DEREE COLLEGE SYLLABUS FOR:	
ITC 3065 3D Modelling and Animation	**3/0/3**
(Previously: ITC 3165 Modelling and Animation)	**UK LEVEL: 5**
(Updated Fall 2023)	**UK CREDITS: 15**

PREREQUISITES:	None.
COREQUISITES:	None.
CATALOG DESCRIPTION:	3D object manipulation. Modelling methodologies. Lighting and rendering effects. Camera manipulation. Textures creation and use. Dynamic animation. Characters creation and manipulation.
RATIONALE:	The course provides in-depth experience of 3D modelling practices and applications. Students are exposed to object manipulation, lighting and rendering techniques, and specialized components, such as characters, are addressed at various levels, as well as animation for 3D models.
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: 1. Demonstrate understanding of 3D modelling concepts and methods. 2. Apply modelling, texturing and animation techniques. 3. Compose 3D scenes with animated models.
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: • Classroom lectures, discussions, and review of real-world cases based on specific theoretical concepts. Laboratory practical sessions. • Office hours: Students are encouraged to make full use of the office hours of their instructor, where they can ask questions and go over lecture material. • Use of the Blackboard Learning platform, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.
ASSESSMENT:	**Summative:** <table><tr><td>1st assessment: Midterm Examination combination of short essay questions and case problems</td><td>30%</td></tr><tr><td>2nd assessment: Portfolio of student work and oral assessment</td><td>10%</td></tr><tr><td>Final assessment: Project Model creation/development of a 3D scene/animation</td><td>60%</td></tr></table> **Formative:** <table><tr><td>In-class and take-home short problems.</td><td>0%</td></tr></table> The formative assessments aim to prepare students for the summative assessments and expose them to teamwork. The 1st summative assessment tests the LOs 1, 2. The 2nd summative assessment tests the LOs 1-3. The final summative assessment tests the LOs 1-3. *The final grade for this module will be determined by averaging all summative assessment grades, based on predetermined weights for each assessment. If students pass the **final summative assessment,** which tests*

	all Learning Outcomes for this module, and the average grade for the module is 40 or above, students are not required to resit any failed assessments.
INDICATIVE READING:	**REQUIRED READING:** 1. Vaughan, W. (2012). *Digital modeling*. Berkeley, Calif.: New Riders. 2. Instructor's Notes. **RECOMMENDED READING:** 1. Murdock K.L. (2015). *3ds Max 2016 Bible*, Wiley. 2. Schroff Development Corporation, (2014), *Autodesk 3DS Max Design Fundamentals*, SDC Publications. 3. Van der Steen J. & Boardam T. (2010), *Rendering with Mental Ray and 3ds Max*, 2nd ed., Autodesk.
INDICATIVE MATERIAL: *(e.g. audiovisual, digital material, etc.)*	**REQUIRED MATERIAL:** N/A **RECOMMENDED MATERIAL:** N/A
COMMUNICATION REQUIREMENTS:	Daily access to the course's site on the College's Blackboard CMS. Communication using proper written and oral English. Use of word processing and/or presentation graphics software for documentation of assignments.
SOFTWARE REQUIREMENTS:	MS-Office AUTODESK 3ds Max, latest release Blender 3D authoring software, latest release Adobe Creative Suite Master Collection, latest release
WWW RESOURCES:	3D Studio MAX Tutorials: (http://www.tutorialized.com/tutorials/3DS-MAX/1) Google SketchUp (http://sketchup.google.com/) 3D Model Resources (http://forums.cgarchitect.com/10745-free-3d-model-resources.html) Blender Model Repository (http://e2-productions.com/repository/index.php) 3dTotal: The CG Artist's Repository (http://www.3dtotal.com/).
INDICATIVE CONTENT:	1. The anatomy of a 3D model: vertices, edges, and faces 2. Transformations applied on 3D models 3. Compound objects and particle systems 4. Modifiers 5. Spline modelling 6. Materials and texturing 7. Rendering scenes 8. Lighting effects 9. Camera sequences and operations 10. Patch and NURBS modelling 11. Fundamental animation techniques 12. Physics-based animation 13. Introduction to character animation and rigging