



CREDIT COURSE OUTLINE

I. COVER PAGE

(1) IS 15	(2) COMPUTER CONCEPTS	(3) 3
Number	Title	Units

(4) Lecture / Lab Hours:		(8) Classification:	
Course Hours			
	Weekly Lec hours:	3.00	Degree applicable: X
	Weekly Lab hours:	1.00	Non-degree applicable:
	Total Contact hours:	72.00	Basic skills:
Lec will generate __ hour(s) outside work.		(9) RC Fulfills AS/AA degree requirement: (area)	
Lab will generate __ hour(s) outside work.		Computer Familiarity	
(5) Grading Basis:		General education category:	
	Grading Scale Only		
	Pass/No Pass option	X	
	Pass/No Pass only		
(6) Advisories:		Major: Accounting Business Administration, Accounting Option Business Administration, Entrepreneur Option Business Administration, General Business Option Business Administration, Information Systems Management Option Business Administration, Logistics/Distribution Option Business Administration, Management Option Business Administration, Marketing Option Business Administration, Real Estate Option General Business Information Systems, Help Desk Option Information Systems, Networking Option Information Systems, Web Design Option Information Systems, Web Programming Option Liberal Studies Management Small Business Management	
• Eligibility for English 125, 126, and Mathematics 201.			
(7) Pre-requisites (requires C grade or better):			
Corequisites:		Certificate of: Accounting Business Intern Help Desk Human Services Information Systems Managerial Assistant Networking Programming for the Web Small Business Management Web Design	
		Certificate in: Accounting Assistant Basics of Computers Business Intern Entrepreneur Entry Level Management	
		(10) CSU Baccalaureate: X	
		(11) Repeatable: (A course may be repeated three times) 0	
		(12) C-ID:	
Proposed Start Date:		Fall 2012	

(12) Catalog Description:

This course provides an introduction to computer and information systems concepts and terminology, an overview of hardware, and software (systems and applications including word processing, spreadsheet, database, presentation and programming), the history of the microcomputer, privacy and legal issues, and telecommunications (email and Internet). A grade of "C" or better in this course fulfills the computer familiarity requirement.

II. COURSE OUTCOMES:

(Specify the learning skills the student demonstrates through completing the course and link critical thinking skills to specific course content and objectives.)

Upon completion of this course, students will be able to:

- I. Demonstrate understanding of Information-Technology (IT) concepts in hardware, software, and networks.
- II. Apply effective information-technology skills to perform practical business functions that include word processing, spreadsheet, presentational, and database management applications.
- III. Demonstrate critical thinking to solve technology problems ethically and effectively.

III. COURSE OBJECTIVES:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

In the process of completing this course, students will:

- I. study the concepts of computer hardware, network devices, and software
- II. learn computer operating systems and utility programs
- III. train to use productivity software-- word processing, spreadsheet, database, and presentation
- IV. identify the major contributors and developments of the microcomputer
- V. explore privacy and legal issues of information systems
- VI. practice using various Internet technology

IV. COURSE OUTLINE:

Lecture Content:

I. Introduction to Computers

1. What Is a Computer
2. Advantages and Disadvantages
3. Networks and the Internet
4. Computer software
5. Categories of computers
 1. Personal Computers
 2. Mobile Computers & Devices
 3. Game Consoles
 4. Servers
 5. Mainframes
 6. Supercomputers
6. Elements of Information Systems
7. Examples of Computer Usage

II. The Internet and World Wide Web

1. The Internet
2. Evolution of the Internet
3. World Wide Web
 1. Internet 2
 2. Connecting
 3. How Data and Information Travel the Internet
 4. Internet Addresses Browsing
 5. Web Addresses
 6. Navigation Web Pages
 7. Searching the Web
 8. Evaluation a Web Site
 9. Multimedia
 - a. Audio
 - b. VR
 - c. Images
 10. Web Publishing
4. E-Commerce
5. Other Internet Services
 1. E-mail
 2. Instant Messaging
 3. Chat Rooms
 4. VoIP
 5. FT

