The Illinois Institute of Art-Chicago

Course Title: GAD415 – Programming for the Artist

Session/Year: Summer 2008

Class times: Tuesday and Thursday, 12:00-3:50 pm

Instructor: Lindsay Grace

Contact info: LGrace@aii.edu

Course description:
This course is an introduction to computer programming from the game design artist's point of view. After the groundwork is laid in the artistic area, basic foundations of programming and design for names are presented.

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.

Course Length: 11 Weeks
Contact Hours: 66 (22 lecture and 44 lab)
Credit Value: 4 QHC
Prerequisites: MAA320, GAD408 and 1 math elective

Competencies:

1. Observed and documented errors in programming
2. identified the programming involved in multimedia
3. identified 2 programming languages
4. understood the nature of object-based programs
5. Created procedures, function statements, and variables by using programming language concepts
6. Create arrays and loops

Methods of Instruction: Lab and lecture

Methods of assessment:

Participation:	5%

Projects:

Group Game Project (week 7):	40%
Individual MEL Project:	15%

Exams and Quizzes:

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

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
Below 63	F

Required Text:

Game Programming for Teens
Maneesh Sethi
Paperback: 392 pages
Publisher: Course Technology PTR; 1 edition (May 15, 2003)
ISBN-10: 1592000681
ISBN-13: 978-1592000685

Suggested Reading:

Supplied at http://aii.lgrace.com/

Supplemental materials:

Supplied at http://aii.lgrace.com/

Technology:

PC Lab with NT operating system and Autodesk Maya Software.
Portable Hard drive or USB drive (512mb or greater)

Classroom policy and procedures:

Attendance: Professionals in the industry are expected to be on time and to meet all deadlines. With this in mind, attendance of all classes is mandatory. There are no excused absences; however, emergencies and illnesses documented may be taken into consideration. Roll will be taken at the beginning and end of each class. When late to class or missing a class, the student is responsible for getting missed information. Students with 32% accumulated absence (a total of 21 hours) will fail the course; tardiness counts toward accumulated absence.

Cheating and Plagiarism will not be tolerated. Consult the school catalog for more info in the section on Academic Honesty on page 73.

Special accommodations:
The Illinois Institute of Art-Chicago special needs coordinator, Jamey DiVietro, organizes services for qualified students requiring reasonable accommodations. Notifying the Illinois Institute of Art-Chicago that you have a disability or special needs is optional and confidential. However, in order for the school to accommodate your needs, we need advance notice of the services you require. For more information please contact Jamey DiVietro at 312-777-8616.

Counseling: If during the semester you have problems with stress, just need to talk to someone or need a referral to alternative resources, contact Jamey DiVietro the school counselor. He can be reached in the Student Services offices, or by phone at the services you require. For more information please contact Jamey DiVietro at 312-777-8616 or by e-mail at divertrj@aii.edu.

Weekly Schedule

Unless otherwise noted, students will demonstrate completed assignments at the start of class.

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: 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: 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: Demonstrate progress in games (basic demo)

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: Procedural Animation: Introduction to MEL Scripting

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

Week 9: MEL Procedures: Creating UI and Functions in Mel
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.

This syllabus is subject to change with the needs of the course and at the discretion of the instructor.

Syllabus acceptance signature page

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) _____

Phone Number _____

Current email _____