**CROSSWALK – CLEP OUTCOMES AND CGS1000 OUTCOMES**

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| **CLEP COMPETENCIES** | **LEARNING OUTCOMES** |
| * Devices for processing, storage, input and output, telecommunications, and networking * Functions performed by computer, telecommunications and network hardware | Define common computer related terms and explain basic computer concepts. |
| * Functions performed by computer, telecommunications and network hardware | Identify and explain basic hardware components of a personal computer. |
| * Standard office suite tools (word processors, spreadsheets, presentation packages, end-user database packages) * Office systems (electronic mail, conferencing, cooperative work environments) * Specialized systems (statistical analysis, expert systems, DSS, GIS.BI) * File types and structures | Choose the right software for a project and install and remove software on a personal computer. |
| * Basic user functions of a desktop operating system | Describe and configure the components of the operating system of a personal computer. |
| * Web browsers * Internet and other online services and methods (World Wide Web, FTP, Web search engines, Web bots) * Web browsers * Internet and other online services and methods (World Wide Web, FTP, Web search engines, Web bots) | Connect to the Internet, browse Web pages, navigate Web sites, effectively use search engines, and exchange e-mail with others. |
| * Programming language syntax and structures (pseudocode) * Programming logic * Object-oriented methods * Data concepts, types and structures * SQL coding and structures | Describe the tools and programming languages used to develop computer applications at an introductory level. |
| * Office systems (electronic mail, conferencing, cooperative work environments) * Enterprise-wide systems (ERP, CRM, SCM) * Database management systems | Use productivity software applications common in business, in education, and at home, such as word processing, spreadsheets, presentation software, and databases, at an introductory level. |
| * Intellectual property rights and legal issues, including open source initiatives * Privacy concerns | Explain the risks and threats to computer security and privacy and prevent them. |
| * Concepts of local, wide-area and enterprise network architectures * Concept of mainframe versus client/server architectures * Devices for processing, storage, input and output, telecommunications, and networking * Functions performed by computer, telecommunications and network hardware * Operating system and network operating system functions and architectures | Compare and contrast computer systems with different specifications and operating systems. |
| * Concepts of local, wide-area and enterprise network architectures * Concept of mainframe versus client/server architectures * Operating system and network operating system functions and architectures * Devices for processing, storage, input and output, telecommunications, and networking * Functions performed by computer, telecommunications and network hardware | Design a computer system to meet a specific purpose. |
| * Operating system and network operating system functions and architectures * Devices for processing, storage, input and output, telecommunications, and networking | Evaluate the specifications of a computer system to determine compatible hardware and software. |
| * Digital representation of data for storage and processing (numeric, text, images, audio, video) | Use digital technologies such as digital audio, |

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CLEP® Information Systems and Computer Applications: At a Glance

Description of the Examination

The CLEP\* Information Systems and Computer Applications examination covers material that is usually taught in an introductory college-level business information systems course. Questions test knowledge, terminology, and basic concepts about information systems as well as the application of that knowledge. The examination does not emphasize the details of hardware design and language-specific programming techniques. References to applications such as word processing or spreadsheets do not require knowledge of a specific product. The focus is on concepts and techniques applicable to a variety of products and environments. Knowledge of arithmetic and mathematics equivalent to that of a student who has successfully completed a traditional first-year high school algebra course is assumed.

The examination contains approximately 100 questions to be answered in 90 minutes. Some of these are pretest questions and will not be scored.

Knowledge and Skills Required

Questions on the CLEP Information Systems and Computer Applications examination require candidates to demonstrate knowledge of the following content. The percentages next to each main topic indicate the approximate percentage of exam questions on that topic.

**25% Information Systems and Office Application Software in Organizations**

* Standard office suite tools (word processors, spreadsheets, presentation packages, end-user database packages)
* Basic user functions of a desktop operating system
* Office systems (electronic mail, conferencing, cooperative work environments)
* Web browsers
* Internet and other online services and methods (World Wide Web, FTP, Web search engines, Web bots)
* Specialized systems (statistical analysis, expert systems, DSS, GIS.BI)
* Electronic Data Interchange
* Enterprise-wide systems (ERP, CRM, SCM)

**20% Hardware and Systems Technology**

* Devices for processing, storage, input and output, telecommunications, and networking
* Functions performed by computer, telecommunications and network hardware
* Digital representation of data for storage and processing (numeric, text, images, audio, video)
* Concepts of local, wide-area and enterprise network architectures
* Concept of mainframe versus client/server architectures
* Operating system and network operating system functions and architectures
* Wireless computing/communication devices (cellular, satellite devices, PDA, GPS)

**15% Information Systems Software Development**

* Software development methods and tools
* Systems development life cycle concepts
* Project management functions and roles
* Types of information processing methods (batch, real-time, transaction)
* User interface design
* Development and purpose of standards