III. Components of the System Unit

1. The System Unit
2. Processor
 1. Control Unit

- 2. Arithmetic Logic Unit
- 3. Machine Cycle
- 4. System Clock
- 5. Processor Cooling
- 6. Parallel Processing
- 3. Data Representation
- 4. Memory
 - 1. Sizes
 - 2. Types
 - 3. RAM
 - 4. ROM
 - 5. Cache
 - 6. Flash Memory
 - 7. CMOS
 - 8. Access Times
- 5. Expansion Slots and Adapter Cards
- 6. Ports and Connectors
- 7. Buses
- 8. Bays
- 9. Power Supply

IV. Input Devices

- 1. Input
- 2. Keyboard
- 3. Pointing
- 4. Mouse
- 5. Touch Screens and Touch Sensitive Pads
- 6. Smart Phones
- 7. Game Controllers
- 8. Digital Cameras
- 9. Video Input
- 10. Scanners and Reading Devices
 - 1. Optical
 - 2. Readers
 - 3. Bar Code
 - 4. RFID
 - 5. Magnetic Stripe Card
 - 6. MICR
 - 7. Data Collection
- 11. Biometric
- 12. Terminals
 - 1. POS Terminals
 - 2. ATM
 - 3. DVD Kiosks
- 13. Physically Challenged

V. Output Devices

- 1. Input
- 2. Display Devices
 - 1. LCD & Plasma
 - a. Technology
 - b. Quality
 - c. Chips
- 3. Printers
 - 1. Nonimpact
 - 2. Ink-Jet
 - 3. Photo
 - 4. Laser
 - 5. Multifunction
 - 6. Thermal
 - 7. Mobile
 - 8. Label & Postage
 - 9. Plotters
 - 10. Impact
- 4. Speakers, Headphones, and Earbuds
- 5. Other Output Devices
 - 1. Data Projectors
 - 2. Whiteboard
 - 3. Force Feedback Controllers
 - 4. Tactile Output

VI. Storage

- 1. Hard Disk
 - 1. External
 - 2. Removable

- 3. Miniature
- 4. RAID
- 5. NAS
- 6. Controllers
- 2. Flash Memory Storage
 - 1. Solid State Drives
 - 2. Memory Cards
 - 3. USB Flash Drives
 - 4. Express Card Modules
- 3. Cloud Storage
- 4. Optical Discs
 - 1. CD+-R
 - 2. CD+-RW
 - 3. DVD+-R
 - 4. DVD+-RW
 - 5. Blu-ray
- 5. Other Types of Storage
 - 1. Tape
 - 2. Magnetic Cards
 - 3. Smart Cards
 - 4. Microfilm
 - 5. Microfiche
 - 6. Enterprise Storage

VII. Operating systems and Utility Programs

- 1. System Software
- 2. Operating Systems Functions
 - 1. GUI
 - 2. Comand-Line Interface
 - 3. Managing Programs
 - 4. Managing Memory
 - 5. Coordination Tasks
 - 6. Configuring Devices
 - 7. File Management
 - 8. Network
 - 9. Administering Security
- 3. Types of Operating Systems
- 4. Stand-Alone Operating Systems
- 5. Server Operating Systems
- 6. Embedded Operating Systems
 - 1. Mobile
- 7. Utility Programs
 - 1. Manager
 - 2. Search
 - 3. Viewer
 - 4. Uninstaller
 - 5. Cleanup
 - 6. Defragment
 - 7. Restore
 - 8. Firewall
 - 9. Antivirus
 - 10. Spyware & Adware
 - 11. Internet Filters
 - 12. Media Players

VIII. Communications and Networks

- 1. Communications
- 2. Networks
 - 1. LANS
 - 2. MANS
 - 3. WANS
 - a. Architectures
 - 4. Topologies
- 3. Standards
 - 1. Ethernet
 - 2. Token Ring
 - 3. TCP/IP
 - 4. Wi-Fi
 - 5. Bluettooth
 - 6. UWB
 - 7. IrDA
 - 8. RFID
 - 9. WiMax
 - 10. WAP

4. Communications Software
5. Telephone Network
 1. Dedicated Lines
 2. ISDN
 3. DSL
 4. FTTP
 5. T-Carrier Lines
 6. ATM
6. Communications Devices
7. Communications Channel
8. Physical Transmission
9. Wireless Transmission

