

# Game and Mobile Application Programming

## CSCI 412 Syllabus

### Spring 2018

#### **CSCI 412 Section 1**

Instructor: Michael Cassens

Office: SS 411

Office Hours: MWF 1:00-1:50 or by appt.

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#### **Overview:**

This class is designed to cover a number of topics in game and mobile application programming.

Upon completing this course, a student will be able to:

Explain the fundamental concepts that are essential to game and mobile application development, including but not limited to:

- Leverage game design techniques to implement a project
- Integrate specific gaming or mobile platforms
- Work with a diverse project team
- Implement a game or mobile application
- Generate and apply test plans for a game or mobile application
- Deploy a game or mobile application to the store

#### **Attendance:**

This course meets three times a week – Mondays, Wednesdays, and Fridays from 12:00 – 12:50 pm in SS 362. You are required to attend all class sessions. If you must miss, it is your responsibility to get the assignments from classmates or from me. If you miss an exam, you will not be able to make it up. Occasionally, I need to travel out of town and on those days, we will have a guest lecture or we will have class via Moodle. Class time concentrates using a seminar style format and a presentation format. This time will greatly benefit your overall knowledge and understanding and help you complete the assignments.

#### **Graduate Student Increment:**

Graduate students will be required to complete an extra project not regularly required for the course. They will include a description and overview of this project during the final presentations.

Examples of this project could include:

- A supporting website for a mobile application game where users can discuss the application or game through a forum-like structure
- A secondary deployment of a mobile application or game on another mobile platform or gaming environment.
  - For example, if a mobile application is developed for Apple's iOS, then they must also create the same application for the Android OS, Windows OS or for the web or some other gaming platform.
- Create a monetary exchange website that can be used within the mobile application or game. This should be a separate database driven site allowing users to purchase gaming currency to enhance their character or world.

### **Grading:**

**Homework and Labs** 50%

**Final Exam** 50%

**All Assignments will be submitted through Moodle assignments. If you have trouble with your submission, please send them to**

**michael.cassens@mso.umt.edu**

**Your subject must be CSCI 412 Assignment # (e.g CSCI 412 Assignment 1)**

**Please zip all your files and label your file:**

**"CSCI412LastNameAssignment1.zip"**

**Grading Scale**

100-90 A, A-	79-70 C+, C, C-	59-and beyond F
89-80 B+, B, B-	69-60 D+, D, D-	

P/NP – pass/no pass, 70 or greater is passing determined by Computer Science Department policy, which is a C or better.

### **Late Assignments:**

- Late assignments will not be accepted. Sorry for the inconvenience.

### **Requirements**

- Required Texts:
  - **Game Development Principles – Alan Thorn (if possible)**
- Suggested Texts:
  - **Fundamentals of Game Development – Heather Maxwell Chandler**
  - **Android Programming: The Big Nerd Ranch Guide (3rd Edition)**
  - **iOS 11 Programming Fundamentals with Swift: Swift, Xcode, and Cocoa Basics**
  - **Pro HTML5 Games: Learn to Build your Own Games using HTML5 and JavaScript 2nd ed. Edition**

- **LÖVE for Lua Game Programming**
  - **Unity in Action: Multiplatform game development in C# 2nd Edition**
  - **Corona SDK Mobile Game Development Beginners Guide - Second Edition**
- You must have taken at least Data Structures and Software Engineering or consent of instructor.

**Suggestions:**

- It will be beneficial to read your specific text and ask as many questions as you can.
- Feel free to set up an appointment if you need help. I am here to help you understand and do well.

**Collaboration:**

- I encourage you all to work together through problems, but copying and plagiarism will not be tolerated. If you are caught cheating, I will give you an F for the course.
  - Please refer to the Student Conduct Code in how this will be dealt with: [http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php)

**Incompletes:**

"Incomplete for the course is not an option to be exercised at the discretion of students. In all cases it is given at the discretion of the instructor..." Some guidelines for receiving an incomplete are listed in the catalog which include having **a passing grade up to three weeks before the end of the semester** and being in attendance. **"Negligence and indifference are not acceptable reasons."** Also note that there may be financial aid implications.

**Late Drops:**

The University's policy on drops after 45 days of instruction is very specific. Please refer to the Registrar's office for more details. The Computer Science Department follows this policy rigorously. There are five circumstances under which a late drop might be approved: registration errors, accident or illness, family emergency, change in work schedule, no assessment of performance in class after this deadline. Except in very unusual circumstances, I will only approve late drops if there is documented justification for one of these circumstances.

**Disabilities:**

Students with disabilities should notify the instructor at the beginning of the course. Disabilities should be "certified" by DSS.

**Class Etiquette:**

- Be respectful of your fellow classmates.
- Call me anytime if you have a question.
- Profanity and Obscenity will not be tolerated in class or assignments.

**Special Dates:**

- Jan 22, 2018 Classes Begin
- Feb 19, 2018 President's Day – No Class
- Mar 19th – Mar 22nd, 2018 – I am out of town, class will be online.
- Mar 26<sup>th</sup>-30<sup>th</sup> – Spring Break
- May 7<sup>th</sup>-11<sup>th</sup>, 2018 Finals
- **Final Project Turn In: May 11<sup>th</sup>, 2018 11:55 pm**

**Tentative Schedule:**

Week 1 Syllabus, Article 1, Introduction, Group Formation  
Week 2 Article 2, Roles on the Team, Game and Game Design, Android Development  
Week 3 Article 3, Effective Communication, Java Development  
Week 4 Article 4, Game Software Development, HTML5/JavaScript Development  
Week 5 Article 5, Game Programming, iOS Development  
Week 6 Article 6, Game Math, Unity Development  
Week 7 Article 7, Graphics, Pixels, and Color, Lua  
Week 8 Presentations  
Week 9 Article 8, Meshes, Rigging and Animation, Python  
Week 10 Spring Break  
Week 11 Article 9, Lighting and Rendering, Windows  
Week 12 Article 10, Sound and Music  
Week 13 Article 11, Special Effects and Post-Processing  
Week 14 Article 12, Distribution, Publishing and Marketing  
Week 15 Presentations  
Week 16 Finals – Turn in final project

**Project Assignment:**

- Week 2 – Milestone 1 due (Project Idea)
- Week 4 – Milestone 2 due (Specifications, Proof of Concept submission)
- Week 6 – Milestone 3 due (Design)
- Week 8 – Presentation I
- Week 11 – Milestone 4 due (Progress Report on Implementation, Turn in working version)
- Week 12 - Milestone 5 due (Progress Report on Implement, Testing)
- Week 15 – Presentation II
- Week 16 – Final Projects turn in: **May 11<sup>th</sup>, 2018 11:55 PM**