

Technical College of the Lowcountry  
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## **CPT 168 PROGRAMMING AND LOGIC DESIGN**

### **Course Description**

This course examines problem-solving techniques applied to program design. Topics include a variety of documentation techniques as means of solution presentation. This course also includes a general introduction to computer concepts.

Prerequisites: CPT 101 or CPT 170, RDG 100, MAT 105, ENG 100.

This course is an introduction to problem solving and programming. Topics cover logic tools used by computer industry to solve logic problems. 3 Cr (3 lect/pres, 0 lab, 0 other)

### **Course Focus**

The student will be provided with logic skills for program design and development. He/she will be introduced to structured and object-oriented design, sequence control structures, if/then/else control structures, do/while control structures, and arrays and their applications.

### **Text and References**

Introduction to Computing and Programming in Python, A Multimedia Approach 3rd Edition. Guzdial & Ericson. Pearson, Prentice Hall. ISBN-10: 0132923513 | ISBN-13: 9780132923514

Online Students should have access to a computer running Windows XP or later with internet access. If you are taking this as an online course, you should have web access and be able to send in homework via email. You will need to load a python development environment on the computer (These tools are supplied with the book or online.). Bring your laptop to class if you have one. We will load a python environment.

If you don't have the tools, you will need to find a computer that has them (you can go to the TCL Learning Resource Center-let me know so we can set up a computer for you).

To access the class web site:

Go to: [elearning.tcl.edu](http://elearning.tcl.edu) or [www.tcl.edu](http://www.tcl.edu)

Click on the Blackboard logo (you might need to scroll down on the web page)

Enter your login and password

Your Blackboard User Name is as follows:

Username: \_\_\_\_\_

Your seven-digit TCL Student ID number including the proceeding zeroes.

Example: 0012345

Your new Blackboard Password is as follows:

Password: \_\_\_\_\_

First letter of your first name, lowercase, and the last three digits of your social security number.

Example: j123

NOTE: Use lowercase letter and without spaces.

Click on class cpt168

If you cannot get to the site, please call the helpdesk 525 8344 or email them at [helpdesk@tcl.edu](mailto:helpdesk@tcl.edu).

### **Course Goals**

The following list of course goals will be addressed in the course. These goals are directly Related to the performance objectives. (\*designates a CRUCIAL goal)

1. send function parameters
2. examine array code
3. program sequential statement
4. program decision structure
5. program equality statement
6. identify variable scope
7. use boolean variables
8. implement switch statement
9. define operator precedence
10. call functions
11. use file i/o
12. return function value
13. stub functions
14. access array elements
15. insert array element
16. manipulate string objects
17. compile program
18. structure control sequence
19. use if/then structure
20. use do/while structure
21. design case control
22. debug program
23. describe object oriented
24. insert array elements
25. define arrays
26. stub program functions
27. overload functions
28. understand local variables
29. pass value ref arguments
30. breakdown functions
31. initialize variables

32. use relational operators
33. design array elements
34. modify array elements
35. apply array
36. identify objects
37. break control loop
38. modify array element
39. get user input
40. test simple program
41. write test plan
42. write design document
43. produce simple design
44. define objects
45. calculate arithmetic result

### **Student Contributions**

Each student will spend approximately 2.5-5 hours per week preparing for class and completing assignments to turn in weekly. Attendance is critical in this class if this information is new to you.

Each week students will turn in assignments as specified on Blackboard. In addition, chapter tests are to be completed as assigned. Students will also complete a final exam/project to demonstrate their knowledge of the material.

Students will use a python developer environment on a TCL computer or they will set up the development environment on their own computers. Students will be expected to write python programs and demonstrate them.

### **Course Evaluation**

Each week's assignments are worth 100 points and averaged over the semester. chapter tests are also worth 100 points and averaged at the end of the semester. The final will be 100 points.

Tests: 45%

Homework:40%

Final: 10%

Timeliness/Attendance/Participation: 5%

### **Course Schedule**

The class can be taken online or as a web-enhanced class that meets 1.5 hours per week. We will cover the information in the order of the content goals as listed.

## **ADA Statement**

The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

## **Academic Misconduct**

There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship.

It is the student's responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.

The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the TCL Student Handbook, the Division Office, and the Learning Resources Center.

## **Attendance**

The College's statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.

- Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING. Reinstatement requires the signature of the division dean.
- Students taking an online/internet class must sign in and communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING. Reinstatement requires the signature of the division dean.
- In the event it becomes necessary for a student to withdraw from the course OR if a student stops attending class, it is the student's responsibility to initiate and complete the necessary paperwork. Withdrawing from class may have consequences associated with financial aid and time to completion.
- When a student exceeds the allowed absences, the student is in violation of the attendance policy. The instructor MUST withdraw the student with a grade of "W", "WP", or "WF" depending on the date the student exceeded the allowed absences and the student's progress up to the last date of attendance

Or

Under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.

- Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.
- A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.
- A copy of TCL's STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL) is on file in the Division Office and in the Learning Resources Center.

## **Hazardous Weather**

In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVV 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLVA 101.1, WSOK 1230 AM, WAEV 97.3, WTOG TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System.

[www.tcl.edu/textalert.asp](http://www.tcl.edu/textalert.asp)

**Emergency Text Message Alert**

Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. Participants receive immediate notification of emergency events and weather cancelations via text messaging on their cell phones. Participants can also opt in to receive non-emergency news and announcements. Go to [www.tcl.edu](http://www.tcl.edu). On the homepage, click on "emergency Text Alert at TCL" and fill out the form or go to [www.tcl.edu/textalert.asp](http://www.tcl.edu/textalert.asp)