IX. Programming Languages & Development

1. Low-Level Languages
 1. Machine
 2. Assembly
2. Procedural Languages
3. Object - Oriented Programming languages and Tools
 1. Java
 2. .NET
 3. C++
 4. C#
 5. F#
 6. Visual Studio
4. Other Program Languages and Development Tools
 1. 4GLs
 2. Classic Programming languages
 3. Application Generators
 4. Macros
5. Web Page Development
 1. XML
 2. WML
 3. Scripts
 4. Applets
 5. Active X
 6. CGI Scripts
6. Scripting Languages
 1. Java Script
 2. Perl
 3. ASP
 4. ASPx
 5. PHP
 6. Rexx
 7. TEC
 8. VBScript
 9. Dynamic HTML
 10. Ruby
7. Multimedia Program Development
8. Program Development
 1. Planning
 2. Analysis
 3. Design
 4. Implementation
 5. Operation, Support, and security

Lab Content:

I. Operating Systems

1. Navigation
2. File Management
3. System Tool

II. Internet Browsers

1. Exploring & Navigation
2. Tabbed Browsing & Favorites
3. Searching Information & Printing

III. Word Processing

1. Creating documents
2. Editing Documents
3. Formatting Text and Paragraphs
4. Formatting Documents

IV. Spreadsheets

1. Creating a Spreadsheet
2. Working with formulas and Functions
3. Formatting a Worksheet
4. Working with charts

V. Database

1. Creating a database
2. Building and Using Queries
3. Using forms
4. Using Reports

VI. Presentation Software

1. Creating a Presentation
2. Modifying a Presentation
3. Inserting Object into a Presentation
4. Finishing a Presentation.

VII. Programing

1. Installing Language compiler
2. Writing Short Program
3. Debugging Short Program
4. Executing Short Program

V. APPROPRIATE READINGS

Reading assignments may include but are not limited to the following:

I. Sample Text Title:

1. Recommended - Shelly, Cashman, and Vermaat *Discovering Computers 2012*, Course Technology, -, 2012,
2. Recommended - Beskeen, Cram, Duffy, Friedrichsen, and Reding *MS Office 2010, Introductory*, Course Technology, Boston, 2012,

II. Other Readings

- Global or international materials or concepts are appropriately included in this course
- Multicultural materials and concepts are appropriately included in this course

If either line is checked, write a paragraph indicating specifically how global/international and/or multicultural materials and concepts relate to content outline and/or readings.

VI. METHODS TO MEASURE STUDENT ACHIEVEMENT AND DETERMINE GRADES:

Students in this course will be graded in at least one of the following four categories. Please check those appropriate. A degree applicable course must have a minimum of one response in category A, B, or C.

A. Writing			
Check either 1 or 2 below			
X	1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.		
	2. Substantial writing assignments are NOT required. If this box is checked leave this section blank. For degree applicable courses you must complete category B and/or C.		
	a) essay exam(s)		d) written homework
	b) term or other paper(s)		e) reading reports
	c) laboratory report(s)	X	f) other (specify) 1. Write a short report. 2. Write business letters. 3. Write short business papers. 4. Internet Reports

Required assignments may include but are not limited to the following:

List and describe the purposes, advantages, and disadvantages of input devices, output devices, and storage devices used by high-school teachers to do their class attendance, grades, and communications.

B. Problem Solving			
Computational or non-computational problem-solving demonstrations, including:			
X	a) exam(s)		d) laboratory reports
X	b) quizzes		e) field work
X	c) homework problems		f) other (specify):

Required assignments may include but are not limited to the following:

1) What factors must be considered when using the Internet to research information?

2) Sample Multiple-choice question:

A (n) _____ file is the program that you run to start the software program.

