

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Mobile Applications Development
Course number	ITSE4310
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

- 1 - Acquire knowledge of different mobile computing platforms
- 2 - Develop mobile applications
- 3 - Manage application data
- 4 - Assess of the impact of device capabilities and networking on the deployment environment
- 5 - Carry out user interface design for mobile applications
- 6 - Perform validation and verification for mobile applications
- 7 - Use development tools and frameworks for mobile applications

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Knowledge: Describe different mobile application models/architectures and patterns* Knowledge: Describe the components and structure of a mobile development framework (Google's Android Studio)
Intellectual Skills	<ul style="list-style-type: none">* Application: Apply mobile application models/architectures and patterns to the development of a mobile software application* Application: Apply a mobile development framework to the development of a mobile application* Application: Demonstrate advanced Java programming competency by developing a maintainable and efficient cloud based mobile application* Application: Demonstrate competency in using Android computing platform by developing a maintainable and efficient mobile application* Application: Demonstrate competency in carrying out mobile development activities, e.g., requirements, design, implementation and testing* Application: Demonstrate competency in user interface design for mobile applications
Professional Skills	<ul style="list-style-type: none">* • Evaluation: Compare different mobile application models/architectures and patterns
General Skill	<ul style="list-style-type: none">* Evaluation: Assess the limitations and challenges of working in a mobile environment and thus utilize the opportunities for commercial and/or social benefit* Evaluation: Assess the impact of device capabilities, networking and cloud infrastructure and deployment environment, in order to develop software capable of meeting the requirements of stakeholders

Course Contents

1 - Introduction to mobile application development
2 - Mobile computing platforms, e.g., Android and IOS
3 - The emphasis is on Android development
4 - Mobile application development languages
5 - Standalone applications and mobile interfaces to enterprise and cloud systems
6 - Managing application data
7 - Mobile development tools and frameworks
8 - Development cycle activities for mobile applications, e.g., requirements, design, implementation and testing
9 - User interface design
10 - Assessment of the impact of device capabilities, networking and cloud infrastructure and deployment environment
11 - Verification and validation of mobile applications
12 - Online mobile application stores

Teaching and Learning Methods

1 - Lectures
2 - Lab Work

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid-Term Exam	Week 8	40%
Lab Work & Assignments		20%
Final Exam	Week 16	40%

Books and References

Essential books	Christian Keur and Aaron Hillegass, iOS Programming: The Big Nerd Ranch Guide, 6th edition, 2016 Bill Phillips, Chris Stewart, Brian Hardy, and Kristin Marsicano, Android Programming: The Big Nerd Ranch Guide, Big Nerd Ranch LLC, 3rd edition, 2017
Recommended books	Bill Phillips, Chris Stewart, Brian Hardy, and Kristin Marsicano, Android Programming: The Big Nerd Ranch Guide, Big Nerd Ranch LLC, 3rd edition, 2017
Other References (Periodical, web sites, etc.)	IEEE Xplore, http://library.ohio-state.edu/record=e1000005 ACM Digital Library, http://library.ohio-state.edu/record=e1000050 Business Source Complete, http://library.ohio-state.edu/record=e1000557 Safari Text Books Online, http://library.ohio-state.edu/search/y?SEARCH=Safari