



CST201 Introduction to Programming

(3 credit hours)

Course Syllabus

Course Description

This course introduces the basic concepts of a structured programming language. All programming languages use the same concepts and the language will be based on the current need of the industry. The student will learn to design and develop software applications using the building blocks of a language which can include basic variable declaration and sequential code using mathematical expressions to more advance techniques with decision and repetition coding using advance data variable structures such as arrays and records (these may have different names in some languages but, have the same ideas). File manipulation for input/out will be addressed. The course will begin to look at breaking a large program down into functions that forms the basis for object-oriented programming.

Course Learning Outcomes

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

1. Design in an effective Integrated Development Environment (IDE) system
2. Apply the foundational concepts of any programming language
3. Explain file input/output manipulation techniques
4. Identify object-oriented programming languages

Prerequisites/Corequisites

CST 111 & MAT181

Required Textbook(s) and Resources

For this course you will need to purchase the following materials:

Starting Out with Python Plus MyLab Programming with Pearson eText ISBN-13: 9780134543666 (this will be provided to the student by direct access with a course fee applied to the student account)

Student will need to download the current Python IDLE from www.python.org

Note: this course may contain additional resources for specific activities or modules. Be sure to read the instructions carefully for individual assignments or activities for those requirements. Where applicable, Tiffin University has obtained permission to use copyrighted material.

Visit the [Tiffin University Library](#) for access to databases, research help, and writing tips. A link is also available in the Course Home area. I also suggest you register for one of the library's many webinars on library research, source evaluation, copyright, and other topics, at the [Library Events - Upcoming Events](#) web page.

If you register but cannot attend a live session, the library will email you a link to the session recording after the event.

For further assistance email a librarian, at: library@tiffin.edu.

Time Commitment

Effective time management is possibly the single most critical element to your academic success. To do well in this online class you should plan your time wisely to maximize your learning through the completion of readings, discussions, and assignments. Because of our accelerated, seven-week term, TU online courses are designed with the expectation that you dedicate a little over **six (6)** hours per credit hour to course activities and preparation **each week**. For example, for successful completion of a three-credit, seven-week online course you should reserve roughly **twenty (20) hours per week**.

To help you plan your time and keep you on track toward successful completion, this course maintains a distinctive rhythm for assignment due dates:

1. All times assume Eastern Time (GMT-4).
2. Weeks begin at 12:00 a.m. ET on Monday and end at 11:55 p.m. ET on Sunday.
3. Unless otherwise noted, initial assignments or discussion posts are due by **11:55 p.m. ET on Wednesdays**.
4. Additional assignments or follow-up discussion posts are due by **11:55 p.m. ET on Saturdays, and**
5. Major assignments and reflections are typically due by **11:55 p.m. ET on Sundays**.

Learning Activities

The course has activities ranging from forums, labs, papers, programs and a final exam. The main assignments for the course are 5 programs which encompass the weekly learning goals. These programs are coded in the Python IDLE and submitted in Moodle. The labs in the Pearson MyIT lab enforce the weekly learning goals to prepare the students to code these main programs. A comprehensive final exam assesses the student on the course learning outcomes.

Grading

The chart below identifies the individual contributions from each type of activity, per module.
The Reflection activities in Weeks 2 & 4 are extra credit, 10 points each.

Activity	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Total
Discussion	25	25	25	25	25	25	n/a	150
Lab Assignment	25	25	25	25	25	25	25	175
Assignment	50	n/a	n/a	n/a	n/a	n/a	25	75
Program	15	75	90	90	90	90	n/a	450
Final Exam	n/a	n/a	n/a	n/a	n/a	n/a	150	150
Total	115	125	140	140	140	140	200	1000

Grading Scale

Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	<60%

Please see the [Academic Bulletin](#) for grade appeal information.

