



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Computer Science and Electronics

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Bachelor in Electronics and Instrumentation

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MODULE HANDBOOK

Module name	Digital Signal Processing 1
Module level	Undergraduate
Code	MII-2306
Courses (if applicable)	Digital Signal Processing 1
Semester	Fall (Even)
Contact person	Dr. Agfianto Eko Putra, M.Si.
Lecturer	Dr. Agfianto Eko Putra, M.Si.
Language	Bahasa Indonesia and English
Relation to curriculum	1. Undergraduate degree program, compulsory, 2th semester. 2. International undergraduate program, compulsory, 2th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 2 x 50 = 100 minutes per week.
Credit points	2 credit points (sks).
Requirements according to the Examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Recommended prerequisites	-
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Understand the basic concepts of Digital Signal Processing and some of its applications. CO2 Understand the basic concepts of signals and systems, both continuous and discrete. CO3 Understand the basic concepts of discrete LTI signals in the time domain, which includes the sampling process, block diagrams, system representation using difference equations and the primary PSD keys, namely convolution and correlation CO4 Understand the Fourier representation to convert a signal from the time domain to frequency. Including 4 kinds of Fourier representation, namely Fourier Series (FS), Fourier Transform (FT), Discrete-Time Fourier Series (DTFS) and Discrete-Time

Reading List	[1] Gunawan, D. dan Juwono, F.H., 2012, Pengolahan Sinyal Digital dengan Pemrograman MATLAB, Graha Ilmu, Yogyakarta; [2] Siahaan V, 2020, MATLAB GUI Untuk Pengolahan Sinyal Digital, Balige Publishing;. [3] Siahaan V. dan Sianipar, R.H., 2020, Pemrograman MATLAB Untuk Pengolahan Sinyal Digital, SPARTA Publishing