Module Description

Module name	**COMPUTER GAME AND SIMULATION**
Module level, if applicable	Bachelor of Informatics
Code, if applicable	429D4233
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	6th
Person responsible for the module	Dr.Eng. Ir. Zulkifli Tahir, ST.,M.Sc.
Lecturer	1. Dr.Eng. Ir. Zulkifli Tahir, ST.,M.Sc. 2. Elly Warni, ST.,MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is an elective course and offered in the 6th semester.
Type of teaching, contact hours	Teaching methods: [group discussion], [case study]. Teaching forms: [lecture], [tutoria]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 181.33 hours in one semester, which consist of: - 53.33 hours for lecture, - 64 hours for structured assignments, - 64 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)

examination regulations	
Recommended prerequisites	-
Module objectives/intended learning outcomes	After completing the course, Students are able: **Intended Learning Outcomes (ILO):** **ILO 2 :** Have the knowledge of advance topic in an Informatics specific fields of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things. [ILO2] - K **ILO 3 :** Apply the knowledge of computing and other related disciplines to analyze and identify solutions for any computing-based problem. [ILO3] - S **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. [ILO4] - C **ILO 6 :** Perform effectively in a team, either as a member or leader, in activities related to the program's discipline. [ILO6] - C **Course Learning Objective (CLO):** After attending the Computer Game and Simulation Course for one semester, students have knowledge about Computer Game and Simulation. Students have the ability to implement problems related to Computer Game and Simulation by demonstrating good performance both independently and in a team in solving problems. **Sub CLO:** ILO 2 => CLO 1: tudents have the knowledge of computer simulation and game topics by understanding the concepts and basic knowledge of computer simulation and games (K) ILO 3 => CLO 2: Students are able to apply knowledge of simulation technology and computer games with programming concepts (S) ILO 6 => CLO 3: Students are able to form teams to complete simulation and computer game-based task completion activities (C) ILO 4 => CLO 4: Students are able to design, implement and evaluate

	computer technology-based solutions by applying knowledge of simulation and computer games (C)
Content	Students will learn about : 1. Introduction to computer simulation and games a. Introduction to computer simulation and games b. Persiapan program dan editor c. Explanation of project creation 2. The basics of computer simulation and gaming a. Window systems, components, and game objects b. Scene Manipulation c. Inheritance concept d. Prefabs 3. Basic programming of computer simulations and games a. Basic programming introduction b. Method programming concept c. Condition programming concept d. Object programming concept e. Script programming concept f. Inheritance programming concept
Forms of Assessment	Assessment techniques: [observation], [participation], [written test]. Assessment forms: [quiz], [final term exam], [presentation]. Quiz = 35%, Final term exam = 15%, Presentation = 50% CLO 1 => ILO 2: 20% Quiz + 5% Exam (Quiz and Final term exam: written test) CLO 2 => ILO 4: 15% Quiz + 10% Exam (Quiz and Final term exam: written test)) CLO 3 => ILO 6: 25% (Presentation: observation) CLO 4 => ILO 7: 25% (Presentation: observation)
Study and examination requirements and forms of examination	**Study and examination requirements:** - 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.

	Form of examination: Written test
Media employed	Video Conference, Video and PowerPoint Presentation.
Reading list	**Main :** Guide, A.C.B.S. and Hardman, C., Game Programming with Unity and C. **Support :** Nicolas-Alejandro-Borromeo-Hands-On-Unity-2021-Game-Development-Second-Edition-Packt-Publishing