



**UNIVERSITAS MATARAM**  
*(University of Mataram)*  
**FAKULTAS TEKNIK**  
*(Faculty of Engineering)*  
**PROGRAM STUDI TEKNIK INFORMATIKA**  
*(Department of Informatics Engineering)*

**MODULE HANDBOOK DESCRIPTION**

Audio Processing (P22A08)

Module designation	Audio Processing
Semester(s) in which the module is taught	<i>Elective courses / fourth year</i>
Person responsible for the module	<i>Arik Aranta, S.Kom., M.Kom.</i>
Language	<i>Indonesian</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lectures, Discussions, Project</i>
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester including Evaluation <ul style="list-style-type: none"><li>● 2 x 50 minutes lecturer/week</li><li>● 2 x 60 minutes class exercise/week</li><li>● Self Study hours = 120 minutes/week</li></ul> Total workload 340 minutes/week
Credit points	<i>2 (~ 3,2 ECTS)</i>
Required and recommended prerequisites for joining the module	-

<p>Module objectives/intended learning outcomes</p>	<p>Audio/voice Processing in the computer field is a system learning process through the activities of designing a model, executing the sound model obtained with the help of a computer, and analyzing the output of the execution results. Audio/voice processing is made with the aim of processing human voices or audio signal to be used as digital features that can be recognized by the system, where the resulting digital voice features are used to develop desktop computer applications or voice-based smart phones. Namely:</p> <ol style="list-style-type: none"> <li>1. Students are able to understand the concept of digital sound processing</li> <li>2. Students are able to produce features of the human voice, which can be processed for various kinds of human needs</li> <li>3. Students are able to classify human voice features using classification methods such as CNN</li> <li>4. Able to bring up the analysis of sound classification results, and present it in the form of a research paper</li> </ol>
<p>Content</p>	<p>Audio/voice Processing in the computer field is a system learning process through the activities of designing a model, executing the sound model obtained with the help of a computer, and analyzing the output of the execution results. Audio/voice processing is made with the aim of processing human voices or audio signal to be used as digital features that can be recognized by the system, where the resulting digital voice features are used to develop desktop computer applications or voice-based smart phones.</p> <ol style="list-style-type: none"> <li>1. Voice Data Acquisition</li> <li>2. Voice Data Visualization</li> <li>3. Features On Voice</li> <li>4. Sound Classification</li> <li>5. Reading Analysis Results</li> </ol>
<p>Examination forms</p>	<p><i>Assignments, Quiz, Simulation, Project (Oral Presentation)</i></p>
<p>Study and examination requirements</p>	<p><i>Assignments 20%, Simulation 30%, Project 50%</i></p>

Reading list	<ol style="list-style-type: none"><li data-bbox="544 237 1278 342">1. Giampiero salvi,2006"machine learning methods for automatic speech recognition and analysis",doctoral thesis, stockholm, sweden</li><li data-bbox="544 349 1310 454">2. Valerio Velardo - "The Sound of AI" Link Online : <a href="https://www.youtube.com/c/ValerioVelardoTheSoundofAI">https://www.youtube.com/c/ValerioVelardoTheSoundofAI</a></li></ol>
--------------	---