<u>COURSE OUTLINE</u>

Computer Science/Information Systems 101
Introduction to Computer and Information Systems

I.   Catalog Statement

Computer and Information Systems 101 is designed to present the concepts and
technology of processing information to students who plan to continue their studies in
business information systems or computer science or who plan to work in the field. This
course has a hands-on component in which the student learns basic system and
application software, Web site development, Internet, and networking. Information
competency skills are introduced. Students will focus on the application of concepts and
methods through hands-on projects, developing computer-based solutions to business
problems.

Total Lecture Units: 5.0
Total Course Units: 5.0

Total Lecture/Demonstration Hours: 80.0
Total Faculty Contact Hours: 80.0

Recommended preparation: Eligibility for English 120, Business Administration 106, or
ESL 151.

II.   Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 2.

III.   Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

1. explain the concept of a network; identify hardware and software needed to create a
    network; compare and contrast wired vs. wireless networks; describe network
    security issues;
2. describe the Internet and Internet services; describe the evolution of e-business and
    understand how to do business on the Internet; identify Web development tool and
    authoring systems; create a simple Web page using Hypertext Markup Language
    (HTML), explain organizational implications of the pervasiveness of the Internet;
3. demonstrate the importance of the technology infrastructure in an organization;

identify major hardware components of a computer system; explain how to evaluate hardware components and what to look for in acquiring computer hardware; understand the interdependence of hardware and software; compare open vs. proprietary platforms;

4. describe distinctions between system software and application software; explain common functions of system software; identify types of application software; understand how to evaluate software when planning a system; compare open vs. proprietary software;

5. describe ethical concerns associated with information systems including privacy, access, reliability, legal, ethical, and accuracy; identify types of computer crime; select, access, and use appropriate sources;

6. use a spreadsheet software package to solve common business problems; demonstrate effective spreadsheet design through correct usage of formulas and functions including absolute vs. relative cell addressing; use financial, logical, date and statistical functions; use lists and data management functions; create appropriate charts and printed reports; work with multiple worksheets;

7. use a database software package to solve common business problems; design and build a database (define fields and properties, enter records); design and build simple forms, queries and reports.

IV. Course Content   Total Faculty Contact Hours = 80

A. Overview   2 hours

B. Hardware   6 hours
   1. Input and output
   2. Processing and storage
   3. Digital representation of data
   4. System configuration, security and trouble shooting

C. Software
   1. System Software   4 hours
   2. Application Software
      a. Word processing, spreadsheet, database, and presentation   20 hours
      b. Open source office suites   2 hours
      c. Web page and web site development   4 hours
      d. Digital processing (image and media)   2 hours
      e. Geographic Information Systems (GIS)   2 hours
   3. Application Software Integration   8 hours
      a. Locating and evaluating information
      b. Capturing and formatting information

       c.   Analyzing and organizing information
       d.   Sharing and publishing information

D. Programming Languages   6 hours
   1. Categories
   2. Program development life cycle
   3. Introduction to programming with HTML and JavaScript

E. Communications and Networks   4 hours

F. Internet and World Wide Web   6 hours

G. Databases   4 hours
   1. Data hierarchy
   2. Data models
   3. Database administration
   4. Web databases

H. Information Systems Analysis and Design   4 hours

I. E-commerce   4 hours
   1. Business strategies
   2. Technologies
   3. Integration with conventional business

J. Computers and society   2 hours
   1. Security
   2. Ethics
   3. Privacy
   4. Careers

V.   <u>Methods of Instruction</u>

The following methods of instruction may be used in the course:
1. lecture/demonstration;
2. interactive discussion;
3. hands-on activities and exercises;
4. online activity-based projects.

VI.   Out of Class Assignments

The following out of class assignments may be used in the course:
1. written and hands-on computer activities (e.g. Internet searches for business);
2. lab assignments (e.g. databases, spreadsheets, slide presentations);
3. research projects.

VII.   Methods of Evaluation

The following methods of evaluation may be used in the course:
1. final examination.

VIII.   Textbooks

Cashman, T., Shelley, G., *Discovering Computers 2007 Complete*, 2007 Edition.
Boston: Course Technology, Thompson Learning, 2007.
10th Grade Textbook Reading Level. ISBN: 1-4188-4373-3

O'Leary, T. *Microsoft Office* Suite 2003
Boston: McGraw-Hill Publishing, 2003.
10th Grade Textbook Reading Level. ISBN: 0-07-415-6969

Karl Barksdale, *HTML, JavaScript, and Advanced Internet Technologies*
Boston: Course Technology, Thompson Learning, 2006.
10th Grade Textbook Reading Level. ISBN: 0-619-26627-9

XI.   Student Learning Outcomes

1. explain the concept of a network; identify hardware and software needed to create a network;
2. describe the Internet and Internet services; describe the evolution of e-business and understand how to do business on the Internet;
3. understand the importance of the technology infrastructure in an organization; identify major hardware components of a computer system;
4. describe distinctions between system software and application software;
5. describe ethical concerns associated with information systems;
6. use a spreadsheet software package to solve common business problems;
7. use a database software package to solve common business problems.