorithms, and recursion. Students will learn to design, implement, test, and debug programs using an object-oriented language.
Note: Not open to students who have successfully completed COMS B35.
Hours: 54 lecture
C-ID: COMP 132
Transferable: CSU, UC, and private colleges

COMP B13 Computer Architecture and Organization
3 units
Recommended: Successful completion of COMP B11 with a grade of C or better.
Description: This course is an introduction to the organization and behavior of computer systems at the assembly language level. Topics include numerical computation, the internal representation of simple data types and structures, data representation errors, and procedural errors. Students will learn how to map statements and constructs of high-level languages onto sequences of machine instructions.
C-ID: COMP 142
Hours: 54 lecture
Transferable: CSU, UC, and private colleges

COMP B14 Discrete Structures
3 units
Prerequisites: Successful completion of COMP B11 or equivalent with a grade of C or better.
Description: This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include functions, relations and sets, basic logic, proof techniques, basics of counting, graphs and trees, and discrete probability.
C-ID: COMP 152
Hours: 54 lecture
Transferable: CSU, UC, and private colleges

COMP B21 Database Systems - Design & Structured Query Language (SQL)
3 units
Recommended: BC placement into reading level 06.
Description: Course emphasizes "best practices" for relational database design (modeling) and the use of Structured Query Language (SQL) for database manipulation. Normalization, data diagramming, concurrency and other key database concepts will be discussed. Microsoft Access, MySQL, Microsoft SQL Server, and other database management systems will be used to demonstrate concepts. Upon successful completion of this course, students will be able to design real world databases and manipulate them using SQL.
Note: Not open to students who have successfully completed COMS B34.
Hours: 54 lecture
Transferable: CSU and private colleges.

COMP B22 Introduction to Systems Analysis and Design
3 units
Prerequisite: Successful completion of COMP B2 with a grade of C or better.
Description: The course presents a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, articulating business requirements for the technology solution, specifying alternative approaches to acquiring the technology capabilities needed to address the business requirements, and specifying the requirements for the information systems solution in particular, in-house development, development from third-party providers, or purchased commercial-off-the-shelf packages.
Hours: 54 lecture
Transferable: CSU and private colleges.

COMP B31 CompTIA Network Security - Security+
3 units
Recommended: BC placement into reading level 06.
Description: Course is designed for individuals interested in a career in computer network security. Course prepares students for the vendor-neutral CompTIA Security+ certification exam. Topics covered are: network security, types of security threats, security vulnerability assessment, access control fundamentals, authentication, cryptography, and risk mitigation.
Hours: 54 lecture
Transferable: CSU and private colleges

COMP B32 CompTIA Linux+
3 units
Recommended: BC placement into reading level 06.
Description: A general introduction to Linux Installation and Administration. Covers the essentials of installing, configuring, maintaining, administering and troubleshooting the Linux Operating System.
Note: Not open to students who have successfully completed COMS B41.
Hours: 54 lecture
Transferable: CSU and private colleges.

COMP B33 CompTIA Networking Technologies - Network+
3 units
Recommended: BC placement into reading level 06.
Description: Designed for individuals interested in a career in computer networking. Course prepares students for the vendor-neutral CompTIA Network+ certification exam. Topics covered are: networking fundamentals, the OSI model, network protocols, logical and physical architectures in both local and wide area networks, the physical parts of a network (wiring, NICs, hubs, routers, bridges and switches), popular network operating systems, network troubleshooting and security.
Note: Not open to students who have successfully completed COMS B82.
Hours: 54 lecture
Transferable: CSU and private colleges

COMP B34 CompTIA A+
4 units
Recommended: BC placement into reading level 05 or successful completion of ACDV B62 or equivalent with a grade of C or better.
Description: This course provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level ICT professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, and the responsibilities of an ICT professional will be introduced.
Preparation for the CompTIA A+ certification exams.
Hours: 54 lecture, 54 lab
Transferable: CSU and private colleges.

