Informatics Research

Module name	Informatics Research	
Module level	Undergraduate	
Code	IF221123	
Courses (if applicable)	Informatics Research	
Semester	7	
Lecturer	Eva Yulia Puspaningrum, S.Kom, M.Kom (PIC) Dr. Basuki Rahmat, S.Si, M.T *) Dr. I Gede Susrama, S.T, M.Kom Mohammad Idhom, S.P, S.Kom, M.T	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program; compulsory; 7th semester	
Type of teaching, contact hours	Lectures, < 60 students,	
Teaching Methods	Case study, collaborative learning, 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 Software Engineering	
Courses description	In this course, students will be guided to explore and refine ideas, then present them in the form of a scholarly document as research proposals in the field of informatics. This preparation will ensure they encounter no difficulties when composing their thesis proposals.	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	CO1 Students possess the capability to conceive, articulate, and compose research proposals in the field of informatics with precision and adherence to standards. (C3, C5)	PLO3, PLO6
Content	Introduction to the Research Process; Systematic Procedures for Research and Proposal Development; Identifying Research Challenges; Defining Research Objectives and Formulating Research Designs in the Field of Informatics; Research Variables; Techniques for Sampling and Data Collection in Research; Formulation of Research Hypotheses; Mathematical Problem Modeling for Research Purposes; Development of Simulations and Software Applications for Research; Numerical, Statistical, and Graphical Analysis of Research Findings; Application of Diverse Citation and Referencing Models in Research; Compilation, Preparation, and Presentation of Research Proposals; Comprehensive Understanding of Each Section in the Research Proposal.	
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	● F. S. Hillier and G. J. Lieberman, Introduction to Operations Research, 2024 release. ● H. A. Taha, Operations Research: An Introduction, Global Edition, 2024. ● S. K. Swarup, P. K. Gupta, and M. Man, Operations Research: An Introduction, New Delhi, India: Sultan Chand & Sons, 2022. ● G. Bombelli, A. Atasoy, S. Fazi, and R. Boschma, From theORy to Application: Learning to Optimize with Operations Research in an Interactive Way, 2024. ● M. Bhatnagar, Operations Research. BPB Publications, 2023. ISBN: 9789389437585. [Online]. Available: https://portal.igpublish.com/iglibrary/obj/ARCLER0001541?searchid=1755046645160 25pBXnfuVFmI2pN12e4Zj ● J. Pehcevski, Advances in Operational Researches. LAP Lambert Academic Publishing, 2013. ISBN: 9783659485571. [Online]. Available: https://portal.igpublish.com/iglibrary/obj/ARCLER0001007?searchid=1755046645160 25pBXnfuVFmI2pN12e4Zj