MODULE HANDBOOK

Module name	Advanced Operation Research
Module level, if applicable	3rd (year)
Code, if applicable	SST-514
Semester(s) in which the module is taught	5th (fifth)
Person responsible for the module	Dina Tri Utari, S.Si., M.Sc.
Lecturer	Ayundyah Kesumawati, S.Si., M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Compulsory course in the third year (5th semester) Bachelor Degree

Types of teaching and learning	Class size	Attendance time (hours per week per semester)	Form of active participation	Workload (hours per semester)	
Lecture	50-60	1.67	Problem solving	Face to face teaching	23.33
				Structured activities	32
				Independent study	32
				Exam	3.33

Total Workload	90.67 hours
Credit points	2 CUs / 3.34 ECTS
Requirements according to the examination regulations	Minimum attendance at lectures is 75%. Final score is evaluated based on quiz, assignment, mid-term exam, and final exam.
Recommended prerequisites	Students have taken Operation Research (SST-405).
Related course	Operation Research (SST-405)
Module objectives/intended learning outcomes	After completing this course, the students have ability to understand: CO 1 Students are able to do experimental design, collect secondary data about flow network models, project management, and integer linear programming and primary data about game theory and queuing sys CO 2 students are able to use statistical techniques to calculate the optim solution of problems with flow network models, project manageme game theory, queuing systems, integer linear programming manual CO 3 Students are capable do the organizing data, data analysis\ using techniques statistics, and withdrawals conclusion with using software R / TORA for problems flow network model, proje management, games, queuing system, and a linear integer program from data has been obtained CO 4 Students are able to document, store, secure secondary data about f network models, project management, and integer linear programm as well as primary data about game theory and queuing systems tha have been obtained
Content	After completing this course, the students have ability: 1. Collect secondary data on network flow models, project management, and integer linear programming 2. Collecting primary data on game theory and queuing theory 3. Calculating the optimum solution of the flow network model problems, project management, theory games, queuing theory, integer linear programming manually / using software
Study and examination requirements and forms of examination	The final mark will be weighted as follows:

No	Assessment components	Assessment Type	Weight (percentage)
1	CO 1	Quiz	30%

2	CO 2	Assignment	30%
3	CO 3	Assignment and Mid Term Exam	30%
4	CO 4	Assignment and Final Exam	10%

Media employed	Google Classroom, relevant websites, slides (power points), video, interactive media, white-board, laptop, LCD projector
Reading list	1. Taha, H., A. (2017). Operations Research: An Introduction (8th ed.). Upper Saddle River, NJ: Prentice-Hall. 2. Taylor, B.W. (2017). Introduction to Management Science (9th ed). Upper Saddle River, NJ: Prentice-Hall. 3. Wiston, W. L., & Goldberg, J.B. (2004). Operation Research: Application and Algorithm (4th ed). Belmont, CA : Thomson/Brooks/Cole.

Mapping CO, PLO, and ASIIN's SSC

ASIIN		PLO											
		E	N	T	H	U	S	I	A	S	T	I	C
Knowledge	a										CO1		
	b												
	c										CO2		
	d												
Ability	e										CO3		
	f												
Competency	g												
	h												
	i												
	j												
	k												
	l										CO4		