UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION
Jalan Colombo Nomor 1 Yogyakarta 55281
Telepon(0274)565411 Pesawat 217, (0274)565411(TU),fax (0274)548203
Laman :fmipa.uny.ac.id, E-mail :humas_fmipa@uny.ac.id

Bachelor of Science in Mathematics **MODULE HANDBOOK**

Module name:	Digital Image Processing
Module level,if applicable:	Undergraduate
Code:	MAT6362
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	6th
Module coordinator:	Bambang SHM, M.Kom.
Lecturer(s):	Bambang SHM, M.Kom.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective course
Teaching format / class hours perweek during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Computer Application (MAT6316)
Course Outcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments CO2. Mastering the concepts and basics programming of image processing CO3. Use Matlab software for image processing

<table>
<tr><td></td><td>CO4. Develop applications on image processing by applying syntax and appropriate programming rules to solve mathematical problems.
CO5. Make a simple program project.</td></tr>
<tr><td>Content:</td><td>This course discusses the basics of digital image processing and its applications, including: digital image representation, Arithmetic and Geometry Operations in Imagery, Image Filtering and Convolution, Fourier Transform on digital images, Image Histograms, Image Segmentation, Image Compression and Decompression, Steganography and Watermarking, and Pattern Recognition.</td></tr>
<tr><td>Study/exam achievements:</td><td>CO1: Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements to pass the course. Students will pass from this course if at least have a good attitude.

The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assesment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>CO 2</td><td>Presentation</td><td>Observation</td><td>10%</td></tr>
<tr><td>2</td><td>CO 3 and CO 4</td><td>a. Individual assignments
b. Group assignments
c. MID
d. Final Exam</td><td>Written test</td><td>10%
10%
25%
30%</td></tr>
<tr><td>3</td><td>CO 5</td><td>Presentation and Project</td><td>Observation</td><td>15%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>1. Rinaldi Munir, Pengolahan Citra digital dengan Pendekatan Algoritmik, Penerbit Informatika Bandung, 2004</td></tr>
</table>

	2. Russ, John C. (2011), *The Image Processing Handbook 6th edition (e-book)*, USA: CRC Press Web. 3. Aniati Murni Arymurthy & Suryana Setiawan (1992), *Pengantar Pengolahan Citra*, Jakarta: Elex Media Komputindo 4. Gonzales, Rafael C. (1992), *Digital Image Processing*, 2nd Edition, USA: Addison-wesley publishing 5. Jain, Anil K. (1989), *Fundamentals of Digital Image Processing*, USA: Prentice Hall international

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		✓								
CO2				✓						
CO3					✓					
CO4								✓		
CO5										✓