CST201 Schedule and Weekly Checklist

Topic	Learning Activities (Due by 11:55 p.m. ET on day designated)
Start Here	<input type="checkbox"/> MON: Activity 1.1: Meet Your Classmates!
Week 1: <ul style="list-style-type: none"> • Hardware and Software • How Computers Store Data • How a Program Works • The Python IDE • Designing a Program 	<input type="checkbox"/> WED: Activity 1.2 – Initial Post <input type="checkbox"/> SAT: Activity 1.2 – Secondary Posts <input type="checkbox"/> SAT: Activity 1.3: Flow Charts <input type="checkbox"/> SUN: Activity 1.4: Week 1 Lab Assignments <input type="checkbox"/> SUN: Activity 1.5 Python
Week 2: <ul style="list-style-type: none"> • Input, Processing, and Output • Displaying Output with the print Function • Comments • Variables • Reading Input from the Keyboard • Performing Calculations • More About Data Output • Named Constants • Introduction to Turtle Graphics 	<input type="checkbox"/> WED: Activity 2.1 – Initial Post <input type="checkbox"/> SAT: Activity 2.1 – Secondary Posts <input type="checkbox"/> SUN: Activity 2.2: Week 2 Lab Assignments <input type="checkbox"/> SUN: Activity 2.3 Sequential Coding <input type="checkbox"/> SUN: Activity 2.4 Reflection (Extra Credit)
Week 3: <ul style="list-style-type: none"> • The if Statement • The if-else Statement • Comparing Strings • Nested Decision Structures and the if-elif-else Statement • Logical Operators • Boolean Variables • Turtle Graphics: Determining the State of the Turtle 	<input type="checkbox"/> WED: Activity 3.1 – Initial Post <input type="checkbox"/> SAT: Activity 3.1 – Secondary Posts <input type="checkbox"/> SUN: Activity 3.2: Week 3 Lab Assignments <input type="checkbox"/> SUN: Activity 3.3: Using Decision Structures

Topic	Learning Activities (Due by 11:55 p.m. ET on day designated)
<p>Week 4:</p> <ul style="list-style-type: none"> • Introduction to Repetition Structures • The while Loop: A Condition-Controlled Loop • The for Loop: A Count-Controlled Loop • Calculating a Running Total • Sentinels • Input Validation Loops • Nested Loops 	<ul style="list-style-type: none"> <input type="checkbox"/> WED: Activity 4.1 – Initial Post <input type="checkbox"/> SAT: Activity 4.1 – Secondary Posts <input type="checkbox"/> SUN: Activity 4.2: Week 4 Lab Assignments <input type="checkbox"/> SUN: Activity 4.3: Using Repetition Structures <input type="checkbox"/> SUN: Activity 4.4: Reflection (Extra Credit)
<p>Week 5:</p> <ul style="list-style-type: none"> • Introduction to Functions • Defining and Calling a Void Function • Designing a Program to Use Functions • Local Variables • Passing Arguments to Functions • Global Variables and Global Constants • Introduction to Value-Returning Functions: Generating Random Numbers • Writing Your Own Value-Returning Functions • The math Module • Storing Functions in Modules 	<ul style="list-style-type: none"> <input type="checkbox"/> WED: Activity 5.1 – Initial Post <input type="checkbox"/> SAT: Activity 5.1 – Secondary Posts <input type="checkbox"/> SUN: Activity 5.2: Week 5 Lab Assignments <input type="checkbox"/> SUN: Activity 5.3: Using Functions
<p>Week 6:</p> <ul style="list-style-type: none"> • Introduction to File Input and Output • Using Loops to Process Files • Processing Records • Exceptions 	<ul style="list-style-type: none"> <input type="checkbox"/> WED: Activity 6.1 – Initial Post <input type="checkbox"/> SAT: Activity 6.1 – Secondary Posts <input type="checkbox"/> SUN: Activity 6.2: Week 6 Lab Assignments <input type="checkbox"/> SUN: Activity 6.3: Using Files for Input/Output

Topic	Learning Activities (Due by 11:55 p.m. ET on day designated)
Week 7: <ul style="list-style-type: none"> Sequences Introduction to Lists List Slicing Finding Items in Lists with the in Operator Comprehensive Review 	<ul style="list-style-type: none"> <input type="checkbox"/> SUN: Activity 7.1: Different Data Structures <input type="checkbox"/> SUN: Activity 7.2: Week 7 Lab Assignments <input type="checkbox"/> SUN: Activity 7.3: Comprehensive Final Exam

Tips for Success

Successful online learning requires a good deal of self-discipline and self-direction. As seekers of the truth, we should be willing to challenge and review one another's academic work in a spirit of respectful comradery and constructiveness. You should accept constructive feedback as a gift. Your course is a place for you to stretch and grow as you benefit from the expertise, knowledge, experience and diverse perspectives of your instructor and peers. Constructive feedback will challenge you to stretch your own thinking, thereby expanding your knowledge, understanding and application.

