The Illinois Institute of Art Chicago

Course Title: Programming for the Artist

Course Number and Section: GAD415

Term: Summer
Year: 2007

Number of Contact Hours: 6

Time: 12:00 pm Tuesday and Thursday
Place: 180 N. Wabash

Instructor: Lindsay D. Grace

Office Phone / E-mail: lgrace@aii.edu
Website: http://aii.lgrace.com

Office Hours: TBA

Course Description:
This course is an introduction to computer programming from the game design artist's point of view. Students learn only the basic foundation for programming and designing games.

This course will teach the game artist to program. The concepts discussed in this course are universal to all object oriented and procedural programming languages. To demonstrate the universal nature of programming fundamentals this course will be taught using two programming languages. During the first several weeks of the course, Visual Basic will be used to introduce the concepts of programming. During the last few weeks of the course, Maya's built in scripting language, MEL will be taught to demonstrate how an understanding of programming can simplify tasks and streamline the students production pipeline.

All fundamentals of programming will be taught, including looping, conditional statements, and procedures.

No prior programming knowledge is assumed.

Credit Value: 4 QHC
Prerequisites: GAD408, MAA320, MAA150, MAA100, 1 math elective

Textbook:
There is no text, however required reading is posted at http://aii.lgrace.com. It is the students responsibility to keep track of required reading.

Required Materials

- USB thumb drive (for execution of programs, storing code and engine)
- Access to a PC formatted computer (no Macs)

Technology:

***Team chosen programming game programming environment**
Choices include: BlitzBasic, DarkBASIC, Torque, et al

Objectives:
Upon successful completion of this course, students should be able to:

- Apply industry-standard storyboard and storytelling techniques to animation
- Observe and document errors in programming
- Identify the programming involved in multimedia
- Identify at least 2 programming languages
- Understand the nature of object-based programs
- Create procedures, function statements, and variables by using programming language concepts
- Create arrays and loops

Methods of Instruction: Lab and lecture

Methods of assessment:

Participation:	5%

Projects:

Group Game Project (week 7):	30%
Individual MEL Project:	20%

Exams and Quizzes:

Midterm Exam (week 5):	20%
Quizzes / Class Assignments	25%

Game Art and Design Program Goals:

- Prepare students for successful employment, both short and long term.
- Instill in them the technical skills necessary for entry-level employment
- Aesthetic and creative awareness for meaningful communication
- Ability to self-teach toward staying proficient in the ever changing technological landscape leading toward a lifelong career.

- Equip students for entry-level jobs
- Give students a solid foundation based on the 12 principles of animation
- Develop strong visual/creative problem solving skills based on traditional drawing skills.
- Promote student professional demeanor, provide students with an understanding of the animation market, and identify and practice characteristics of professional conduct.

Weekly Schedule*
Unless otherwise noted, all assignments will be demonstrated at the start of class on the day they are due.

Week 1: Introduction – What is an IDE?
What is a Game Development Environment

Overview of Programming Fundamentals
Simple Debugging

Group In-Class Assignment:
Find, compare, and formally present two development environments using PowerPoint. Answer all questions listed in "questions to ask about game development environments" reading.

Group Homework: (Due day 1, week 2)
Form team of 3 and describe game concept. See sample game concept outline for examples.

Week 2: Data Types, Variables
Objects and Object Oriented Development

Group Homework (Due day 2, week 2):
Commit to game engine. Write and sign a statement that indicates your chosen game development environment and have each team member sign it. *Review sample agreement provided*

Group Homework: (Due day 1, week 3)
Find and demonstrate 2 separate chunks of code for a game like your concept. Choose game code that could be used in your own game. *Review list of game code resources provided.*

Week 3: Chapter 3 and Supplements:
Collisions
Decisions and Loops

Homework:
Create a flowchart of game events. The flowchart should describe game start, penalty events, positive events, and game end. Review sample flowchart.

Homework:
Create a mini Media Design Document listing game assets needed. This should be a bulleted, clearly understood list of the sounds, animations, models, and textures needed for your game.

Homework:
Demonstrate game setup by writing code to generate game environment. This code should clearly demonstrate the game's environment (e.g. FPS should place a first-person camera and allow us to move around the environment in perspective)

Week 4: Chapter 4 and 13

Procedural Development
Native functions and Custom Functions

Homework:
Write code to execute 3 primary actions in game. Primary actions include jump, shoot, move object, or whatever is an essential action in your game.

Week 5: Chapter 6

Demonstrate progress in games

Midterm exam
The Midterm Exam is a practicum, you will be asked to accomplish the same tasks we completed during weeks 1-4. You will have an entire

Week 6: Game Work Week

Open Lab to work on your projects. No homework other than completing your project.

Week 7: Game Competition

Game projects due, played and evaluated in class.

Week 8: Introduction to MEL

Homework:
Create a simple MEL instruction (assignment based on student progress).

Week 9: MEL Procedures

Adding scripts to the UI
Homework:
Individual MEL project proposal. Articulate your MEL mini project in 3-4 sentences

Week 10: MEL Work Week

Homework Complete MEL project

Week 11: MEL Project Competition

Final projects due (with source code) at start of final class meeting.

Grading System:

Point Score range	Letter Grade
93 and above	**A**
90-92	**A-**
87-89	**B+**
83-86	**B**
80-82	**B-**
77-79	**C+**
73-76	**C**
70-72	**C-**
67-69	**D+**
63-66	**D**
60-62	**D-**
Below 60	**F**

Course Requirements and Policies

All students must adhere to the guidelines set forth by the Illinois Institute of Art's student handbook.

All assignments are due at the beginning of the class unless otherwise indicated. Completed group assignments will be presented to the class and a printed copy of assignment (e.g. copy of presentation, lists, etc) will be provided to instructor. When the assignment involved source code, students will demonstrate code in front of the entire class, then provide an appropriately labeled set of files on the common drive.

Students should always keep a backup copy of their work.

No late assignments will be accepted. In this course, each assignment will build on the previous. Failure to complete the prior week's assignment will make each subsequent week harder. It is in your best interest to complete each assignment on time and to the best of your ability. Always hand in what you have, even if it does not work. **Partial credit is better than no credit at all.**

Attendance / Absences:

Students are expected to attend each class and arrive on time. Any student arriving late for an exam may not be given a chance to complete the exam.

Makeup exams and acceptance of late assignments will only be granted in the following circumstances; Medical excuse, emergencies, campus-sponsored activities.

All issues of attendance and tardiness will be handled as school policy dictates and at the discretion of the instructor.

Cheating and Plagiarism:

Any student that cheats or plagiarizes will be reported to the academic standards committee and may be dismissed from the course.

If you use another person's code, please indicate it clearly by included comments that indicate where someone else's code begins and ends.

You may use websites, message boards, chat rooms, or other related resources to solve homework problems as long as you clearly indicate your contribution to the final product.

*Schedule subject to change at the instructor's discretion.

Once you have read the syllabus, please sign the following and provide it the instructor.

I have read the entire syllabus carefully and understand the attendance policies and class policies concerning assignments. I understand that the class runs for six hours each week and I am personally responsible to be present for each session from start to finish. I am now informed that both late arrivals and early exits are noted in the attendance log.

Name (Print) _____

Signature_____

Phone Number _____

Current Email _____