Module Description

Module name	Encoding and Compression
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12142303
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	7th
Person responsible for the module	**Dr. Ir. Ingrid Nurtanio, MT.**
Lecturer	1. Dr. Ir. Ingrid Nurtanio, MT. 2. A. Ais Prayogi, ST. M.Eng
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is an elective course and is offered starting from the 7th semester.
Type of teaching, contact hours	Teaching methods: [problem-based learning]. Teaching forms: [lecture]. CH : 8.00 - 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 must have attended all minimum 80% of classes and submitted all class assignments that are scheduled before the final tests.
Recommended prerequisites	-
Module objectives/intended learning outcomes	**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 either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things.. **ILO 4:** Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements by applying computer science theory and software development fundamentals. **Course Learning Objective (CLO):** After completing this course, students should be able to understand the processing of multimedia data encoding and compression for various methods. ILO 2 → CLO 1: Students able to understand the encoding and compression processing for multimedia data. ILO 3 → CLO 2: Students can implement the encoding and compression processing for multimedia data.
Content	Students will learn about : 1. Basic Concept of encoding theory 2. Encoding Processing with various methods 3. Basic Concept of compression theory 4. Compression Processing with various methods a. Lossy Compression b. Lossless Compression

Forms of Assessment	Assessment techniques: [observation], [participation], [written-test]. Assessment forms: [midterm exam], [final term exam], [assignment]. CLO 1 => ILO 2: 25% (Midterm Exam: written test) and 25% (Assignment1: participation) CLO 2 => ILO 3: 25% (Assignment2: participation) and 25% (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. - Students must attend the exam to get final grade. **Form of examination:** Written exam: Essay
Media employed	Video conference, slide presentation, Learning Management System (LMS)
Reading list	**Main :** Mark Nelson, Jean-Loup Gailly, "The Data Compression Book", IDG Books Worldwide, Inc.