**25% Programming Concepts and Data Management**

* Programming language syntax and structures (pseudocode)
* Programming logic
* Object-oriented methods
* Data concepts, types and structures
* File types and structures
* Database management systems
* SQL coding and structures

. Web technologies (HTML, XML)

* Web page development (analysis and design)
* Data warehousing and data mining

**15% Business, Social and Ethical Implications and Issues**

* Economic effects
* Privacy concerns
* Intellectual property rights and legal issues, including open source initiatives
* Effects of information technology on careers (ergonomics, virtual teams, telecommuting, job design)
* Impact of technology on careers (globalization, outsourcing, insourcing)
* Careers in information systems and information technology
* Knowledge management

CLEP® Information Systems and Computer Applications: At a Glance

* System, application, and personal computer security and controls
* Business strategies (competition, reengineering, process modeling, e-commerce, TQM)

Study Resources

Most textbooks used in college-level introductory business information systems or information technology courses cover the knowledge and skills in the outline above. The approaches to certain topics and the emphases given to them differ; therefore, it is advisable to study one or more current college textbooks to prepare for the Information Systems and Computer Applications exam. When selecting a textbook, check the table of contents against the Knowledge and Skills Required for this test.

A recent survey conducted by CLEP found that the following textbooks (first author listed only) are among those used by college faculty who teach the equivalent course. You might find one or more of these for sale online or at your local college bookstore. HINT: Look at the table of contents first to make sure it covers the topics required for this exam.

Beekman, *Tomorrow's Technology and You* (Prentice Mall)

Huber, *Information Systems: Creating Business Value* (Wiley)

Laudon, *Essentials of Business Information Systems* (Prentice Hall)

O'Brien, *Introduction to Information Systems* (Richard D. Irwin)

Rainer and Cegielski, *Introduction to Information Systems* (Wiley)

Stair, *Principles oj Information Systems* (Course Technology, Inc.)

Visit [www.collegeboard.com/clepprep](http://www.collegeboard.com/clepprep) for additional study resources. You can also find suggestions for exam preparation in Chapter IV of the *CLEP Official Study Guide.* In addition, many college faculty post their course materials on their schools' websites.

Sample Test Questions

The following sample questions do not appear on an actual CLEP examination. They are intended to give potential test-takers an indication of the format and difficulty level of the examination and to provide content for practice and review. For more sample questions and info about the test, see the *CLEP Official Study Guide.*

1. Which of the following is NOT true about virtual  
private networks?

1. They use encryption.
2. They use a public network such as the Internet.
3. They transmit data at a greater speed than a local area network.
4. They are less costly than a regular private network.

(E) They provide a way to connect to a remote computer.

2. Expert systems have been most successful when the  
range of the human expertise being replicated is

1. broad and narrow
2. broad and shallow
3. broad and deep
4. narrow and deep

(E) narrow and shallow

3. Which of the following is (are) true about object-  
oriented programming?

I. Objects created for one application can be reused  
by another application.

II. Instructions can be directly understood by the  
CPU without translation.

III. The data and instructions about how to operate  
on the data are combined.

1. I only
2. II only
3. III only
4. I and III only

(E) I, II and III

4. Which of the following best describes data  
warehousing?

1. Backing up an organization's data to an off-site location
2. Moving data that have not been accessed for some time to an alternate storage system
3. Compiling and storing organization-wide data to assist in decision making
4. Validating all customer data

(E) Storing all of an organization's data in two-dimensional tables

CLEP® Information Systems and Computer Applications: At a Glance

5. Which of the following is NOT a risk associated with  
outsourcing information systems functions?

1. loss of control of functionality
2. loss of control of critical in-house knowledge
3. compromising sensitive company data
4. inability to easily sever the outsourcing relationship

(E) inability to obtain expertise from outside the company

6. Standards that are developed through a collaborative  
process and made available for public use are referred  
to as

1. open standards
2. cooperative standards
3. public standards
4. technical standards

(E) universal standards

7. Which of the following should be taken into  
consideration in ergonomic design?

I. Adapting the computer hardware to be  
comfortable to use

II. Adapting the office furniture to protect the health  
of the worker

III. Adapting the computer software to be easy to  
learn

1. I only
2. II only
3. III only
4. I and II only

(E) I, II and III

8. Which of the following statements about EDI is FALSE?

1. EDI documents contain the same information that would be found in paper documents.
2. EDI provides the infrastructure for both voice and data communication.
3. EDI standards are industry specific.
4. EDI enables the digital transmission of invoices.

(E) EDI can be used to automate inventory replenishment.

Credit Recommendations

The American Council on Education has recommended that colleges grant 3 credits for a score of 50, which is equivalent to a course grade of C, on the CLEP Information Systems and Computer Applications exam. Each college, however, is responsible for setting its own policy. For candidates with satisfactory scores on the Information Systems and Computer Applications examination, colleges may grant credit toward fulfillment of a distribution requirement, or for a particular course that matches the exam in content. Check with your school to find out the score it requires for granting credit, the number of credit hours granted and the course that can be bypassed with a passing score.

*Answers to Sample Questions:* 1-C; 2-D; 3-D; 4-C; 5-E; 6-A; 7-D; 8-B.

EDISON STATE COLLEGE

Division of Professional and Technical Studies Business and Technology

**COMMON COURSE SYLLABUS**

**PROFESSOR: PHONE NUMBER:**

**OFFICE LOCATION: E-MAIL:**

**OFFICE HOURS: SEMESTER:**

**I. COURSE NUMBER AND TITLE. CATALOG DESCRIPTION. CREDITS:**

**CGS 1000 COMPUTER LITERACY (3 CREDITS)**

This course is an introduction to basic computer concepts and computer technology. It is an up-to-date survey of information processing technology, computer hardware and software systems, and computer applications. This class will provide the background for students to make knowledgeable decisions about their future in the information technology world.

**II. PREREQUISITES FOR THIS COURSE:**None

**CO-REQUISITES FOR THIS COURSE:**

None

**III. GENERAL COURSE INFORMATION:** Topic Outline.

* Introduction to Computers
* Common Computer Terminology
* Computer Performance and Features
* Computer Operating Systems
* File Management and Manipulation
* Career Opportunities
* The Internet and World Wide Web
* Productivity Programs
* Computer Security and Privacy
* Computer Ethics
* The Modern Digital Experience

**IV. LEARNING OUTCOMES AND ASSESSMENT:**

**GENERAL EDUCATION COMPETENCIES:**

General education courses must meet at least four out of the five following outcomes. All other courses will meet one or more of these outcomes.

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CGS 1000 COMPUTER LITERACY

*Communication (COM):* To communicate effectively using standard English (written or oral).

*Critical Thinking (CT):* To demonstrate skills necessary for analysis, synthesis, and evaluation.

*Technology/Information Management (TIM):* To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

*Global Socio-cultural Responsibility (GSR):* To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

*Scientific and Quantitative Reasoning (QR):* To identify and apply mathematical and scientific principles and methods.

**ADDITIONAL COURSE COMPETENCIES:**

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

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| **LEARNING OUTCOMES** | **ASSESSMENTS** | **GENERAL EDUCATION COMPETENCIES** |
| Define common computer related terms and explain basic computer concepts. | Students will demonstrate these competencies by completing a series of assignments, completing the chapter questions, and/or successfully passing the written examinations. |  |
| Identify and explain basic hardware components of a personal computer. |  |
| Choose the right software for a project and install and remove software on a personal computer. |  |
| Describe and configure the components of the operating system of a personal computer. |  |
| Connect to the Internet, browse Web pages, navigate Web sites, effectively use search engines, and exchange e-mail with others. |  |
| Describe the tools and programming languages used to develop computer applications at an introductory level. |  |
| Use productivity software applications common in business, in education, and at home, such as word processing, spreadsheets, presentation software, and databases, at an introductory level. |  |
| Explain the risks and threats to computer security and privacy and prevent them. |  |
| Compare and contrast computer systems with different specifications and operating systems. |  |
| Design a computer system to meet a specific purpose. |  |
| Evaluate the specifications of a computer system to determine compatible hardware and software. | TIM, CT |
| Use digital technologies such as digital audio, |  |

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CGS 1000 COMPUTER LITERACY

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| digital video, and digital photography. |  |  |
| Identify different career opportunities available for a person who is computer literate. |  |
| Analyze professional, ethical, legal, and social issues related to computers. | Students will demonstrate competency by writing a paper. | GSR, COM |

**V.**

**DISTRICT-WIDE POLICIES:**

**PROGRAMS FOR STUDENTS WITH DISABILITIES**

Edison State College, in accordance with the Americans with Disabilities Act and the college's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus.

Lee Campus Charlotte Campus Collier Campus Hendry/Glades Ctr.

Taeni Hall S-116A Student Services SS-101 Admin. Bldg. A-116 La Belle

(239) 489-9427 (941) 637-5626 (239) 732-3918 (863) 674-0408

**VI. REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

**VII. ATTENDANCE POLICY:**

The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

**VIII. GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 -100 = A

80-89 = B

70-79 = C

60-69 = D

Below 60 = F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete grades.)

**IX. REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

**X. RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

**XI.**

**CLAST COMPETENCIES INVOLVED IN THIS COURSE.**

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**XII. CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

**XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)

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