- a. running
- b. start
- c. support
- d. executable

C. Skill demonstrations, including:

<input type="checkbox"/>	a) class performance(s)	<input checked="" type="checkbox"/>	c) performance exams(s)
<input type="checkbox"/>	b) field work	<input type="checkbox"/>	d) other (specify)

Required assignments may include but are not limited to the following:

Creating and editing Word, Excel and PowerPoint documents and Access databases

D. Objective examinations including:

<input checked="" type="checkbox"/>	a) multiple choice	<input type="checkbox"/>	d) completion
<input type="checkbox"/>	b) true/false	<input type="checkbox"/>	e) other (specify):
<input type="checkbox"/>	c) matching items	<input type="checkbox"/>	

COURSE GRADE DETERMINATION:

Description/explanation: Based on the categories checked in A-D, it is the recommendation of the department that the instructor's grading methods fall within the following departmental guidelines; however, the final method of grading is still at the discretion of the individual instructor. The instructor's syllabus must reflect the criteria by which the student's grade has been determined. (A minimum of five (5) grades must be recorded on the final roster.)

If several methods to measure student achievement are used, indicate here the approximate weight or percentage each has in determining student final grades.

60% = Exams 30% = Lab Assignments 10% = Class Project - (Presentation/Portfolio/Internet Research)

VII. EDUCATIONAL MATERIALS

For degree applicable courses, the adopted texts, as listed in the college bookstore, or instructor-prepared materials have been certified to contain college-level materials.

Validation Language Level (check where applicable):

	College-Level Criteria Met YES	NO
Textbook	<u> X </u>	<u> </u>
Reference materials	<u> </u>	<u> X </u>
Instructor-prepared materials	<u> </u>	<u> X </u>
Audio-visual materials	<u> </u>	<u> X </u>

Indicate Method of evaluation:

- Used readability formulae (grade level 10 or higher)
- Text is used in a college-level course X
- Used grading provided by publisher
- Other: (please explain; relate to Skills Levels) -

Computation Level (Eligible for MATH 101 level or higher where applicable) X

Content

Breadth of ideas covered clearly meets college-level learning objectives of this course X

Presentation of content and/or exercises/projects:

Requires a variety of problem-solving strategies including inductive and deductive reasoning. X

Requires independent thought and study X

Applies transferring knowledge and skills appropriately and efficiently to new situations or problems. X

List of Reading/Educational Materials

Recommended - Shelly, Cashman, and Vermaat *Discovering Computers 2012*, Course Technology, -, 2012,

Recommended - Beskeen, Cram, Duffy, Friedrichsen, and Reding *MS Office 2010, Introductory*, Course Technology, Boston, 2012,

Comments:

Computer Lab with the appropriate hardware and software

 This course requires special or additional library materials (list attached).

 This course requires special facilities:

Attached Files:

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 201. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

Eligibility for ENGL 125
(as outcomes for ENGL 252)

- Write an essay of at least 750 words with an introduction, at least two body paragraphs, and a conclusion. This paper will include:
 - a thesis statement
 - unified supporting details for each body paragraph which begin with a topic sentence
 - an evaluation and analysis of ideas at the appropriate course level
 - complete sentences which includes correct capitalization, spelling, use of homophones, etc.
 - an avoidance of major grammatical errors including verb tense issues, subject-verb agreement, pronoun agreement problems, fragments, fused sentences and comma splices
 - appropriate use of academic language and descriptive vocabulary
 - correct usage of MLA format
 - writing that is free from plagiarism
- Plan and revise with guidance, employing all stages of the writing process when necessary.
- Write an in-class paper with a beginning, middle, and end that communicates a clear idea.

- study the concepts of computer hardware, network devices, and software
- learn computer operating systems and utility programs
- train to use productivity software-- word processing, spreadsheet, database, and presentation
- identify the major contributors and developments of the microcomputer
- explore privacy and legal issues of information systems
- practice using various Internet technology

Check the appropriate spaces.

- Eligibility for Math 201 is advisory for the target course.
- Eligibility for English 126 is advisory for the target course.
- Eligibility for English 125 is advisory for the target course.

If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.

REQUISITES

No requisites

JUSTIFICATION OF LIMITATION ON ENROLLMENT

Enrollment in courses or blocks of courses may be limited based on performance, honors, or other performance based criteria. Be mindful of the disproportionate impact the limitation will have on specific groups of students. It is important to determine if the limitation will disproportionately keep under-represented students from enrolling in the course or block of courses.

Describe the reasons for limiting the enrollment.

Course Designator: IS 15

Course Title(s): COMPUTER CONCEPTS

Rationale for Limiting Enrollment:

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