

Course Syllabus

Course Description:

Learn C++, the language professionals use to create games. This nine month course provides students with a solid foundation in the same programming language that the game makers use. Students demonstrate newly mastered skills by combining major concepts studied in order to produce a game suitable for multiple players. Get ready to master the basics of C++.

Course Objectives:

Upon conclusion of this course, students will be able to:

- Work with the fundamentals of C++, including variables, branching, and functions
- Implement the Game Loop in program code
- Plan game programs with Pseudocode
- Harness the Standard Template Library
- Manage dynamic memory
- Use object-oriented programming to simulate game worlds
- Write substantial text-based computer games

Textbook: Beginning C++ Game Programming by Michael Dawson (ISBN 1-59200-205-6)

Comes complete with Q&As, extensive end-of-chapter exercises, and a CD to reinforce self-practice learning. Includes a CD with Bloodshed Dev-C++ IDE, six bonus appendices, all source code from the book

Topics include:

- Types, variables, and standard I/O
- Truth, branching and the game loop
- For loops, strings, and arrays
- The standard template library
- Functions
- References
- Pointers
- Classes
- Advanced classes and dynamic memory
- Inheritance and polymorphism

Grading Rationale:

| | | | |
|---|---------------|---|-----|
| A | 90% and above | <i>The breakout for grades is as follows:</i> | |
| B | 80-89% | Chapter projects/programs | 40% |
| C | 70-79% | Worksheets | 20% |
| D | 60-69% | Current event reports, other assignments | 10% |
| F | 0-59% | Individual Project, Quizzes and tests | 30% |

Assignments (assignments may vary due to class size and individual start dates):

- Students will complete each chapter of the text and selected written exercises and projects.
- Students will complete an individual project near the end of the nine month course.
- Students will complete Current Events in Technology Reports monthly.
- Students will work with a team to complete a project at midterm (project to be determined).
- Students will conduct code reviews as assigned.
- Students will take quizzes and tests as scheduled (dependent on student's start date).