To get the most out of your learning experience, you should actively engage (participate) in **ALL** course activities. Course elements in any given week are arranged chronologically. To complete a week, simply work your way "down the page" through all of the course materials and activities.

Your Instructor Will Expect You to:

- Thoroughly review orientation materials (Start Here) within the first 48 hours of the term.
- Monitor your TU email account **daily** for important updates and announcements.
- Take ownership of your learning experience and act in a proactive, self-directed manner. That means:
 - Fully participate in all learning activities.
 - Complete assignments as described in rubrics or other instructions.
 - Submit all work on time and in the specified format (e.g. APA format for citations).
 - Utilize and incorporate instructor provided feedback to improve your work.
 - Ask questions so you can better understand course material or assignments.
 - Use the highest standards of intellectual honesty and integrity. For more information, see the TU Library guide: [Digital Literacy: Netiquette and Internet Safety](#).

- Treat others respectfully and demonstrate "netiquette" (online politeness and respectfulness) at all times. TU celebrates cultural uniqueness and expects all students to be considerate and thoughtful throughout their learning experiences.

You Should Expect Your Instructor to:

In general, your instructor should advocate for your success as a learner and help guide you toward successful completion of the course activities and most importantly, attainment of the course learning outcomes. To accomplish this, your instructors should:

- Post an introductory announcement/email at the beginning of each week to provide updates and help you prepare for the week's activities.
- Maintain an active and engaged presence in all course activities and throughout the course.
- Respond to your emailed questions within 48 hours, if not sooner.
- Clearly communicate any absences or expected non-participation due to extenuating circumstances. For example, "I will be traveling to attend a funeral this week and may not be able to respond to questions or participate in forums for a couple of days."
- When grading your work, your instructor should:
 - clearly indicate their grading approach (what they like to see in submitted work as well as what types of errors they tend to penalize more harshly),
 - thoroughly review and evaluate your submissions in a timely manner (in less than 5 days for most assignments), and
 - provide constructive feedback that indicates the strengths and weaknesses of your work and provides suggestions on how you can improve your performance on future assignments.
- In general, your instructor should advocate for your success as a learner and help guide you toward successful completion of the course activities and most importantly, attainment of the course learning outcomes.

Accommodations

The **Office for Disability Services** supports the institutional commitment to diversity by providing educational opportunities for qualified individuals with disabilities through accessible programs and services in compliance with Section 504 of the Rehabilitation Act of 1973 and Title III of the Americans with Disabilities Act (ADA) of 1990.

If you need reasonable accommodations due to a documented disability, contact the Office for Equity, Access, & Opportunity 419.448.3021 or via email at disabilityservices@tiffin.edu.

Additional Resources & Support

For technical support, either email moodlesupport@tiffin.edu or call the 24/7 Technical Support Call Center at 855-664-1200.

If you need to consult an academic advisor refer to our one-stop shop advising team list.

Website (Google Doc): [Online Graduate Academic Advisors](#)

Website (Google Doc): [Online Undergrad Academic Advisors](#)

For information about TU's peer tutoring program see the Murphy Center's [Tutoring Policies and Procedures](#) page. Veterans and active military can seek assistance from TU's [Veteran and Military Services Web Page](#).

Comments or Concerns

TU's online programs are designed to be student *driven*: to empower you with a voice and stake in your learning. Our courses feature multiple and varied ways that you can share feedback, and we invite you to become an active voice and help drive our improvement efforts. In addition to providing in-course feedback, we encourage you to submit questions or comments directly to the online team at online@tiffin.edu.