



UNIVERSITI TEKNOLOGI MARA

ICT602: MOBILE TECHNOLOGY AND DEVELOPMENT

Course Name (English)	MOBILE TECHNOLOGY AND DEVELOPMENT APPROVED
Course Code	ICT602
MQF Credit	3
Course Description	This course introduces the fundamentals of mobile computing concepts and technologies that leads to an emphasis on the evolution of mobile devices, wireless networking and mobile application development. Issues and challenges in mobile computing is also addressed in order to raise understanding of the nature and limitations of mobile computing environment.
Transferable Skills	Expert in Field, Creative and Innovative, Tech-Savvy, Adaptable
Teaching Methodologies	Lectures, Lab Work
CLO	<p>CLO1 Determine issues and solutions based on the principles of mobile technology.</p> <p>CLO2 Build mobile application with mobile technology, principles, design techniques, and development tools</p> <p>CLO3 Demonstrate digital skills in work and task related to mobile technology.</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. A Brief History of Mobile Computing 1.1) Wireless Technology 1.2) Telephony and Messaging Services 1.3) Mobile Computing Concept	
2. Mobile Devices 2.1) Device Taxonomy 2.2) General Purpose Devices 2.3) Targeted Device 2.4) Ubiquitous Computing 2.5) Location-Awareness and Context-Awareness	
3. Mobile Design Principles 3.1) Concept of Mobility 3.2) Mobile Development Lifecycle 3.3) Mobile Native and Mobile Web Application 3.4) Designing for Multiple screen sizes	
4. Mobile Web Development 4.1) Mobile Browsing Experience 4.2) Mobile Web Standards 4.3) Mobile Web Application Programming Interface 4.4) Best Practices in designing Mobile Web	
5. Mobile Application Development 5.1) Mobile Application Development 5.2) Designing Interaction for Mobile Application 5.3) Geolocation & Context Awareness in Mobile Application 5.4) Deploying Mobile Application 5.5) Best Practices in Mobile Application	
6. Security in Mobile Computing 6.1) Security Issues in Wireless Network 6.2) Location Information and Privacy 6.3) Authentication and Authorization 6.4) Best Practices in Securing Mobile Application	

7. Issues and Challenges in Mobile Computing

- 7.1) Mobile Technology and Application Related Policy
- 7.2) Connectivity and Mobility
- 7.3) Mobile Application Accessibility and Scalability
- 7.4) Ethical Consideration in Mobile Application Development

Assessment Breakdown		%
Continuous Assessment		60.00%
Final Assessment		40.00%

Details of Continuous Assessment				
	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Lab Assignment	20%	CLO2
	Group Project	Group Project	30%	CLO3
	Test	Written Test	10%	CLO1

Reading List	Recommended Text	<ul style="list-style-type: none"> • Neil Smyth 2020, <i>Android Studio 4.1 Development Essentials - Java Edition</i>, Payload Media [ISBN: 9781951442262] • Barbara Ballard 2009, <i>Designing the Mobile User Experience</i>, 1 Ed. [ISBN: 978047003361] • Neil Smyth 2021, <i>Android Studio Arctic Fox Essentials - Java Edition</i>, eBookFrenzy [ISBN: 9781951442361] • John Horton 2021, <i>Android Programming for Beginners</i>, Packt Publishing Ltd [ISBN: 9781800566446] • Ben Frain 2020, <i>Responsive Web Design with HTML5 and CSS</i>, Packt Publishing Ltd [ISBN: 9781839219795]
	Reference Book Resources	<ul style="list-style-type: none"> • Prajyot Mainkar 2017, <i>Expert Android Programming</i>, Packt Publication [ISBN: 97817864689] • Chris Griffith 2017, <i>Mobile App Development with Ionic</i>, O'Reilly [ISBN: 1491937785] • Andreas Dormann 2019, <i>Ionic 4+</i>, D&d Verlag, Bonn, Germany [ISBN: 3945102529] • Rap Payne 2019, <i>Beginning App Development with Flutter</i>, Apress [ISBN: 9781484251812]

Article/Paper List	This Course does not have any article/paper resources
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Other References	<ul style="list-style-type: none"> • Website Google Inc 2018, <i>Android 9 Compatibility Document</i>, Google Inc https://source.android.com/compatibility/android-cdd.pdf • Website World Wide Web Consortium 2010, <i>Mobile Web Application Best Practices</i>, World Wide Web Consortium http://www.w3.org/TR/mwabp/
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