Number: CS G130  TITLE: Survey Of Computer Science/Information Technology

ORIGINATOR: Cristian Racataian  EFF TERM: Fall 2018
FORMERLY KNOWN AS:  DATE OF
OUTLINE/REVIEW: 11-21-2017
CROSS LISTED COURSE: TOP NO: 0701.00
                  CID: ITIS 120

SEMESTER UNITS: 4.0
HRS LEC: 54.0  HRS LAB: 54.0  HRS OTHER: 0.0
CONTACT HRS TOTAL: 108.0
STUDY NON-CONTACT HRS RECOMMENDED: 108.0

CATALOG DESCRIPTION:
This class surveys computer science and information technology with emphasis on computer business applications. The student will be exposed to computer concepts including components of a computer, operating systems, utility programs, terminology, communications, networking, internet usage, ethical issues and computer application software, such as word processing, spreadsheets, database, database query and presentation software. The student will complete projects in a desktop computer environment. Lecture & lab.

JUSTIFICATION FOR COURSE:

PREREQUISITES:
COREQUISITES:
ADVISORIES:
ASSIGNED DISCIPLINES:
Computer science

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00
CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X] Credit - Not Degree Applicable [ ]
GRADING POLICY: Pass/No Pass [X] Standard Letter [X] Not Graded [ ] Satisfactory Progress [ ]
OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]
TRANSFER STATUS: CSU Transferable[ ] UC/CSU Transferable[X] Not Transferable[ ]
BASIC SKILLS STATUS: Yes [ ] No [X]  LEVELS BELOW TRANSFER: Not Applicable
CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable
NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course
OCCUPATIONAL (SAM) CODE: D
REPEATABLE ACCORDING TO STATE GUIDELINES: No [X]  Yes [ ] NUMBER REPEATS:
REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]  
Associate of Arts: Liberal Arts: Emphasis in Business and Technology(Associate in Arts)
Floral Design and Shop Management(Associate in Arts)
General Management Option(Certificate of Achievement)
Human Resources Management Option(Certificate of Achievement)
Marketing Management Option(Certificate of Achievement)
Retail Management(Certificate of Achievement)
Retail Management and Entrepreneurship(Associate in Arts)
Small Business Management Option(Certificate of Achievement)

GE AND TRANSFER REQUIREMENTS MET:
COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. explain the activities of the components of a computer system such as: CPU, memory, ports, buses, input/output devices and component development.

2. demonstrate the fundamentals of computer-based operating systems and utility programs.

3. describe and demonstrate application software programs such as: word processing, spreadsheets, data base organizational concepts, entering and querying a data base, and presentation software.

4. compare and contrast communication and networking concepts including local area networks (LAN), metropolitan area networks (MAN), wide area networks (WAN), topologies, wired and wireless media approaches, network connectivity issues and methods, general and firewall security.

5. describe the information systems development approach, including system development life cycle, analysis, design, implementation and support.

6. identify and discuss computer ethics, crime, privacy and other social implications.

COURSE OBJECTIVES:

1. Explain the activities of the components of a computer system such as: CPU, memory, ports, buses, input/output devices and component development.

2. Demonstrate the fundamentals of computer-based operating systems and utility programs.

3. Describe and demonstrate application software programs such as: word processing, spreadsheets, data base organizational concepts, entering and querying a data base, and presentation software.

4. Compare and contrast communication and networking concepts including local area networks (LAN), metropolitan area networks (MAN), wide area networks (WAN), topologies, wired and wireless media approaches, network connectivity issues and methods, general and firewall security.

5. Describe the information systems development approach, including system development life cycle, analysis, design, implementation and support.

6. Identify and discuss computer ethics, crime, privacy and other social implications.

7. Use the internet and library resources to research topics and communicate via e-mail.

COURSE CONTENT:

LECTURE CONTENT:

I. Introduction

   A. The World of Computers
   B. Computers in Society
   C. Historical Perspective

II. Hardware

   A. The System Unit
      1. CPU
      2. Data Representation
      3. Coding Systems
      4. Memory
      5. Busses
      6. Ports

   B. Storage Devices

   C. Input/Output Devices

III. Software

   A. System Software current operating systems (O/S) offerings
1. Windows
2. Mac O/S
3. Unix
4. Linux
5. OS/2 Warp
6. Mobile Devices O/S

B. Utility Software
1. Diagnostic Programs
2. Backup Utilities
3. Uninstall Utilities
4. Defragmentation Utilities
5. File Compression Programs
6. Virus Programs
7. Encryption Programs

C. Application Software
1. Integrated Programs
2. Software Suite
3. Proprietary Software
4. Shareware
5. Freeware

D. Business Application Software
1. Word Processing Software
   (formatting, spell check, clipart/charts, and all the basics)
2. Spreadsheet Software
   a. Basics Skills (data entry, formatting, copy, paste, insert, delete, column resize, row resize, cell size, font size, color, text, orientation, object linking and embedding)
   b. Intermediate Skills (Labels, Values, Formulas and Functions-Average, Max, Min, Sum, If, and Round, Absolute versus relative addresses, charting, adding text to worksheet, linking worksheets, what-if analysis/goal seeking, protecting data, printing options)
3. Database Software (creating a database, organization, entering data, editing data and records, defining fields, creating and saving tables, forms, queries, reports and sorting data)
4. Presentation Software (creating a presentation, enhancing a presentation, animation and transitions, presentation options)

