

# GREENVILLE TECHNICAL COLLEGE

## Business and Technology Division Computer Technology Course Syllabus C# Programming I - CPT 230

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### **Credit/Contact Hours:**

3.0

### **Prerequisite:**

CPT 101/CPT170 or CPT 113, MAT 102 or higher

### **Co-requisite:**

None

### **Course Description:**

This course introduces designing, coding, testing, and debugging C# programs. Topics include procedural, functional, and object-oriented techniques; programming; IDEs; .NET; processing data; data types; I/O; decision processing; control structures; modularized coding with methods; and arrays.

### **Purpose of Course:**

This course introduces the student to the syntax and coding of the C# programming language. This includes the design, coding, testing, and debugging of code as well as exception handling and validation to prevent errors.

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### Required Texts:

1. Title : C# 2015, Author : J. Murach; ISBN: 9781890774943
2. Must access Blackboard for course-related information.

### Additional Materials:

There are no specific course requirements other than attachment 1.

### Course Outcomes:

Students who successfully complete this course will have demonstrated the skills required to accomplish the following objectives with a minimum competence level of 70 percent.

1. Students will be able to demonstrate the ability to design, write, debug and test C# programs according to specifications.
2. Students will be able to demonstrate the ability to take initiative by completing a lab assignments with minimal supervision.
3. Students will be able to demonstrate the ability to work under pressure, and show responsibility by completing lab assignments.
4. Students will be able to demonstrate the ability to use Microsoft Visual Studio.NET for developing C# applications.
5. Students will be able to demonstrate a basic proficiency in the use of C# syntax to include data types, control structures, arrays, event procedures, functions, methods and classes.

*The objectives of the CPT 230 course are intended to meet the CPT/Programming program level student learning outcomes.*

### Program Student Learning Outcomes:

Upon successful completion of the CPT/Programming program, the graduate will be able to:

1. Students will be able to analyze, design, develop, and document solutions that will satisfy the information needs of business users using established design methodologies and standards.

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2. Students will be able to design, create, test, and document logical programming solutions to prescribed specifications following established standards and using current development environments and languages for application development and database management.
3. Students will be able to demonstrate the knowledge and ability to install and maintain microcomputer hardware and operating system software.
4. Students will be able to demonstrate the use of a minimum of three business application software packages.
5. Students will be able to demonstrate fundamental team building, project management, and presentation skills by participating in team projects that include team goals and values, a development methodology for documentation and coding, group presentations, and exposure to topics such as diversity, time management, and goal setting.
6. Students will be able to demonstrate the ability to take initiative, assume responsibility, and work under pressure with minimum supervision by successfully completing "hands-on" computer lab assignments.

### **Greenville Technical College Core Competencies:**

**Communication Core Competency:** Students will demonstrate effective written and oral communication skills to convey information, ideas, or opinions.

- **Written Communication:** Students will demonstrate effective written communication skills to convey information, ideas, or opinions.
- **Oral Communication:** Students will demonstrate effective oral communication skills to convey information, ideas, or opinions.

**Critical Thinking Core Competency:** Students will demonstrate effective reasoning, problem solving, or quantitative skills to develop an opinion or conclusion.

- **Critical Reasoning:** Students will employ inquiry, analysis, and synthesis of information to formulate and/or evaluate an opinion or conclusion.
- **Problem Reasoning:** Students will design and formulate a strategy to answer a question or achieve a desired goal.
- **Quantitative Reasoning:** Students will be able to analyze numerical information or observable facts resulting in informed conclusions.

**Information Literacy Core Competency:** Students will be able to locate, evaluate, and use information effectively from diverse sources.

**Professionalism Core Competency:** Students will demonstrate conduct and etiquette appropriate to the community and chosen career.

- **Professionalism:** Students will display professional conduct and work habits.

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- Teamwork: Students will collaborate with others to accomplish a shared goal.

### **Instructional Agreement:**

This syllabus is an agreement between the student and instructor concerning course objectives, course content, grading and other policies and procedures particular to the course as well as any posted program, departmental, and divisional policies. It is also the student's responsibility to become familiar with the Student Handbook/College Catalog found in the Student Resource area of Blackboard.

### **Grading Scale:**

#### **GRADING POLICY**

Exams represent 75 percent of the final grade: 55 percent tests and 20 percent final exam.

Assignments and quizzes count 25 percent of the final grade.

1. A minimum of 12 programming assignments are required for the course.
2. Programming assignments will be assigned from selected chapters.
3. The following factors will also be considered in grading programs:
  - a. The program must work correctly and produce the desired results.
  - b. The program must use good style / good programming practices.
  - c. Program must be efficient.
  - d. Documentation should be clear and meaningful.

All assignments must be completed and submitted to the instructor by the due date in order to receive credit for the assignment.

**Final letter grades** will be issued as follows:

A	=	90 - 100
B	=	80 - 89
C	=	70 - 79
D	=	60 - 69
F	=	0 - 59

### **Course Policies:**

**Final Exam (Comprehensive Covers Chapters 1 - 12)**

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**NOTE: Hands-on lab assignments and other student projects will be scheduled throughout the semester.**

### **Disabilities Information**

Students with disabilities, including those who were served in Special Education (resource or tutorial), should contact Student Disability Services (SDS) to discuss their need for services and accommodations. The main SDS office is located on the Barton Campus in the Student Center Building 105, office 113. Staff can be reached by phone at 864 250-8202 or via email to [DisabilityServices@gvltec.edu](mailto:DisabilityServices@gvltec.edu). Appointments are available at all satellite campus locations. Please check the GTC website for more information concerning Student Disability Services: <http://gvltec.edu/disability-services/>

Efforts have been made to ensure all materials presented in an electronic format are accessible for students with disabilities and the college is committed to this obligation. However, if you experience any difficulty accessing these materials please notify your instructor immediately so a solution can be provided. You may also contact Student Disability Services directly at 864-250-8202 or by email at [DisabilityServices@gvltec.edu](mailto:DisabilityServices@gvltec.edu).

Students who need a PDF reader for accessibility of course documents presented in PDF format may download a free reader at <https://acrobat.adobe.com/us/en/products/pdf-reader.htm>

### **Plan of Instructions**

- Topic 1 Introduction to Visual Studio.  
Chapter1 How to get started with Visual Studio
  
- Topic 2 Developing Windows Forms Applications.  
Chapter 2 How to design a Windows Forms application  
Chapter 3 How to code and test a Windows Forms application
  
- Test 1 (Covers Chapters 1 – 3)**
  
- Topic 3 Data types  
Chapter 4 How to work with numeric and string data

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Topic 4 Decisions and Repetitions, Control Structures and Debugging  
Chapter 5 How to code control structures  
Chapter 11 How to debug an Application

### **Test 2 (Covers Chapters 4 – 5, 11)**

Topic 5 Methods, Exception Handling and Validation  
Chapter 6 How to code methods and event handlers  
Chapter 7 How to handle exceptions and validate data

Topic 6 Arrays, Classes and Objects  
Chapter 8 How to use arrays and collections

### **Test 3 (Covers Chapters 6 - 8)**

Topic 7 Dates and Strings  
Chapter 9 How to work with dates and strings

Topic 8 Additional Controls  
Chapter 10 More skills for working with Windows forms and Controls

Topic 9 Chapter 12 How to create and use classes

### **Final Exam (Covers Chapters 1 - 12)**