SOUTHEAST Technical College

Southeast Tech · · Computer Information Systems

Introduction to Programming

CIS-130 1C

Fall Term 2021-2022 School Year Section 1C 3.00 Credits 08/23/2021 to 12/10/2021 Modified 08/19/2021

Course Description

Introduces students to the terminology, fundamentals and application of the program development process. Basic programming concepts such as problem analysis, logic organization and design, and program development and testing will be implemented. Topics covered include data types, operators, expressions, program flow control statements, and methods.

Outcomes

COURSE OUTCOMES: The student should be able to demonstrate the following outcomes upon successful completion of this course:

1. Explain fundamental programming concepts and terminology.
2. Demonstrate the ability to use an Integrated Development Environment tool (i.e. Visual Studio) efficiently.
3. Design and construct a professional-looking, user-friendly interface that enhances a software solution.
4. Employ a software development process that includes problem analysis, logic and interface design, testing and debugging.
5. Distinguish between a program's input, processing, and output requirements.
6. Demonstrate proper use of a programming language's syntax, data, memory, and control structures.
7. Identify and resolve different types of programming errors.
8. Discuss program logic and code with others.
9. Create a variety of business-related programs that effectively deliver identified requirements.

Additional Outcomes

Course Materials

Starting Out with Visual C#

Author: Tony Gaddis
Publisher: Pearson
Edition: 5th
ISBN: ISBN: 978-0-13-518351-9
Availability: Campus Bookstore, Amazon, etc.

Students should consider keeping this textbook as a reference for future courses.

Hardware Requirements

All CIS courses require the use of a laptop computer. Assessment of computer compatibility and hardware or software issues and questions may be directed to the Southeast Tech IT Support Center at 605-367-4461. For more information regarding the Virtual PC Technology used at Southeast Tech, contact the IT Support Center.

Deliverables

Assignments

Assignments are to turned in via MyTech.

Evaluation Procedures and Grading

Criteria

BASIS FOR EVALUATION:

Exams (50% of grade) – Traditional students will take exams with their instructor. Online students are responsible for finding a proctor or testing site (which must be approved by the instructor) to administer some or all exams if they are unable to use Southeast Tech's Online Support Center located on campus.

A minimum of four exams will be given during the semester. Exams will consist primarily of performance tests (where the student creates or completes a C# project). Tests may also include true/false, multiple choice, coding / short answer, and fill-in type questions.

Make-up exams are not available, but arrangements may be made with the instructor / proctor to take an exam *prior* to the scheduled testing time. Students may throw out their lowest exam score or choose not to take the last exam if they are satisfied with their grade. If a test is missed, it will be the test that's not included in the final grade.

Assignments (40% of grade)

- Each assignment will be given a due date, and *most* will close at 11:55pm on that date. Assignments should be turned in to Coursework on or before the due date. The instructor will notify students if a due date has been changed. Occasionally, an extension (with or without a penalty) might be added beyond the original due date.
- Students may receive partial credit for partial solutions and are encouraged to complete all assignments in order to build their problem-solving and coding skills.
- Always check to see if an assignment has instructions and/or files attached to it in Coursework, even if it's from the textbook.
- **Programming (Prob) Assignments** are exercises that can be found at the end of a tutorial. They require more independent thinking, problem-analysis and code design.

Tutorial and Quizzes (10% of grade) - It is expected that students demonstrate responsibility and commitment to learning by participating in the course and all activities. Students should check their school e-mail and the course website daily (especially the Coursework and Gradebook pages) to stay current with assignments and monitor their progress.

- **SBS (Step-by-Step) Tutorial Assignments** are sample projects located throughout a tutorial that guide students through the completion of projects on new concepts covered in the tutorial. These assignments should help the student gain confidence in using MS Visual Studio, become familiar with C# code, create professional-looking user interfaces that follow good naming conventions and standards, and develop their debugging skills.
- Other assignments included in this category are quizzes, worksheets, team projects, etc. Students should read tutorials prior to taking quizzes and should let their instructor know about topics they don't understand. Quizzes may be given unannounced and may not be made up if missed.

GRADING: The grading scale is shown below. Students may see a + or – with their course grade but it does not impact their overall gpa. Students are strongly encouraged to ask for help if they find themselves confused or falling behind.

90% - 100% = A 80% - 89% = B 70% - 79% = C 60% - 69% = D 59% or lower = F

A grade of "C" or higher is required for all CIS programming courses for students majoring in Programming.

Additional Items

Course Outline

When	Topic	Notes

When	Topic	Notes
Week 1	Chapter 1	Get acquainted; hardware software; storing data; how a program works; ASCII; High Level Language; GUI; Objects; Classes; Development Process
Week 2	Chapter 2	Forms and Controls; First Application; C# code; Writing code; Lable Controls; IntelliSense; Comments, etc.; Close; Syntax Errors
Week 3	Chapter 3	Input with TextBox; Variables; Numeric Data Types and Variables; Performing Calculations; I/O Numeric Values; Formatting Numbers; Exception Handling;
Week 4		Named Constants; Declaring Variables as Fields; Math Class; More GUI details; Debugger and Logic errors;
Week 5	Chapter 4	Decision Structures; if-else; Nested Decision Structures
Week 6		Decision Structures; if-else; Nested Decision Structures; Logical Operators; boolean; comparing strings; TryParse
Week 7	Chapter 5	Input Validation; radio buttons/check boxes; switch statement; list boxes; While loop; ++ and -- operators; for loops; do-while loops;
Week 8		Files for data storage; OpenFileDialog & SaveFileDialog; Random numbers; the Load event
Week 9	Chapter 6	Intro to Methods; void Methods; Passing Arguments to Methods
Week 10		Passing Arguments by Reference
Week 11	Chapter 7	Value-Returning Methods; Debugging Methods
Week 12		Value Types and Reference Types; Array Basics;
Week 13		Working with Files and Arrays; Passing Arrays as Arguments to Methods
Week 14	Chapter 10	Final Project; Review; Intro to classes; Properties; Parameterized Constructors and Overloading
Week 15		Storing Class Type Objects in Arrays and Lists; Finding the Classes and Their Responsibilities in a Problem
Week 16		Application of Classes: Creating Multiple Forms in a Project; Static Methods