UNIVERSITI TEKNOLOGI MARA

FAB422: INTRODUCTION TO 3D ANIMATION

Course Name (English)	INTRODUCTION TO 3D ANIMATION `APPROVED`
Course Code	FAB422

MQF Credit	2

Course Description	In this course, students will learn a few approaches of character design. With the relatively creative thinking and sense of design, this course will make the students to develop a unique aesthetic count as much a technical competence. While students will learn a variety of advanced 3D modeling techniques and construct models that are animate able, this course will enable them to create original designs that lend themselves to animation and represent art objects in their own right.

Transferable Skills	Modelling a simple bi-ped character Modelling a four-legged creature Creating a complete structure of character

Teaching Methodologies	Lectures, Studio, Tutorial

CLO		
	CLO1	Identify proportionate drawings based on a correct knowledge of anatomical structure.
	CLO2	Execute compositional skills and the interrelation of shape and form .
	CLO3	Conceptualize the coordination of eye and hand for the execution of representations competency

Pre-Requisite Courses	No course recommendations

Topics

1. WEEK 1: Course Briefing & Introduction to Autodesk Maya Interface
1.1) Character Design
1.2) Understanding Human Anatomy
1.3) Basic polygonal modeling

2. WEEK 2: Introduction to NURBS
2.1) Modelling and Spline based modelling

3. WEEK 3: Overview of 3D modelling Pipelines
3.1) Modelling a Simple Prop

4. WEEK 4: Introduction to Digital sculpting
4.1) Zbrush Core Mini
4.2) Sculpting Base Body

5. WEEK 5: Biped Character Modelling I (Upper & Lower Body)
5.1) Overview of modelling topology for character animation
5.2) Retopology tools in Maya
5.3) Modelling upper & lower Body

6. WEEK 6: Biped Character Modelling II (Hand & Fingers)
6.1) Modelling hand & fingers

7. WEEK 7: Biped Character Modelling III (Head & facial Structure)
7.1) Modelling head and facial structure

8. WEEK 8: Modelling a Simple Biped Character IV (Costumes & Hair)
8.1) Modelling costumes
8.2) Xgen Hair

9. WEEK 9: Modelling a Simple Biped Character V (UV mapping) 9.1) Overview of Maya UV editing tools 9.2) Understanding texel density for texturing 9.3) UV MAPPING
10. WEEK 10: Modelling a Simple Biped Character VI (Texturing) 10.1) Understanding texture maps 10.2) Overview of Bump mappings 10.3) TEXTURING
11. WEEK 11: Modelling a Simple Biped Character VII (Arnold shading & rendering) 11.1) Understanding Arnold Standard Shader 11.2) Arnold Lighting and Rendering setup
12. WEEK 12: Final Year Project Monitoring 12.1) Progress I (Group / individual)
13. WEEK 13: Final Year Project Monitoring progress II (Group / individual) 13.1) Progress II (Group / individual)
14. WEEK 14: Final Assessment 14.1) FULL CHARACTER MODELING

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Individual Assignment 1 Upper & Lower Body Hand & Fingers	30%	CLO1
	Assignment	Individual Assignment 2 Head facial and full character modeling	30%	CLO2
	Assignment	Final Rendering and presentation	40%	CLO3

Reading List	Recommended Text	• Richard Williams,Bart Davis 2014, *Black and White*, Simon and Schuster [ISBN: 1476704201] • O'Neill, Rob 2008, *Digital Character Development: Theory and Practice*, Morgan Kaufmann USA
Article/Paper List	Recommended Article/Paper Resources	• Edwards, Betty 2001, Drawing on the Right Side of the Brain. • Hogarth, Burne. 1990, Dynamic Anatomy • Osipa, Jason. 2007, Stop Staring: Facial Modeling and Animation Done Right
Other References		• WEBSITE Lynda.com*Lynda.com* http://Lynda.com Inc • BOOK Edwards, Betty. 2001, *Drawing on the Right Side of the Brain* • BOOK Hogarth, Burne 1990, *Dynamic Anatomy. USA: Watson-Guptill Publication*