

**STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK**



MASTER SYLLABUS

CITA100 – COMPUTER FLUENCY

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**CANINO SCHOOL OF ENGINEERING TECHNOLOGY
DECISION SYSTEMS
FALL 2018**

- A. **TITLE:** Computer Fluency
- B. **COURSE NUMBER:** CITA 100
- C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

Credit Hours: 3
 # Lecture Hours: 3 per week
 # Lab Hours: per week
 Other: per week

Course Length: 15 Weeks

D. **WRITING INTENSIVE COURSE:** No

E. **GER CATEGORY:** None

F. **SEMESTER(S) OFFERED:** As required

G. **COURSE DESCRIPTION:** This course is a survey of the knowledge required for the programming courses in the CIS and IT degrees. It introduces basic computing concepts of number systems common to computers, logic operators and expressions, file management, and computer programming techniques. The course is intended for students who do not meet the minimum academic requirements to enter either the Computer Information Systems or Information Technology majors but desire to pursue a major in one of those programs.

H. **PRE-REQUISITES/CO-REQUISITES:**

- a. Pre-requisite(s): none
- b. Co-requisite(s): none
- c. Pre- or co-requisite(s): none

I. **STUDENT LEARNING OUTCOMES:**

By the end of this course, the student will be able to:

<u>Course Student Learning Outcome</u> <u>[SLO]</u>	<u>PSLO</u>	<u>ISLO</u>
a. Describe the file management system available on a local computer, the campus network, and from a remote location and how it can be used to access information	3. Demonstrate a solid understanding of the methodologies and foundations of IT	5
b. Compare and contrast the characteristics of the decimal and binary number systems	3. Demonstrate a solid understanding of the methodologies and foundations of IT	5
c. Evaluate logical expressions common to computer programming	3. Demonstrate a solid understanding of the methodologies and foundations of IT	5
d. Describe how a computer processes variables using digital memory	3. Demonstrate a solid understanding of the	5

	methodologies and foundations of IT	
e. Apply problem solving techniques to designing a structured program	3. Demonstrate a solid understanding of the methodologies and foundations of IT	5
f. Work both independently and in teams to develop computer programs	2. Identify issues and collaborate on solutions concerning IT in an effective and professional manner 4. Apply problem solving and troubleshooting skills	2[CA] 4[T] 5

J.

APPLIED LEARNING COMPONENT: Yes X No _____

- Classroom/Lab

K. TEXTS: None

L. REFERENCES: Online resources selected by the instructor

M. EQUIPMENT: Computer lab classroom

N. GRADING METHOD: A-F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

- Exams
- Quizzes
- Group/team projects

P. DETAILED COURSE OUTLINE:

- I. File management:
 - i. Creating files and folders on a local computer
 - ii. Creating files and folders on a remote computer
 - iii. Locating folders and files on local and remote computers
- II. Number Systems.
 - i. The decimal number system.
 1. Place value – integer and fractions parts.
 2. Unary and binary operations (+, -, *, /, and %).
 3. Operator precedence.
 - ii. The binary number system.
 1. Bits, nibbles, bytes, words, etc.
 2. Binary arithmetic.
 - iii. Types of binary numbers.
 1. Integers, signed and unsigned.
 2. Real (floating point).
 3. Representing numbers in computer memory.
- III. Introduction to logic gates and integrated circuits.
 - i. Logical operators.
 1. and, nand.
 2. or, nor (inclusive or).
 3. not.
 - ii. Logical expressions.

1. Order of operations.
2. Evaluating complex expressions with truth tables.

IV. Computer memory.

- i. Structure.
- ii. Data representation in memory.
 1. Constants
 2. Variables
 3. Arrays

V. Problem Solving Techniques.

- i. Redefining a problem in terms of input, process, and output.
- ii. Organizing processes in logical sequence.
- iii. Identifying repetitive processes.

VI. Structured Programming.

- i. Variables and constants.
- ii. Assignment statements.
- iii. Loop and decision structures.
- iv. Basic input and output statements.
- v. Functions and procedures.

Q. **LABORATORY OUTLINE:** N/A !