



UNIVERSITI TEKNOLOGI MARA

CSC533: MULTIMEDIA PROGRAMMING

Course Name (English)	MULTIMEDIA PROGRAMMING APPROVED
Course Code	CSC533
MQF Credit	3
Course Description	This course will introduce the students to the world of multimedia programming. It relates the student knowledge of elementary multimedia and further expands it to a higher level. The topics include introduction to multimedia, abstraction for multimedia programming, object-oriented multimedia, multimedia framework, media computation & manipulation and research problems in multimedia programming.
Transferable Skills	Integrating multimedia elements in programming environment.
Teaching Methodologies	Lectures, Lab Work, Discussion
CLO	<p>CLO1 Clarify the fundamental concepts and components concerned with the representation and processing of multimedia elements.</p> <p>CLO2 Explain the key concepts and techniques of object-oriented for multimedia programming.</p> <p>CLO3 Discuss issues in multimedia programming and application programming interface (API) in multimedia framework</p> <p>CLO4 Perform the object-oriented programming techniques to design and develop a multimedia program that manipulates media objects</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. Abstraction for Multimedia Programming 1.1) Introduction to multimedia programming 1.2) Components of multimedia 1.3) Multimedia Characteristics 1.4) Model of multimedia applications	
2. Designing Abstraction 2.1) Notations & Modeling 2.2) Examples	
3. Multimedia Abstraction using Object-Oriented Approach 3.1) Introduction to object-oriented programming (OOP) in multimedia 3.2) Primer 3.3) GUI and Event Handling 3.4) Image 3.5) Graphics 2D & 3D 3.6) Animation 3.7) Text & Sound	
4. Multimedia Framework 4.1) Software framework vs multimedia framework 4.2) Multimedia API concepts 4.3) Multimedia API and standard libraries 4.4) Multimedia API and Operating Systems 4.5) Using the framework : an application example	
5. Issues in multimedia programming 5.1) Integration 5.2) Mobile environment 5.3) Non-Windows-Intel 5.4) "Engines"	

Assessment Breakdown	%
Continuous Assessment	50.00%
Final Assessment	50.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment (10%) to assess practical skill in developing multimedia applications	10%	CLO2
	Group Project	Group Project (10%) to assess managerial skill in designing and developing multimedia project	10%	CLO4
	Presentation	Group Project (10%) to assess communication skill in presenting multimedia framework	10%	CLO3
	Test	Evaluating student understanding on subject matter (Test 1 - 10%)	10%	CLO1
	Test	Evaluating student understanding on subject matter (Test 2 - 10%)	10%	CLO1

Reading List	Recommended Text	Reference Book Resources
	<ul style="list-style-type: none"> • John M. Kessenich, Graham Sellers, Dave Shreiner 2016, <i>OpenGL Programming Guide</i>, Addison-Wesley Professional Indiana, United State [ISBN: 0134495497] • Anghel Leonard 2019, <i>Java Coding Problems</i>, Packt Publishing Birmingham, United Kingdom [ISBN: 9781789801415] • William R. Sherman 2019, <i>VR Developer Gems</i>, A K PETERS [ISBN: 1138030120] 	<ul style="list-style-type: none"> • Jesse Schell 2019, <i>The Art of Game Design</i>, 3 Ed., A K PETERS broken sound parkway, United State [ISBN: 1138632058] • Jonathan S. Harbour 2011, <i>Beginning Java SE 6 Game Programming</i>, Course Technology MA, USA • Richard Blum, Christine Bresnahan 2015, <i>Python Programming for Raspberry Pi</i>, Sams Teach Yourself in 24 Hours, 2 Ed., Sams Publishing Indianapolis, United States [ISBN: 0672337649] • Roberto Ierusalimsky 2016, <i>Programming in Lua, Fourth Edition</i>, 1 Ed., Lua.Org [ISBN: 8590379868]

Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources