Subject Description Form

Subject Code	EIE3101
Subject Title	Computer Animation
Credit Value	3
Level	3
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This course aims at training students to master the basic principles, knowledge, and skills about computer animation. While pure theoretical discussion is avoided, this subject addresses practical issues and provides accessible techniques for straightforward implementations.
Intended Subject Learning Outcomes	**Upon completion of the subject, students will be able to:** Category A: Professional/academic knowledge and skills 1. describe the animation production pipeline 2. develop all the written and visual materials necessary for the production of computer animations 3. manage files and workflow needed in the animation production pipeline 4. discuss and implement dynamics simulations 5. discuss a variety of animation techniques and apply them to actual animation production Category B: Attributes for all-roundedness 6. understand the creative process when designing solutions to a problem
Subject Synopsis/ Indicative Syllabus	INTRODUCTION • The Production Process of Computer Animation MODELING • Modeling Concepts • Modeling Techniques RENDERING • The Camera • Lighting • Shading and Surface Characteristics ANIMATION AND EFFECTS • Computer Animation Techniques • Dynamics Simulations
Teaching/Learning Methodology	Lectures: The subject matters will be delivered through lectures. Students will be engaged in the lectures through Q&A, discussions and specially designed classroom activities. Tutorial, Laboratory and assignments: During tutorial/laboratory sessions, students will perform hands-on tasks to practice what they have learned. They will evaluate performance of systems and design solutions to problems. The assignments will help students to review the knowledge taught in class.

	While lectures and tutorials will help to achieve the professional outcomes, the open-ended questions in laboratory exercises and assignments will provide the chance to students to exercise their creativity in problem solving.

Assessment Methods in Alignment with Intended Subject Learning Outcomes

Specific Assessment Methods/Tasks	% Weighting	Intended Subject Learning Outcomes to be Assessed (Please tick as appropriate)					
		1	2	3	4	5	6
1. Continuous Assessment (total: 100%)							
• Homework and assignments	35%	✓	✓	✓	✓	✓	✓
• Tests	50%	✓	✓	✓	✓	✓	✓
• Laboratory exercises	15%		✓	✓	✓	✓	✓
Total	100%						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Assignment, homework and laboratory exercises will require students to apply what they have learnt to solve problems. There will be open-ended questions that allow students to exercise their creativity in making design.

Tests: They assess students' achievement of the learning outcomes in a more formal manner.

Student Study Effort Expected		
	Class contact (time-tabled):	
	• Lecture/Tutorial	30 Hours
	• Laboratory	9 Hours
	Other student study effort:	
	• Lecture: preview/review of notes; homework/assignment; preparation for test/quizzes/examination	36 Hours
	• Tutorial/Laboratory/Practice Classes: preview of materials, revision and/or reports writing	30 Hours
	Total student study effort:	**105 Hours**

Reading List and References

Reference Book:

1. Kelly L. Murdock, *Autodesk 3ds Max 2017 Complete Reference Guide*, SDC Publications, 2016.
2. Rick Parent, *Autodesk 3ds Max 2017 for Beginners: A Tutorial Approach*, 17th ed., CADCIM Technologies, 2016.
3. Isaac Kerlow, *The art of 3D computer animation and effects*, 4th ed., Hoboken, N.J.: John Wiley & Sons, 2009.

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