LAGUARDIA COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK
DEPARTMENT OF MATHEMATICS, ENGINEERING, AND COMPUTER SCIENCE

MAC221: Application Development for iPhone/iPad

3 credits (2 hours lecture, 2 hours lab)
Pre/corequisite: MAC101

COURSE DESCRIPTION
This course will provide students with skills needed to design and develop advanced applications for iOS devices. Topics include user interfaces, view navigation, page-based applications, iCloud, web views, map views, storyboarding, camera applications and database applications using SQLite.

TEXTBOOK:
1. iOS Programming: The Big Nerd Ranch Guide, 6th Edition, Keur, Christian and Hillegass, Aaron. Big Nerd Ranch Guides 2017.

INSTRUCTIONAL OBJECTIVES:
1. Introduce students to SWIFT programming.
2. Familiarize students with the Model-View Controller (MVC) Application Design.
3. Enable students to create apps implementing the Core Services layer to support system services such as Address Book, Calendar and GPS.
4. Introduce students to user interface (UI) design techniques.
5. Familiarize students with various User Interface tools such as pickers, sliders, web view, image view, buttons, text view, and switches.
6. Enable students to build navigation-based apps implementing multiple views, toolbars, tab bars, and table views.
7. Enable students to use different data sources.

PERFORMANCE OBJECTIVES:
1. Write SWIFT programs.
2. Create applications using MVC.
3. Create apps implementing the Core Services layer.
4. Apply appropriate UI design techniques and standards to create intuitive, usable and efficient applications.
5. Develop apps that incorporate a wide range of UI tools.
6. Create navigation-based apps featuring multiple views, toolbars, tab bars, and table views.
7. Create applications using various data sources.

GRADING POLICY:	Laboratory work (6@5%)	30%
	Project	20%
	Presentation	5%
	Midterm Exam	20%
	Final Exam	25%.

ACADEMIC INTEGRITY:
This class will be conducted in compliance with LaGuardia Community College's academic integrity policy.

ATTENDANCE:
The maximum number of unexcused absences allowed is 15% of the total class meetings (about 7 hours). Unexcused absences beyond this maximum will result in a grade of WU or F.

COMMENTS:
The grading standards listed above and the suggested homework problems listed in the course outline are both subject to modification by the instructor.

WEEKLY TOPICS:

Week 1: Overview of iOS applications,
Model-View-Controller.
Lab 1: Building a simple iOS application

Week 2: Swift language essentials.
Lab 2: Write simple Swift programs.

Week 3: Views and view hierarchy, introduction to the course project, discussion of project's goals and objectives.
Lab 3: Creating simple views.

Week 4: Text input and delegation.
Lab 4: Creating simple user interface.

Week 5: View controllers
Lab 5: View controllers and their views

Week 6: Programmatic views, creating views using programs, constraints, anchors and controls.   Midterm

Week 7: Localization and controlling animations.
Lab 6: Creating applications using views, controls and animations.

Week 8: Picker views, DatePicker and PickerView components, debugging the project.
Lab 7: Using different types of views in applications.

Week 9: UITableview and its controller, editing tables.
Lab 8: Using UITableview in applications.

Week 10: UI Navigation Controller, appearing and disappearing views, event handling basics.
Lab 9: Using event handlers in applications.

Week 11: Camera displaying images and UIImage view, adding camera, UIImagePickerController.
Lab 10: Creating camera controller applications

Week 12: Database applications using SQLite; incorporating SQLite in an Xcode Project; saving, retrieving and deleting data; SQLite functions for accessing data.
Lab 11: Presentation of the course project.

Week 13: Final Exam