



Module Description

Module name	Augmented Reality
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12140803
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	7 th
Person responsible for the module	Dr. Ir. Zahir Zainuddin., M.Sc
Lecturer	1. Dr. Ir. Zahir Zainuddin., M.Sc 2. Dr. Eng. Intan Sari Areni., ST., MT
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is an elective course and offered in the 7 th semester.
Type of teaching, contact hours	Teaching methods: [group discussion], [project-based learning]. Teaching forms: [lecture], [tutorial]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)
Requirements according to the	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)



<p>examination regulations</p>	
<p>Recommended prerequisites</p>	<p>-</p>
<p>Module objectives/intended learning outcomes</p>	<p>After completing the course, Students are able:</p> <p>Intended Learning Outcomes (ILO):</p> <p>ILO 1 : Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing of Internet of Things.</p> <p>ILO 4 : Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements by applying computer science theory and software development fundamentals.</p> <p>ILO 7 : Perform a logical systematic procedure to solve problems, then communicate their ideas in a convincing and effective manner, either in written or orally, to propose solutions.</p> <p>Course Learning Objective (CLO):</p> <p>After completing this course, students are expected to be able to understand the theory of Augmented Reality (AR) both software and hardware, be able to design and build a basic virtual environment, apply good interaction methods, and perform modeling, and be able to create 3-dimensional AR applications with and without markers.</p> <p>Sub CLO :</p> <p>ILO 1 => CLO 1 : Students are able to explain the meaning of Augmented Reality and the history of its development, and basic theory and software related to AR.</p> <p>ILO 4 => CLO 2 : Students are Able to design simple AR applications with marker and markerless, and animation.</p> <p>ILO 7 => CLO 3 : Students are able to communicate and presenting the AR project</p>
<p>Content</p>	<p>Students will learn about :</p> <ol style="list-style-type: none"> 1. The history and development of Augmented Reality and the introduction of supporting hardware and software



	<ol style="list-style-type: none"> 2. Introduction to AR-related theory and software 3. Marker recognition with AR software 4. Simple AR app 5. AR device creation with 3-dimensional objects and 3-dimensional AR 6. AR software creation with real-time objects with AR animation 7. AR with Markerless
Forms of Assessment	<p>Assessment techniques: [participation].</p> <p>Assessment forms: [report], [presentation].</p> <p>Report = 60%, Presentation = 40%</p> <p>ILO 1 => CLO 1 : 5% (Report) ILO 4 => CLO 2 : 55% Report) ILO 7 => CLO 3 : 40% (Presentation)</p>
Study and examination requirements and forms of examination	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get a final grade. <p>Form of examination: Report and Presentation</p>
Media employed	Video conference, slide presentation, Learning Management System (LMS).
Reading list	<p>Main :</p> <ol style="list-style-type: none"> 1. --, Augment's Essential Guide To Augmented Reality, accessible at http://www.augment.com/augmented-reality-ebook/ 2. Steven K. Feiner, Augmented Reality: A New Way Of Seeing, 2002, Scientific American, Inc. Accessible at http://web.cs.wpi.edu/~gogo/courses/cs525A/papers/Feiner_ScientificAmerican-0402-48.pdf