



UNIVERSITI TEKNOLOGI MARA

CSC683: GAME DESIGN AND DEVELOPMENT

Course Name (English)	GAME DESIGN AND DEVELOPMENT APPROVED
Course Code	CSC683
MQF Credit	3
Course Description	This course covers the current technical issues in Game technology including detailed discussion of new technology, principles, current research and future direction. Topics include: game history and genres, game design and processes, game scripting and programming, Games engines, Game engines artificial intelligence and social and interface issues of game development.
Transferable Skills	Students are able to design and develop a digital game.
Teaching Methodologies	Lectures, Lab Work, Discussion
CLO	CLO1 Describe solution in game design and development based on element of digital games CLO2 Integrate autonomous learning in game design and development CLO3 Display managerial skills in game design and development digital games project.
Pre-Requisite Courses	No course recommendations
Topics	
1. 1. Introduction to Games 1.1) 1.1. What Are Games? 1.2) 1.2. Why do people play games? 1.3) 1.3. History of digital games 1.4) 1.4. Game Genres 1.5) 1.5. Playing perspective	
2. 2. Game design and processes 2.1) 2.1 Game Writing and Interactive Storytelling 2.2) 2.2 Game design Interfaces 2.3) 2.3 Level design 2.4) 2.4 Visual Design 2.5) 2.5 Modeling 2.6) 2.6 2D and 3D Environments 2.7) 2.7 Special Effects and Lighting 2.8) 2.8 Audio Design and Production	
3. 3. Game Scripting and Programming 3.1) 3.1 Teams and Processes 3.2) 3.2 Programming Fundamentals 3.3) 3.3 C++, Java, Python and Scripting Language 3.4) 3.4 Memory and I/O Systems 3.5) 3.5 Mathematical Concepts 3.6) 3.6 Collision Detection and Resolution	
4. 4. Game engines 4.1) 4.1 Game engines Architecture 4.2) 4.2 Game engines technology	
5. 5. Artificial intelligence in Games 5.1) 5.1 Implementing AI in games 5.2) 5.2 Model of Game AI 5.3) 5.3 Algorithms, Data Structures, and Representations	

6. 6. Game Production

6.1) 6.1 Game Production and Project Management

6.2) 6.2 Game Industry Roles

6.3) 6.3 Marketing

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment 2	10%	CLO2
	Assignment	Assignment 1	30%	CLO1
	Group Project	Proposal	10%	CLO3
	Group Project	Project Report	20%	CLO3
	Test	Test 2 and Quiz	15%	CLO1
	Test	Test 1	15%	CLO1

Reading List	Recommended Text
	<ul style="list-style-type: none"> • Ernest Adams 2014, <i>Fundamentals of Game Design</i>, 3rd Edition Ed., Pearson Education [ISBN: 0321929675] • Colleen Macklin, John Sharp 2016, <i>Games, Design and Play</i>, 1 Ed., 11, Addison-Wesley Professional [ISBN: 0134392078] • Brian Upton 2017, <i>Situational Game Design</i>, 1 Ed., 5, A K PETERS [ISBN: 9781138031814] • Tracy Fullerton 2014, <i>Game Design Workshop</i>, 1 Ed., 10, CRC Press [ISBN: 1482217163] • Jesse Schell 2014, <i>The Art of Game Design</i>, CRC Press [ISBN: 9781466598645] • Tracy Fullerton 2014, <i>Game Design Workshop</i>, CRC Press [ISBN: 9781482217179] • Michael Sellers 2018, <i>Advanced Game Design: A Systems Approach</i>, Addison-Wesley USA [ISBN: 9780134667607]
Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources