

**Tompkins Cortland Community College**  
**Master Course Syllabus**

**Course Discipline and Number: CIS 108**  
**Course Title: Introduction to Computer Information Systems**

**Year: 2018-2019**  
**Credit Hours: 3**

**Attendance Policy:** *To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.*

**Services for Students with Disabilities:** *It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.*

### **Course Description**

This is an introduction to computer technology and computer programming designed for Computer Information Systems students. Students are introduced to important hardware/software terminology used in the industry, and to problem solving and programming using a current programming language, such as Visual Basic, or Java. Topics include structured program design, algorithm development, testing and debugging, and program documentation. Students may not apply credit for both CIS 108 and CSCI 160 toward degree requirements. Prerequisites: MATH 095 if require by placement testing; prior completion or concurrent enrollment in ENGL 099 and RDNG 099 if required by placement testing. 3 Cr. (2 Lec., 2 Lab.) Fall and spring semesters.

### **Course Context/Audience**

This course may be taken as a program requirement by students in the Computer Information Systems, Computer Forensics, Computer Support Systems, or Web Design A.A.S. degree programs. Other students interested in gaining knowledge of computer hardware and software and a brief introduction to programming may choose this as an elective course.

### **Basic Skills/Entry Level Expectations**

**Writing:** W1 Student should be taking ENGL 099 (if needed). The course requires very limited writing, e.g., short written responses of a paragraph or less.

**Math:** M4 Completed MATH 095(if needed) - Course requires the use of basic mathematical skills plus basic algebra skills.

**Reading:** R1 Course may be taken concurrently with RDNG 099.

### **Course Goals**

1. To introduce the student to the terminology and basic functions of today's computer systems.
2. To introduce the student to the basics of structured programming and algorithm development.

## Course Objectives/Topics

Objective/Topic	# Hours
The student will recognize the rapid pace with which computer technology has evolved over time.	1 Hour
The student will be able to describe the purpose of each of the 5 major hardware components of a computer system, citing a minimum of 2-3 examples of each component.	1 Hour
The student will describe the similarities and differences between system software and application software. S/he will also be able to use a minimum of one operating system and 2 application programs.	3 Hours
The student will design an algorithm that solves a business-related problem (such as calculating gross pay) in the form of pseudo code or flowchart.	7 Hours
The student will be able to describe a minimum of two current issues related to computer security and/or ethics.	3 Hours
The student will list and describe the 3 basic control structures used in a structured programming environment.	3 Hours
The student will use appropriate data types in declaring variables in a computer program, and will recognize the importance of declaring data as locally as possible (as opposed to the use of global data).	4 Hours
The student will be able to write a program to read information from a data file and produce well-formatted output from that data.	6 Hours
The student will write arithmetic expressions in a programming language using appropriate order of operations.	4 Hours
The student will create functions and subprograms in a computer program as needed by the problem, using arguments and parameters in an appropriate way.	8 Hours
The student will use the conditional control structure in a computer program as needed by the problem.	8 Hours
The student will use the repetition control structure in a computer program as needed by the problem.	8 Hours
The student will use additional topics of the programming language to meet the program requirements.	6 Hours

## General Education Goals - Critical Thinking & Social/Global Awareness

<b>CRITICAL THINKING OUTCOMES</b>	<b>HOW DOES THE COURSE ADDRESS THE OUTCOMES</b> (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)

<p>Students will be able to</p> <ul style="list-style-type: none"> <li>➤ develop meaningful questions to address problems or issues.</li> <li>➤ gather, interpret, and evaluate relevant sources of information.</li> <li>➤ reach informed conclusions and solutions.</li> <li>➤ consider analytically the viewpoints of self and others.</li> </ul>	<p>This course requires that the student formulate the solution to a business-related problem, expressing the solution in a generic form called an algorithm. This solution must then be translated to a current programming language. The student is encouraged to look for similar problems, break the problem into pieces, and try out proposed solutions during the problem solving process.</p> <p>Algorithm and programming projects will be assigned. Lab projects will be used each week to cover a specific topic.</p>
<p><b>SOCIAL/GLOBAL AWARENESS OUTCOMES</b></p>	<p><b>HOW DOES THE COURSE ADDRESS THE OUTCOMES</b> (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)</p>
<ul style="list-style-type: none"> <li>➤ Students will begin to understand how their lives are shaped by the complex world in which they live.</li> <li>➤ Students will understand that their actions have social, economic and environmental consequences.</li> </ul>	<p>Not addressed</p>

**Instructional Methods**

The student must have a basic understanding of computer memory and data representation in order to understand the concepts of variable declarations and data types in the programming section of the course. Some terminology and concepts can be communicated through class lecture and discussion. Problem solving sessions with specific programs to design and implement together aid student competence in the programming language. It is helpful for the student to have some dedicated time for the instructor to answer specific questions on programs that are developed individually.

**Methods of Assessment/Evaluation**

Method	% Course Grade
Examinations: minimum of 4 exams and/or a final examination	60%
Programming Projects: minimum of 5 programming projects	40%

**Text(s)**

Introduction to Programming using Visual Basic 2012, 9th edition, 2013 Prentice Hall

## Bibliography

Zak, Diane. Programming with Microsoft Visual Basic 2012, 6th edition, 2013: Cengage.

Newsome, Bryan. Beginning VB 2012, © 2012: Wrox.

## Other Learning Resources

<b>Audiovisual</b>
No resources specified
<b>Electronic</b>
No resources specified
<b>Other</b>
No resources specified