COMP B35 Digital Forensics
3 units
Prerequisite: Successful completion of COMP B31 with a grade of C or better.
Recommended: Successful completion of COMP B34 with a grade of C or better.
Description: This course is an introduction to the methods used to properly conduct a computer forensics investigation beginning with a discussion of ethics, while following the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. Topics covered include an overview of computer forensics as a profession, the computer investigation process, understanding operating systems boot processes and disk structures; data acquisition and analysis, technical writing, and a review of familiar computer forensics tools.
Hours: 45 lecture, 18 lab
Transferable: CSU and private colleges.

COMP B36 Introduction to Cybersecurity: Ethical Hacking
3 units
Recommended: COMP B31 and COMP B33 with a grade of C or better.
Description: This course introduces the network security specialist to the various methodologies for attacking a network. Students will be introduced to the concepts, principles, and techniques, supplemented by hands-on exercises, for attacking and disabling a network within the context of properly securing a network. The course will emphasize network attack methodologies with the emphasis on student use of network attack techniques and tools and appropriate defenses and countermeasures. Students will receive course content information through a variety of methods: lecture and demonstration of hacking tools will be used in addition to a virtual environment. Students will experience a hands-on practical approach to penetration testing measures and ethical hacking.
Hours: 45 lecture, 18 lab
Transferable: CSU and private colleges.

COMP B41 Web Design: Design Tools

3 units

Recommended: BC placement into reading level 06.

Description: This course is an introductory web design course, focusing on the use of web design tools such as Adobe Dreamweaver and other similar WYSIWYG (What you see is what you get) tools to create web pages from a design perspective. Not open to students who have previously received credit for COMS B74A.

Hours: 54 lecture

Transferable: CSU and private colleges.

COMP B42 Web Design: HTML & CSS

3 units

Recommended: BC placement into reading level 06.

Description: This course is an introductory course in designing web pages using HTML and CSS coding. Rather than using a program to write the code, students will learn how to create basic web pages and sites from the ground up using standards-compliant coding techniques. Not open to students who have previously received credit for COMS B74B.

Hours: 54 lecture

Transferable: CSU and private colleges.

COMP B43 Web Design: JavaScript

3 units

Prerequisites: Successful completion of COMP B42 or equivalent with a grade of C or better or instructor assessment of student's knowledge/experience with HTML and CSS.

Description: This is an advanced level course in the web design area. Students will build upon previous knowledge of HTML and CSS to create dynamic and interactive web pages using JavaScript. Not open to students who have previously received credit for COMS B74C.

Hours: 54 lecture

Transferable: CSU and private colleges.

COMP B48WE Occupational Work Experience Education/Internship

1-8 units

Prerequisites: Declared major or occupational goal and evaluation of student's qualifications and objectives.

Description: College credit for Computer Science related learning experiences obtained on the job in accordance with a training plan developed cooperatively between the employer, college, and student. Occupational work experience credit may accrue at the rate of 1 to 8 units per semester for a total of sixteen units, and students must work 75 hours per semester unit of paid work experience; 60 hours per semester unit of volunteer work experience. Repetition allowed per Title 5 55253.

Hours: Non-paid 60 hours for each 1 unit (60-480). Paid 75 hours for each 1 unit (75-600).

Transferable: Not transferable. Degree applicable.

COMP B72 Applied Software Design

3 units

Prerequisites: Successful completion of COMP B10 and COMP B11 and COMP B21 or equivalent with a grade of C or better or approval of instructor.

Description: The course integrates many aspects of modern end-user computer application design. This includes the SDLC needs assessment, database modeling, SQL, user interface design and the programming that ties these components together. Internal and end-user documentation will also be covered. This course

should be taken as the final course for those pursuing the Software Development Certificate of Achievement.

Hours: 54 lecture

Transferable: Not transferable. Degree applicable.

COMP B94 Web Design: PHP & MySQL

3 units

Prerequisites: Successful completion of COMP B42 or equivalent with a grade of C or better or assessment of student's HTML and CSS skills and knowledge by the instructor.

Recommended: BC placement into reading level 06 and writing level 06.

Description: This is an advanced web design course. Building on a foundation of the HTML coding principles and practice, students in this class will learn to develop server-side solutions using PHP and MySQL as a platform. Not open to students who have previously received credit for COMS B75C.

Hours: 54 lecture

Transferable: Not transferable. Degree applicable.