

**STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK**



MASTER SYLLABUS

GAME 450 Mobile Game Development

**Created by: Kathleen Mahoney
Updated by: Kathleen Mahoney**

**CANINO SCHOOL OF ENGINEERING TECHNOLOGY
DECISION SYSTEMS
FALL 2018**

- A. **TITLE:** Mobile Game Development
- B. **COURSE NUMBER:** GAME 450
- C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

Credit Hours: 3
 # Lecture Hours: 2 per week
 # Lab Hours: (1) two-hour lab per week
 Other: per week

Course Length: 15 Weeks

D. **WRITING INTENSIVE COURSE:** No

E. **GER CATEGORY:**

F. **SEMESTER(S) OFFERED:** Fall

G. **COURSE DESCRIPTION:**

This course is an introduction to mobile application frameworks, including user interface, sensors, event-handling, data-management and network communication.

H. **PRE-REQUISITES/CO-REQUISITES:**

- a. Pre-requisite(s): GAME 370
 b. Co-requisite(s):
 c. Pre- or co-requisite(s):

I. **STUDENT LEARNING OUTCOMES:**

II. <u>Course Student Learning Outcome</u> <u>[SLO]</u>	<u>PSLO</u>	<u>GER</u>	<u>ISLO</u>
a. Construct a mobile application using industrial strength programming language features.	PSLO 6 Use the design process: Concept, Design, Prototype, Production, Testing and Revision to evaluate, and implement strategies to find a solution to a problem.		5
b. Design user interactive programs using specific software patterns.	PSLO 5 Synthesize trends, theories, movements and advancements in technology in the development of new ideas.		2 [IA]
c. Learn proper production techniques.	PSLO 8 Demonstrate an understanding of recent principles of game design, including, programming, narrative, character and level design.		5
d. Construct a mobile application using a framework targeting a problem domain specific to mobile applications.	PSLO 4 Recognize the underlying principles guiding the relevant visual, audio, interactive, and narrative aesthetics of an animation or a game		2 [IA]
e. Research mobile game application designers	PSLO 2 Research, organize, evaluate, and document gathered information for a comprehensive examination of the design process and manage a professional game design, development, and production workflow, including development roles and the specific skill sets required by each role, in order to develop a successful career path.		1[W]

f. Apply gaming principles of narrative, dynamics and mechanics to a final project	PSLO 8 Demonstrate an understanding of recent principles of game design, including, programming, narrative, character and level design.		5
--	---	--	---

KEY	<u>Institutional Student Learning Outcomes [ISLO 1 – 5]</u>
ISLO #	ISLO & Subsets
1	Communication Skills Oral [O], Written [W]
2	Critical Thinking <i>Critical Analysis [CA] , Inquiry & Analysis [IA] , Problem Solving [PS]</i>
3	Foundational Skills <i>Information Management [IM], Quantitative Lit./Reasoning [QTR]</i>
4	Social Responsibility <i>Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T]</i>
5	Industry, Professional, Discipline Specific Knowledge and Skills

J. **APPLIED LEARNING COMPONENT:** Yes X No _____

K. **TEXTS:**

- **iPhone Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides)** by Joe Conway and Aaron Hillegass
-
- **Beginning iOS 5/6 Development: Exploring the iOS SDK** by David Mark, Jack Nutting, Jeff LaMarche. Published by Apress 2012/2013. ISBN13: 978-1-4302-3605-4

L. **REFERENCES:**

M. **EQUIPMENT:**

PC and Macintosh Lab, coordination with Library to test mobile games on ipads

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

- Projects as Assigned
- Final Project
- Exams
- Paper
- Tutorials
- Progress
- Participation

P. DETAILED COURSE OUTLINE:

1. Introduction and Syllabus, Ethics, Plagiarism and Copyright
2. Event Driven Programming
 - a. Target-Action
 - b. Notifications
 - c. Dynamic Dispatch
3. Model View Controller (MVC) pattern in User Interface Design.
4. Mobile Application Issues
 - a. Design Process
 - b. Game Controls
5. Development Tools
6. Frameworks, Language Features – C, C++, C#
7. Basic Interaction
8. Navigation Controllers
9. Multi-touch, Virtual Keyboard, Gestures (Swipe, Pinch, Shake)
10. Common UI's for mobile devices
11. Data Persistence
12. Remote Data-Storage and Communication
13. Developers and App Store License Agreements
14. Final Project Presentations

Q. LABORATORY OUTLINE:

1. Working with Platforms
2. Mobile UI
3. Development Languages and Event Driven Programming
4. Front End Development Tools
5. Mobile App Issues and Troubleshooting
6. Developing Game Controls and Touchscreen Commands
7. Back-end Working with Servers
8. Design, Develop and Produce a Working Puzzle Game
9. Design, Develop and Produce a Working Arcade or Action Games
10. Design, Develop and Produce a Working Racing Games
11. Design, Develop and Produce a Working First Person Shooter Game