COMPUTER SCIENCE ENGINEERING TECHNOLOGY (CSET)

CSET 1100 Introduction to Computer Science and Engineering Technology
[4 credit hours]
This is the first course in computer hardware and software for CSET majors. Single and multi-user operating systems, command- line processing, program planning and creation and simple Internet tools are covered.
Term Offered: Spring, Fall

CSET 1200 Object Oriented Programming and Data Structures
[3 credit hours]
This course teaches object oriented program design, analysis, and verification with an introduction to data structures including but not limited to list, queue, stack and tree. The course emphasizes Programming Methodology and its impact on programs and the use of Data Abstractions and the implementation of Data Abstractions using classes.
Prerequisites: CSET 1100 with a minimum grade of D- and ENGL 1110 with a minimum grade of D-
Term Offered: Spring, Fall

CSET 2200 PC and Industrial Networks
[0-4 credit hours]
Current concepts and technologies used with personal computers and PLCs in both industrial (factory-floor) and commercial data networks. Topics include PC networking hardware and software, PLC hardware and programming and PLC networking alternatives.
Prerequisites: CSET 1100 with a minimum grade of C- or EET 2210 with a minimum grade of C- or ITEC 2100 with a minimum grade of C-
Term Offered: Spring, Summer, Fall

CSET 2230 Assembly Language and Computer Architecture
[4 credit hours]
This course focuses on the analysis, design, and programming of computer microprocessor architectures. Topics include performance metrics, the design of a machine's instruction set architecture (ISA). This course examines the bride between low-level hardware and executable software, and includes programming in assembly language (representing software programs).
Prerequisites: CSET 1100 with a minimum grade of D- and EET 2210 with a minimum grade of D-
Term Offered: Summer, Fall

CSET 2520 Discrete Structures
[3 credit hours]
An introduction to the discrete structures used in computer science to develop software including proof techniques, boolean logic, graphs, trees, recurrence relations, and functions.
Prerequisites: PHIL 1010 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

CSET 3100 Advanced Web Site Design
[3 credit hours]
HTML forms, creation of static and animated web graphics, Dynamic Fonts, SMIL (Synchronized Multimedia Integration Language) as it relates to G2, Realtext, Realpix and XML. The course also covers Frames, META Tags, Optimizing Speed, Cookies, Imagemapping (from both sides), HTML, tables and Shockwave.
Prerequisites: CSET 1100 with a minimum grade of D-
Term Offered: Spring, Fall

CSET 3150 Introduction to Algorithms
[4 credit hours]
The course covers topics in basic algorithm design and analysis of traditional algorithms such as sorting algorithms, selection algorithms and graph algorithms, with the focus on building correct and efficient algorithms based on the known algorithms. Besides, advanced data structures such as hash tables, binary search trees are covered in the course.
Prerequisites: CSET 2230 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

CSET 3200 Client/Server Computing
[3 credit hours]
Covers client/server architecture and programming techniques. Major topics include two-tier and three-tier client server architectures, programming considerations, cleanlayering, advanced graphical user interface controls, database processing, transaction processing and monitoring.
Term Offered: Spring, Summer, Fall

CSET 3250 Client-Side Scripting
[3 credit hours]
Introduction to the Document Object Model (DOM), JavaScript and VBScript scripting languages, cascading style sheets, browser recognition, browser-specific content, data validation and layers.
Prerequisites: CSET 3100 with a minimum grade of D-
Term Offered: Spring, Fall

CSET 3300 Database-Driven Web Sites
[4 credit hours]
This course covers the creation of dynamic Web applications that interact with a database using server-side scripts and server programs. The material covered includes database fundamentals, server-side scripting language functions for database manipulation and server considerations.
Prerequisites: CSET 1100 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

CSET 3400 Unix System Administration
[3 credit hours]
Commands and methods to install and manage a UNIX system. System administration topics include configuration, user and file management, backup procedures, peripheral devices, performance tuning and troubleshooting.
Term Offered: Spring

CSET 3600 Software Engineering and Human Interfacing
[4 credit hours]
An introduction to software engineering processes for technology students. Includes: user requirements, software specification, design approaches, human-computer interfacing, software tools, validation, modification, maintenance, documentation, lifecycle models, and intellectual property considerations.
Term Offered: Spring, Summer, Fall

CSET 4100 SERVER-SIDE PROGRAMMING
[3 credit hours]
Covers Common Gateway Interface (CGI) programming on the Internet using the most popular scripting languages. Topics include client-side programs, server-side programs, distributed database creation and searching.
Term Offered: Summer, Fall

CSET 4150 Web Server Administration
[3 credit hours]
Installation and configuration of the web server operating systems (e.g., UNIX, Windows NT), installation and administration of web daemon (e.g., Apache, Microsoft IIS). Site management, including file and directory hierarchy, web log analysis, installation and configuration of various utilities for gopher, ftp, text ending and email.
Prerequisites: CSET 2200 with a minimum grade of D-
Term Offered: Summer, Fall

CSET 4250 Applied Programming Languages
[3 credit hours]
How to select the most appropriate language for a specific engineering technology application. Topics include comparison of programming languages by evolution, formal specifications, structures, features, application domains, programming paradigms, implementation of syntax, semantics and program run-time behavior.
Term Offered: Spring, Fall

CSET 4350 Operating Systems
[3 credit hours]
This course teaches the fundamentals of operating systems concepts. It discusses the following topics: process scheduling, memory management, kernel and user mode, system calls, context switches, inter-process communication, I/O and file systems.
Prerequisites: CSET 2230 with a minimum grade of D-
Term Offered: Summer, Fall

CSET 4750 Computer Networks And Data Communication
[4 credit hours]
Computer network architectures and their application to industry needs. Major topics include vocabulary, hardware, design concepts, current issues, trends, hardware, multi-user operating systems, network protocols, local and wide area networks, intranet and internet communications, analog and digital data transmissions.
Prerequisites: CSET 2200 with a minimum grade of D-
Term Offered: Spring, Summer, Fall

CSET 4850 Computer and Network Security
[4 credit hours]
This course provides an introduction to the concepts of computer security, topics include, but not limited to basic cryptography, security policies, network security, program security and systems security. Hands-on lab projects are provided for important topics.
Prerequisites: CSET 4750 with a minimum grade of D-
Term Offered: Spring, Summer, Fall