HANDBOOK

BACHELOR OF INFORMATICS PROGRAM
DEPARTMENT OF INFORMATICS
FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY
INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Module name	**Robotics**
Module level	Undergraduate
Code	IF184954
Courses (if applicable)	**Robotics**
Semester	8 (Genap)
Contact person	
Lecturer	
Language	Bahasa Indonesia and English
Relation to curriculum	1. Undergraduate degree program; optional; 8th semester. 2. International undergraduate program; optional; 8th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 40 students
Workload	1. Lectures: 3 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	A student must have attended at least 80% of the lectures to sit in the exams.

regulations		
Mandatory prerequisites	Computational Intelligence	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	CO1 Students understand the concept, various robots, robot components and how they work.	
	CO2 Students are able to assemble robots.	

	CO3 Students are able to understand robot programming.	
	CO4 Students understand the types of robot movements and how to apply them.	
	CO5 Students are able to utilize and apply various robot sensors.	
	CO6 Students are able to apply intelligent system methods to robots	
Content	Knowledge: Mastering the concepts and principles of intelligent systems including representation and reasoning techniques, search techniques, agents, data mining, and machine learning, as well as intelligent application development in various fields, as well as mastering the concepts and principles of computational science including information management, multimedia data processing , and numerical analysis Specific Skill: Able to design and build applications by applying the principles of intelligent systems and computational science to produce smart application products in various fields;	
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.	
Media employed	LCD, whiteboard, websites, books (as references), etc.	
Assessments and Evaluation		

Reading List	John C. Hansen, LEGO Mindstorms NXT Power Programming : Robotics in C, second edition, Variant Press, 2009 Kim, Yong-Tae, Kobayashi, Ichiro, Kim, Euntai, Soft Computing in Advanced Robotics, Springer Robin R. Murphy, Introduction to AI Robotics, The MIT Press, 2000