UNIVERSITAS MATARAM
(University of Mataram)
FAKULTAS TEKNIK
(Faculty of Engineering)
PROGRAM STUDI TEKNIK INFORMATIKA
(Department of Informatics Engineering)

MODULE HANDBOOK DESCRIPTION

3D Animation (P22C01)

Module designation	3D Animation
Semester(s) in which the module is taught	*8 / fourth year*
Person responsible for the module	*Noor Alamsyah, S.T., M.T.*
Language	*Indonesian*
Relation to curriculum	*Electives*
Teaching methods	*Lectures, Discussions, Project*
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester including Evaluation ● 2 x 50 minutes lecturer/week ● 2 x 60 minutes class exercise/week ● Self Study hours = 120 minutes/week Total workload 340 minutes/week
Credit points	*2 (~ 3,2 ECTS)*
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	The primary goal of this course is to provide students with an understanding of 3D animation concepts, tools, and production techniques. Upon completing the course, students should be able to: 1. Understand the fundamental principles of 3D animation. 2. Utilize industry-standard 3D animation software. 3. Create and manipulate 3D models, textures, and environments. 4. Implement keyframe animation, rigging, and character animation techniques. 5. Apply lighting, rendering, and special effects in animations. 6. Develop a complete 3D animation project from concept to final render.
Content	This course covers fundamental and advanced topics related to 3D animation, including: 1. Introduction to 3D Animation: History, applications, and workflow. 2. 3D Modeling Techniques: Polygonal modeling, sculpting, and procedural modeling. 3. Texturing and Shading: UV mapping, material creation, and texture painting. 4. Rigging and Character Animation: Skeleton setup, weight painting, and motion control. 5. Animation Principles: Keyframe animation, motion paths, and physics-based animation. 6. Lighting and Rendering: Scene lighting techniques, shaders, and rendering engines. 7. Special Effects and Simulation: Particle effects, dynamics, and compositing. 8. Final Project and Portfolio Development.
Examination forms	*Assignments, Quiz, Simulation, Project (Oral Presentation)*
Study and examination requirements	*Assignments 10%,* *Quiz 25%,* *Simulation 25%,* *Project 40%*

Reading list	1. Kerlow, I. V. (2013). The Art of 3D Computer Animation and Effects. Wiley. 2. Parent, R. (2012). Computer Animation: Algorithms and Techniques. Morgan Kaufmann. 3. Birn, J. (2017). Lighting and Rendering in 3D Animation. New Riders. 4. Palamar, T. (2015). Mastering Autodesk Maya. Sybex. 5. Giambruno, M. (2002). 3D Graphics & Animation: From Starting Up to Standing Out. New Riders.