IV. Communications and Networks

A. Communications Applications
1. Faxing
2. Wireless
3. Paging
4. GPS
5. Satellite Radio
6. Videoconferencing
7. Telecommuting

B. Networks Topologies
1. LAN
2. MAN
3. WAN
4. Wired Medi
5. Wireless Media

C. The Internet
1. WWW
2. searching via browser
3. search engines
4. Internet2, email
5. Newsgroups
6. FTP sites/downloading
7. connections (dial-up, mobile, ISDN, DSL, Cable, satellite, fixed wireless)
8. security
9. service
10. support
11. cost

V. Information Systems and Systems Development

A. Information Systems Types
1. Office systems
2. Transaction processing
3. Management information systems
4. Decision support systems
5. Enterprise-wide systems
6. Design and manufacturing systems
7. Artificial intelligence systems

B. Systems Development Life Cycle
1. Problem analysis
2. Program design
3. Program coding
4. Program debugging and testing
5. Program maintenance

C. Program Development Tools
1. Application generators
2. Computer-aided software engineering (CASE)
3. Rapid-application development
4. Programming languages
5. Categories of programming languages
6. Popular languages

VI. Business and Industry Issues

A. Business Issues
1. Ethical
2. Legal
3. Security
4. Computer crime
5. Privacy and e-mail
6. Privacy and marketing
7. Intellectual property rights
8. Health and ergonomics

B. Jobs and Career Options  (A view of the job trends and job career options)
LABORATORY CONTENT:

(Approximately 33 lab assignments/research tasks will be given in the lab component)

A. Orientation (3 hours)
   1. lab/operating system environment
   2. utility tools available in lab
   3. server drive environment
   4. usage

B. Word Processing (12 hours)
   1. document construction
   2. formatting
   3. importing
   4. drill
   5. practice

C. Spreadsheets (15 hours)
   1. Terminology
   2. Commands
   3. Shortcuts
   4. Wizards
   5. document construction
   6. data entry
   7. formatting
   8. copy, paste
   9. insert, delete
   10. column resize
   11. row resize
   12. cell size
   13. font size
   14. color
   15. text orientation
   16. object linking and embedding
   17. Labels,
   18. Values
   19. Formulas and Functions
      Average, Max, Min, Sum, If, and Round, Absolute versus relative addresses, charting,
      adding text to worksheet,
      linking worksheets what-if analysis/goal seeking, protecting data, printing options

C. Data Bases (12 hours)
   1. Terminology
   2. Commands
   3. Shortcuts
   4. Wizards
   5. Organization
   6. creating a data base
   7. entering data
   8. editing data and records
   9. defining fields
   10. creating and saving tables
   11. forms
   12. queries
   13. reports
   14. sorting data
D. Presentation Graphics (6 hours)
   1. creating a presentation
   2. enhancing a presentation
   3. animation and transition
   4. presentation options

E. Open Selection (3 hours)
   (At the discretion of the instructor for content)
   Options for Open Selection:
   1. May be used for special new subject exposure
   2. May be used for on-site tours
   3. May be used to cover new technology exposure

METHODS OF INSTRUCTION:

A. Lecture:
B. Lab:
C. Online:
D. Independent Study:

INSTRUCTIONAL TECHNIQUES:

COURSE ASSIGNMENTS:

Reading Assignments

Chapter assignments in the textbook and laboratory workbook,
Topical readings from the Internet and library database resources,
Additional materials as provided by the Instructor.

Out-of-class Assignments

An optional library/internet research paper will promote further study and research practice in a
selected area of the computer field.

Writing Assignments

Students will be required to complete the following assignments in either the lecture or lab
environment:
   1. On-line research on selected subjects with discussion or paper.
   2. 33 lab assignments connected with the word processing, spreadsheet, database and
      presentation software.
   3. Off-campus hardware/software research

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Short Quizzes
Written Assignments
Objective Examinations
Report
Projects (ind/group)
Problem Solving Exercises
Oral Presentations
Skills Demonstration

Demonstration of Critical Thinking:

Class assignments will be presented to the students in the form of problems requiring students to devise
solutions in the form of business decisions. Lab participation will require the students to complete in
model construction of what-if problems. Optional research papers and classroom presentations will
further demonstrate the students’ critical thinking and problem solving abilities.
**Required Writing, Problem Solving, Skills Demonstration:**

Students will be required to complete the following assignments in either the lecture or lab environment:
1. On-line research on selected subjects with discussion or paper. 2. 33 lab assignments connected with the word processing, spreadsheet, database and presentation software. 3. Off-campus hardware/software research

**TEXTS, READINGS, AND RESOURCES:**

**TextBooks:**

**Other:**
1. Storage devices for lab work (floppy disk, zip disk, or rewritable CD)

**LIBRARY:**

Adequate library resources include:

**Comments:**

**Attachments:**

[Attached Files](#)