UNIVERSITAS MATARAM

(University of Mataram)

FAKULTAS TEKNIK

(Faculty of Engineering)

PROGRAM STUDI TEKNIK INFORMATIKA

(Department of Informatics Engineering)

MODULE HANDBOOK DESCRIPTION

Digital Signal Processing (P22A07)

Module designation	Digital Signal Processing
Semester(s) in which the module is taught	*Elective courses / fourth year*
Person responsible for the module	*Arik Aranta, S.Kom., M.kom.*
Language	*Indonesian*
Relation to curriculum	*Compulsory*
Teaching methods	*Lectures, Discussions, Project*
Workload (incl. contact hours, selfstudy hours)	Contact Hours every week, eachweek of the 16 weeks/semester including Evaluation ● 2 x 50 minutes lecturer/week ● 120 minutes class exercise/week ● Self Study hours = 120 minutes/week ● Midterm Exam = 60 minutes ● Final Exam = 75 minutes Total workload 81,58 minutes/week
Credit points	*2 (~ 3,26 ECTS)*
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	After attending a series of face-to-face lectures, tutorials and structured assignments (P) students of S-1 Informatics Engineering UNRAM is expected: 1. Students are able to understand the basic concepts of Signal, 2. Students are able to understand the process digital sound/audio signal 3. Students are able to generate features from a digital signal 4. Students are able to explain the output signal features obtained and conclude the pattern found from a digital signal
Content	Digital signal processing is a course that discusses the basic concepts of Signal, introduction of digital signal sources, basic calculations of digital signals and formation of digital signals using mathematical equations. 1. Digital Analog Signal 2. Plotting Signal 3. Analog to Digital Conversion and Digital to Analog Conversion 4. Linear and Nonlinear Systems 5. FFT Concept 6. Mel Frequency Cepstral Coefficient 7. Discrete Cosine Transform
Examination forms	*Assignments, Quiz, Simulation, Project (Oral Presentation)*
Study and examination requirements	*Assignements 10%,* *Quiz 25%,* *Simulation 25%,* *Project 40%*
Reading list	1. By Steven W. Smith, Ph.D. The Scientist and Engineer's Guide to Digital Signal Processing http://www.dspguide.com/ch1.htm 2. Allen B. Downey. Think DSP Digital Signal Processing in Python 2014, green tea press