

# C/C++ Programming

PGTE

5066 A

Spring 2005

## Instructor Info

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## Course Description

This class is an introduction to C and C++ programming using the Macintosh, UNIX or DOS operating system. Students will learn how to compile basic executable files and be given a strong grounding in applications development. The class will also cover basic IDE and development environment issues as well as platform specific development concerns. Students interested in pursuing programming projects for thesis are highly encouraged to take this class. Open to: Non-Majors with Permission

This course was designed as an introduction to general programming concepts using C++. Students will be required to complete weekly assignments and a final project.

## Course Outline

### week 1

- class structure + philosophy
- what is c++?
- set up + basics - compilers
- unix commands + ftp + ssh review
- how to run and compile your first program

### week 2

- data types and variables
- arithmetic expressions
- reading and writing data from the keyboard
- lab / hw

### week 3

- looping (while, for)
- conditionals
- lab / hw

### week 4

- functions
- how to use functions
- lab / hw

### week 5

- arrays
- pointers
- lab / hw

### week 6

- pointers (cont.)

- file I/O
- lab / hw
- week 7**
  - intro to objects
  - lab / hw
- week 8**
  - objects continued
  - applications
  - review
  - lab / hw
- week 9**
  - intro to OPENGL
  - lab / hw
- week 10**
  - OPENGL (cont.)
  - final project
- week 11**
  - work on final project
- week 12**
  - work on final project
- week 13**
  - final project presentations i
- week 14**
  - final project presentations ii

## Learning Outcomes

- For students to learn basic programming techniques and data structures in C++: variables, conditionals, arrays, pointers, loops, and functions.
- For students to learn the basics of object oriented programming.
- For students to learn how to use programming techniques as tools to solve problems.
- For students to learn how break down an idea or program they want to write into smaller problems which they can then solve using techniques learned in the class.

## Assessable Tasks

There is a in class lab and programming assignment every week. There will be one two week assignment as a midterm, and a final. Assignments can be found here:

<http://www.feedtank.com/2005/cpp>.

## Evaluation and Grading

- |    |   |
|----|---|
| A  | Work of exceptional quality                       |
| A- | Work of high quality                              |
| B+ | Very good work                                    |
| B  | Good work; satisfies course requirements          |
| B- | Below average                                     |
| C+ | Less than adequate                                |
| C  | Well below average; lowest possible passing grade |
| F  | Failure, no credit                                |

## Readings and Resources

*C++ Primer Plus* by Stephen Prata.  
Additional readings will be provided as needed.

## Materials and Supplies

Access to Parsons 'A' server. We will be using this server as a development environment.

## School, Department and Class Policies

### Failing Grades

Failing grades are given for required work that is not submitted, for incomplete final projects or for examinations that are not taken (without prior notification and approval). Final semester grades are determined by averaging grades received throughout the semester. Make-up work or completion of missed examinations may be permitted only with the approval of the instructor and the major department Chair.

### Incompletes

A grade of I (Incomplete), signifying a temporary deferment of a regular grade, may be assigned when coursework has been delayed at the end of the semester for unavoidable and legitimate reasons. Incomplete grades are given only with the written approval of the instructor and the major department Chair. **The Request for an Incomplete Grade form must be filled out by the student and instructor prior to the end of the semester.**

For graduate students, the deadline for completion of an incomplete is one year. A grade of I will automatically convert to a permanent unofficial withdrawal (WF) after a period of four weeks.

Faculty may not post an Incomplete ("I") in ALVIN unless they have first completed the incomplete approval process. Please contact your department for complete instructions and approval forms for awarding an incomplete. Students who have not been attending your class should have already been reported to your department.

### Academic Integrity and Honesty Policy

The purpose the Academic Integrity and Honesty Policy is to protect the rights of authors, artists and fellow members of the academic community as well as to support the education of the individual student, who derives no educational benefit from cheating. Studio faculty are expected to educate students about the legal and ethical restrictions placed upon creative work and about the consequences of dishonesty in the professional world. Faculty assigning papers are expected to educate students about the appropriate incorporation of quoted material and other thinkers' ideas. Most important, students are expected to keep themselves informed on these matters, to seek clarification from instructors regarding academic honesty and its relationship to specific assignments, and to conduct themselves accordingly. All incoming students are required to sign an Academic Integrity Statement declaring that they understand and agree to comply with this policy.

Students who cheat in any way primarily cheat themselves; but they also compromise the academic climate for all members of the Parsons community. Dishonest students, whether directly or indirectly involved in an act of cheating, will be held accountable for violations of the Academic Integrity and Honesty Policy. "Academic dishonesty" is defined as:

- cheating on examinations, either by copying another student's work or by utilizing unauthorized materials.

- any act of plagiarism, that is, the fraudulent presentation of the written, oral or visual work of others as original.
- theft of another student's work.
- purchase of another student's work.
- submitting the same work for more than one course.
- destruction or defacement of the work of others.
- aiding or abetting any act of dishonesty.
- any attempt to gain academic advantage by presenting misleading information, making deceptive statements or falsifying documents.