

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

**ADVANCED C++
CSIT 2695**

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours: 3.0

Revised: Spring 07

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

A study of advanced C++ programming concepts. Emphasis is on development for the Windows environment. Projects may include extensive use of the Standard Template Library (STL), the Active Template Library (ATL), the Microsoft Foundation Class Library (MFC), and the .NET framework. Topics include C++ support of windows and controls, event handling, images, fonts and colors.

Entry Level Standards:

The entering student should have familiarity with the computer language C++, editing C source code, and writing successful C programs.

Prerequisite:

CSIT 2690 or department approval

Textbook(s) and Other Course Materials:

MFC Programming From the Ground Up (2nd.Edition), Schildt, Herbert; Osborne/McGraw-Hill, 1999.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction, review of C++ concepts.
2	Introduction to the MFC, creating an MFC application skeleton.
3	Forms and controls.
4	Forms and controls.
5	Applying menus and message boxes.
6	Processing messages, implementing dialog boxes.
7	Managing text and graphical output.
8	Icons, cursors, and bitmaps.
9	Advanced controls including toolbars, tooltips, tree views and calendars.
10	Create property sheets and wizards.

- 11 Multithreaded multitasking.
- 12 Using the help system.
- 13 Advanced menu techniques, creating ActiveX controls.
- 14 Project Presentations.
- 15 Final Exam.

II. Course Objectives*:

- A. Become familiar with rapid application development (RAD) techniques available in C++ through the MFC. IV,VI,VII,XI
- B. Create complex C++ programs to solve complex problems. III,V,VI,XII
- C. Reinforce good programming habits introduced in earlier courses. II,III,VI,VIII
- D. Develop industry standard graphic user interfaces (GUI) for applications using Windows controls. II, III, IV, V, VI, VIII, XI, XII

*Roman numerals after course objectives reference goals of the CSIT program.

III. Instructional Processes*:

Students will:

1. Participate in a project development team. (*Communications Outcome, Transitional Strategy, Active Learning*)
2. Use professionally accepted methods and materials in completion of a final project. (*Technological Literacy, Transitional Strategy, Active Learning*)
3. Use a variety of techniques to present a group project. (*Communications Outcome, Transitional Strategy, Active Learning*)
4. Participate in a peer review of team projects. (*Communications Outcome, Transitional Strategy, Active Learning*)

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Understand the Windows based language development environment for C++ programs. A B C
2. Use menus and message boxes. A B D
3. Use icons, cursors and bitmaps. A B D

4. Use advanced controls. A B C D
5. Understand message processing. A B D
6. Create property sheets and wizards. A B D
7. Use and create help systems. A B C D
8. Understand class hierarchy in the foundation class system. A B C D

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

There will be two tests and a final exam.

B. Laboratory Expectations:

There will be several individual lab assignments.

C. Field Work:

N/A

D. Other Evaluation Methods:

Students will work on a final project as a team. Each team will consist of two members. The team will design, code a program, and present their final findings to the class. The subject of the project must be approved by the instructor at least a month before the presentation of projects. Each team member will be assessed based on his/her participation in the project. Individual work is strongly discouraged. All team members MUST participate in coding the program.

E. Grading Scale:

Lab Exercises	300 points
Final Project	200 points
Mid-term Exam	250 points
<u>Final Exam</u>	<u>250 points</u>
Total	1000 points

Grading Scale:

930 - 1000	A
870 - 929	B+
830 - 869	B
770 - 829	C+
700 - 769	C
600 - 699	D
Below 600	F

VI. Policies:

Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.