

PRINCE GEORGE'S COMMUNITY COLLEGE  
OFFICE OF INSTRUCTION

**MASTER COURSE SYLLABUS**

<u>CIS 101 – Computer Literacy</u>	<u>Michael Burt</u>	<u>12/19/2006</u>
Course Designator and Title	Prepared by	Date
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**COURSE DESCRIPTION:**

A survey course in evolving computer technology and its relevance to individuals and society. The societal issues include privacy, security, economics, accessibility, intellectual property, pervasive computing, as well as other timely topics, such as new laws impacting computer use. Becoming fluent in necessary technology applications is integrated into the course, and may include such topics as word processing, use of email and web browsers, spreadsheets, distance learning platforms, and others. Students possessing skills and knowledge in this area may receive credit for CIS 101 by passing the department challenge test administered by the CIS Department (currently the 3 Internet and Computing Core Certification tests, known as IC3). Students who are already IC3 certified may receive credit for CIS 101 by presenting their 3 certificates to the registrar. CIS 099, IC3 Test Preparation, is available as a test preparation course. Students with little or no computer experience should consider taking CIS 100, "Using a Personal Computer," to get the necessary prerequisite skills. All students take a department screening test during their first class in CIS 101. Results are used to advise students on which path to take. Prerequisite: Reading proficiency level.

**EXPECTED COURSE OUTCOMES:**

Upon successful completion of this course, the student will be able to:

1. Explain what a computers is and how it works
2. Describe basic computer categories, components and concepts (sizes, central processing unit, memory, input/output and data storage)
3. Describe types of computer software (operating systems, utilities, programming languages and applications) their uses and evolution
4. Locate and run a variety of software applications on a personal computer
5. Perform basic computer file operations such as file location, creation, deletion, replication and backup, using operating system file management systems
6. Demonstrate basic proficiency in personal productivity software packages such as word processor and spreadsheet via a software performance assessment tool

7. Use email and other tools, such as distance learning, to communicate with class members and instructor
8. Explain the impact (benefits and limitations) of computer technology and information systems on modern society
9. Explain data security risks and computer viruses
10. Describe basic hardware, software, and computer work environment risk management strategies
11. Explain general data communications concepts and basic principles of connectivity
12. Describe the structure and functioning of the Internet
13. Locate on-line resources on the World Wide Web

## **RANGE OF SUBJECT MATTER --COURSE OUTLINE:**

- 1) Introduction to Computers
  - a) Introduction to course and computer concepts
  - b) Screening test
  - c) Overview of SAM Office Training CD
- 2) Concepts Overview
  - a) Computer definition
  - b) Computer components
  - c) Computer categories (personal, mobile, servers, mainframes, supercomputers)
  - d) Examples of computer usage (home, SOHO, mobile, large business, power user)
  - e) Computer applications in society (education, finance, travel, health care, etc.)
  - f) Timeline of Computer History
- 3) Application software concepts and Windows file management
  - a) Role of system software
  - b) Interacting with application software
  - c) Business software
  - d) Graphics and multimedia software
  - e) Home, personal and education software
  - f) Windows file management skills such as listing, copying, deleting and renaming
- 4) Word and Excel fundamentals
  - a) Navigating a spreadsheet and entering data
  - b) Entering formulas and functions
  - c) Formatting and printing
  - d) Excel Charts
  - e) Word navigation, editing, and formatting
- 5) Computer hardware
  - a) The system unit
  - b) Processors and machine cycle
  - c) Memory (RAM, cache, ROM, CMOS, flash)
  - d) Expansion slots, adapter cards, ports, and connectors
  - e) Mobile computers and devices
  - f) Input/output devices
- 6) Storage
  - a) Magnetic storage including floppies, zip disks, hard disks
  - b) Optical storage including CDs and DVDs (r and rw)
  - c) PC Cards
  - d) Miniature mobile media (USB flash and smart cards)
  - e) Microfilm and microfiche
  - f) Enterprise storage
- 7) Operating systems and utility programs
  - a) Operating system functions such as startup, memory management and job scheduling
  - b) Operating system utility programs such as file manager and disk defragmenter
  - c) Types of operating systems such as stand-alone, embedded, and network
  - d) Utility programs such as antivirus, firewall, and file compression
- 8) Communications and networks

- a) Uses of computer communications such as Internet, E-Mail, instant messaging and video conferencing
  - b) Network types (LANs, MANs, WANs)
  - c) Network Architectures and topologies
  - d) Intranets
  - e) Communications software
  - f) Communications devices such as dial-up, ISDN, DSL, cable modems, network cards, wireless access points and routers
  - g) Wired and wireless home networks
  - h) Physical transmission media (twisted pair, coaxial, fiber-optic)
  - i) Wireless transmission media (infrared, broadcast radio, cellular radio, microwave, communications satellite)
- 9) Database management
- a) Differences between data and information
  - b) Hierarchy of data (character, field, record, file)
  - c) Data maintenance (add, change, delete, validate)
  - d) Flat file systems vs. databases
  - e) DBMS concepts (data dictionary, maintenance, security, backup and recovery)
  - f) Differences between relational, object-oriented and multidimensional databases
  - g) Database administration (roles of analysts, administrators and users)
- 10) Societal issues, security, privacy and ethics
- a) Security risks such as viruses, unauthorized access and use, hardware theft and vandalism, software theft, information theft, and system failure
  - b) Backup techniques
  - c) Internet security risks such as denial of service attacks
  - d) Securing Internet transactions with techniques such as digital certificates, digital signatures, and encryption
  - e) Ethical issues in computing such as information accuracy and intellectual property rights
  - f) Safeguarding information privacy
    - i) Electronic profiles
    - ii) Cookies
    - iii) Spyware
    - iv) Spam
  - g) Privacy laws
  - h) Health concerns such as RSI
  - i) Ergonomics
  - j) Green computing

## **EVALUATION OF STUDENT PERFORMANCE:**

Student grades will be based upon scores attained for the following:

- Three concepts exams, based on lecture notes and Computer Concepts 4th Edition chapter material. (30 % of the grade)

Concepts exams - will be scheduled by individual instructors as textbook chapters are covered.

- Three software tests covering MS Windows, MS Word and MS Excel skills. (30 % of the grade)

Software tests - will be administered during the following time frames:

Weeks 4-5	MS Windows - Given by the individual instructors during LAB Test details will be provided separately.
Weeks 6-7	Instructors will schedule and give MS Windows make-up tests.
Weeks 8-9	MS Word - Given by CIOS during scheduled times.
Week 10	MS Word - Make-up test
Weeks 12-13	MS Excel - Given by CIOS during scheduled times.
Week 14	MS excel - Make-up test

- Course Project – Computer Purchase Project (10 % of the grade)
- Instructor Selected Tasks - Combinations of the following (30% of the grade):
  - o Quizzes (5 –20 % of the course grade)
  - o MS Word and MS Excel Software Assignments (5 –20 % of the course grade)
  - o Concepts Textbook LAB Assignments (5 –20 % of the course grade)
  - o Group/Individual Class Presentations (5 –20 % of the course grade)
  - o Class Participation Points (1 –10 % of the course grade)
  - o E-mail Assignment (1-10% of the course grade)
  - o Extra Credit (1-10% of the course grade)

## **INSTRUCTIONAL MATERIALS:**

- Required:
1. Discovering Computers 2003 – Introductory by Shelly/Cashman
  2. Office XP – Brief by Shelly-Cashman
  3. Windows XP – Essentials by Shelly/Cashman
  4. SAM XP/TOM 2.5 booklet      Publisher: Course Technology