Module Description

Module name	Probability and Statistics
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12130103
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	5th
Person responsible for the module	Ir. Zaenab Muslimin., MT
Lecturer	Ir. Zaenab Muslimin., MT Amil Ahmad Ilham, ST., M.IT., Ph.D Prof. Andani, ST., MT. Dr.Eng. Dewiani, ST., MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 5th semester.
Type of teaching, contact hours	Teaching methods: [problem-based learning]. Teaching forms: [lecture], [tutorial]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)

Requirements according to the examination regulations	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)
Recommended prerequisites	Discrete Mathematics
Module objectives/intended learning outcomes	After completing the course, Students are able: **Intended Learning Outcomes (ILO):** **ILO 1 :** Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of eitherArtificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things **Course Learning Objective (CLO):** After completing this course, students are expected to be able to explain the meaning of statistics, population, sample; probability theory, and be able to solve problems with various types of distributions. Able to understand the linear relationship between two variables, explain estimates/estimates, hypothesis testing can determine regression coefficients and perform linear regression analysis. **Sub CLO :** ILO 1 ⇒ CLO 1: Students are able to explain the definition of statistics, good data requirements, measurement scale, probability theory and distinguish between conditional probability and independent probability, discrete distribution and continuous distribution, and simple regression, the procedure in testing a statistical data and apply the Chi Square and T Test.
Content	Students will learn about : 1. Measurement Data and Scale 2. Chance Theory 3. Discrete Distribution 4. Continuous Distribution 5. Parameter Estimation / Estimation

	6. Hypothesis testing 7. Linear Regression 8. Exploratory Data Analysis
Forms of Assessment	Assessment techniques: [observation], [written test]. Assessment forms: [midterm exam], [final term exam], [assignment]. Assignment = 40%, Mid Term Exam = 30%, Final Term Exam = 30% ILO 1 ⇒ CLO 1 : 100 % (Assignment, Mid Term Exam, Final Term Exam)
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. **Form of examination:** Written exam: Essay
Media employed	Video conference, slide presentation, Learning Management System (LMS).
Reading list	**Main :** 1. Ronald E Walpole, *Pengantar Statistika*, edisi ke□3, PT Gramedia Pustaka Utama, Jakarta. 1997 2. Robert V Hogg, Allen T Craig, *introduction to mathematical statistics fifth edition*, Prentice Hall, New Jersey. 07632 3. Christopher Chatfield, 1975, *Statistics for Technology*, Chapman and Hall 4. Amudi Pasaribu, 1983, *Pengantar Statistik* , Edisi keenam, Ghalia Indonesia **Support :** 1. Murray R.Spiegel; I. Nyoman Susila, 1992, *Teori dan Soal-Soal Statistik Versi SI (Metrik)*, Penerbit Erlangga. 2. J. Supranto, 2008, *Statistik Teori dan Aplikasi* , Edisi ketujuh Jilid I dan II, Penerbit Erlangga.