Game Application

Module name	Game Application	
Module level	Undergraduate	
Code	IF221224	
Courses (if applicable)	Game Application	
Semester	5/6	
Lecturer	Budi Nugroho, S.Kom, M.Kom (PIC) Pratama Wirya Atmaja, S.Kom., M.Kom.	
Language	Bahasa Indonesia and English	
Relation to curriculum	Elective; 5th/6th semester	
Type of teaching, contact hours	Lectures, < 60 students	
Teaching Methods	project-based learning, problem-based learning	
Workload	1. Lectures: 3 sks x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week	
Credit points	3 credit points (sks)	
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.	
Mandatory prerequisites	Artificial Intelligence	
Courses description	Students will undertake a comprehensive study of games and their derivatives, covering topics including game design, game development, game narratives, game analytics, serious games, intelligent methodologies for games, and gamification.	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	CO1 Students exhibit a profound comprehension of game-related knowledge, enabling them to design and develop software for games with originality, apply cutting-edge intelligent algorithms, and address genuine societal needs in areas including entertainment, education, and others (C2, C3, C4, C5)	PLO9,PLO10
Content	The definition of games, recent advancements in the field of gaming, The game development process, game derivatives, gameplay systems, game mechanics, game loops, categorization of games, dynamic aspects of games, player requisites in gaming, the art of game narratives, utilization of Agile methodology, implementation of the SCRUM framework, pre-production phase of game development, vision Document, prototyping in game development, comprehensive Game Design Documentation, technical Design Documentation for games, game analytics and data analysis, the realm of serious games, educational gaming applications, advertising through gaming platforms, procedural content generation techniques, the incorporation of gamification principles	
Media employed	LCD, whiteboard, websites, books (as references), online meeting, etc.	

Assessments and Evaluation	One written Midterm assessment (60 minutes) and one final oral exam (30 minutes), two short computer-based quizzes, takehome written assignments
Study and examination requirements and forms of examination	The final grade in the module is composed of: • Two short computer-based quizzes: 15% x 2 = 30% • Take-home written assignments : 15% • Written Midterm assessment: 25% • Final oral exam: 30% Students must have a final grade of 55.6% or higher to pass.
Reading List	● T. Fullerton, Game Design Workshop: A Playcentric Approach to Creating Innovative Games, 4th ed. Boca Raton, FL, USA: CRC Press, 2023. ● D. Bonthuys and B. Hesse, Level Up!: The Guide to Great Video Game Design, 3rd ed. (forthcoming). Best-selling design guide releasing December 2024. ● A. Kramarzewski and E. de Nucci, Practical Game Design: A Modern and Comprehensive Guide to Video Game Design, 2nd ed. Packt Publishing, 2023. ISBN: 9781839215605. [Online]. Available: https://portal.igpublish.com/iglibrary/obj/PACKT0007013?searchid=1755044149311Fh_~x~iaMwq38V8_pRPSt ● J. Horton, Beginning C++ Game Programming: Learn C++ from scratch by building fun games, 3rd ed. Packt Publishing, 2024. ISBN: 9781835081747. [Online]. Available: https://portal.igpublish.com/iglibrary/obj/PACKT0007211?searchid=1755044424657heBSv3AV6flQ~F6wQkH4N