Title (Units): **COMP3926 Interactive Media App Development (3,3,0)**

Course Aims: This course aims to offer an experience at the intersection between design, software development, mobile and media technologies. It leverages successful mobile application examples to motivate students to design and create their own interactive mobile apps. This course adopts studio-based learning approach which offers high degree of interaction, collaboration and constant feedbacks to students.

Prerequisite: COMP2037 Computing for Creatives II or COMP3047 Software Engineering

Anti-requisite: COMP4097 Mobile Computing and Internet of Things

Course Intended Learning Outcomes (CILOs):
Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Discuss mobile technology development trends.
2	Explain how some popular mobile apps work based on the underlying mobile technologies.
3	Describe the basic building blocks of mobile apps.
	Skill
4	Complete the development life cycle of an interactive media mobile application.

Calendar Description: This course aims to offer an experience at the intersection between design, software development, mobile and media technologies. It leverages successful mobile application examples to motivate students to design and create their own interactive mobile apps. This course adopts studio-based learning approach which offers high degree of interaction, collaboration and constant feedbacks to students.

Teaching and Learning Activities (TLAs):

CILOs	Type of TLA
1-4	Students will attend lectures to learn the concepts of various mobile and media technologies.
1-4	Students will work on a group project, and each project will be discussed in the design crits on three progressive stages: the pitch, the studio and the presentation, under the studio-based pedagogy.
2-4	Students will attend programming sessions to gain practical skills on mobile application development.

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Lab exercises and written assignments	10%	2-4	Individual assessments will be conducted to evaluate the student's understanding in mobile application development.
2	Programming assignments	20%	3-4	Hands-on programming assignments to evaluate student's skillset on mobile application development.
3	Mobile app design and development projects	30%	1-4	Group projects to evaluate students' creativity and practical skill of mobile application development.
4	Examination	40%	1-4	Final examination questions are designed to see how far students have achieved their intended learning outcomes.

Assessment Rubrics:

Excellent (A)	- Able to design and construct an innovative media app with original features. - Demonstrate an excellent self-learning capability. - Fully engaged in the design crit sessions.
Good (B)	- Able to design and construct a new app by combining and extending examples. - Demonstrate a good understanding of mobile technologies. - Full mastery of all basic mobile app development skills.
Average (C)	- Able to create a new app with substantial help and guidance. - Adequate knowledge on mobile app development and technologies.
Satisfactory (D)	- Produce a less than workable mobile application. - Able to explain the correct use of the basic components of mobile applications. - Demonstrate a satisfactory understanding of mobile technologies.
Unsatisfactory(F)	- Unable to identify and explain the basic components of mobile applications. - Unable to create his/her own app.

Course Content and CILOs Mapping:

Content		**CILO No.**
I	Essential Knowledge on Mobile Technologies	1-2
II	Mobile App Design and Development	2-4
III	Special Topics in Interactive Media App Development	2-4

References:

[1] N. Smyth, Jetpack compose essentials: Developing android apps with jetpack compose, android studio, and kotlin. Payload Media, 2022.
[2] J. Horton, Android Programming for Beginners: Build in-depth, full-featured Android apps starting from zero programming experience, 3rd Edition, 3rd ed. Birmingham, England: Packt Publishing, 2021.
[3] A. Sahar and C. Clayton, iOS 15 Programming for Beginners: Kickstart your mobile app development journey by building iOS apps with Swift 5.5 and Xcode 13, 6th Edition, 6th ed. Birmingham, England: Packt Publishing, 2021.
[4] T. Coron, Apple game frameworks and technologies: Build 2D games with SpriteKit & swift. Raleigh, NC: Pragmatic Programmers, 2021.

Course Content:

Topic

I. Essential Knowledge on Mobile Technologies
   A. Mobile platforms and operating systems
   B. Digital communication technologies
   C. Location based services and mobile marketing

II. Mobile App Design and Development
   A. User interface and user experience
   B. Prototyping tools
   C. Native mobile application development
   D. Working with local and remote data
   E. Software testing

III. Special Topics in Interactive Media App Development
   A. Working with multimedia content
   B. Mobile game development
   C. Augmented reality