

**UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY**

Module name	<b>Digital Image and Video Processing</b>	
Module level	Undergraduate	
Code	EC184504	
Courses (if applicable)	Digital Image and Video Processing	
Semester	5 / Fall (Gasal)	
Contact person	Dr. Eko Mulyanto Yuniarno, S.T, M.T.	
Lecturer	Dr. Eko Mulyanto Yuniarno, S.T, M.T.	
Language	Indonesia / English	
Relation to curriculum	Undergraduate degree program, <i>mandatory</i> , 5 <sup>th</sup> semester.	
Type of teaching, contact hours	Lecture, < 60 students, 170 MINUTES 3 SKS	
Workload	<ol style="list-style-type: none"> <li>1. Lectures: 3 x 50 = 150 minutes (3.3 hours) per week.</li> <li>2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week.</li> <li>3. Private study: 3 x 60 = 180 minutes (3 hours) per week.</li> </ol>	
Credit points	3 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.	
Mandatory prerequisites		
Learning outcomes and their corresponding PLOs	<p>CLO-1 Students have the ability to explain digital image data acquisition techniques, methods, and storage techniques as well as digital image compression.</p> <p>CLO-2 Students have the ability to explain improvement techniques, restoration of digital image data and be able to mimic an example program implementing such techniques on a computer program.</p> <p>CLO-3 Students have the ability to explain improvement techniques, restoration of digital image data and be able to mimic an example program implementing such techniques on a computer program.</p>	<p>PLO-3 PLO-4</p> <p>PLO-3 PLO-4</p> <p>PLO-3 PLO-4</p>

	<p>CLO-4 Students have the ability to demonstrate digital image processing techniques to solve simple problems.</p> <p>CLO-5 Students have the ability to analyze and design to solve problems involving image and video processing based on the techniques already studied.</p> <p>CLO-6 Students have the ability to combine image processing techniques to solve problems involving image processing.</p>	<p>PLO-5 PLO-6</p> <p>PLO-5 PLO-6</p> <p>PLO-5 PLO-6</p>
Content	In this course, students will learn about digital images and video, from the process of acquisition, storage, compression, delivery, and processing such as repair, restoration, segmentation, description, representation, classification, recognition, and visualization of objects from digital images or video.	
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> <li>• <i>In-class exercises</i></li> <li>• <i>Quiz 1 and 2</i></li> <li>• <i>Assignment 1, 2, 3</i></li> <li>• <i>Mid-term examination</i></li> <li>• <i>Final examination</i></li> </ul>	
Media employed	<i>LCD, whiteboard, websites (myITS Classroom).</i>	
Assessments and Evaluation	<p><i>CO-1: Question no 1 in midterm exam (10%)</i></p> <p><i>CO-2: Question no 2 in midterm exam (10%)</i></p> <p><i>CO-3: Question no 3 in midterm exam (10%), quiz 1 (5%)</i></p> <p><i>CO-4: Assignment 1 (5%), question no 4 in midterm exam (10%), Quiz 2 (5%)</i></p> <p><i>CO-5: Question no 1 in final exam (10%), question no 2 in final exam (10%)</i></p> <p><i>CO-6: Assignment 2 (5%), question no 3 in final exam (10%)</i></p> <p><i>CO-7: Assignment 3 (5%), question no 4 in final exam (5%)</i></p>	
Reading List	<ol style="list-style-type: none"> <li>1. Alan C. Bovik, "Handbook of Image and Video Processing ", Academic Press, 2000</li> <li>2. Rafael C. Gonzalez, "Digital Image Processing", 3rd Ed., Pearson Education, 2008</li> </ol>	