Course Description Form	
Course Code and Name	5061329 Image Processing
Course Semester	Fall-Spring
Catalog Content	Basics of image processing, image sensing and image capturing, image quality enhancing, noise reduction, image blurring and sharpening, image compression
Textbook	Digital Image Processing, 2. Baskı, R.C. Gonzalez, R.E. Woods, Prentice Hall
Supplementary Textbooks	-
Credit	8
Prerequisites of the Course (Attendance Requirements)	-
Type of the Course	Elective
Instruction Language	Turkish
Course Objectives	Teaching to understand the basic concepts of image processing, to learn the properties of image processing algorithms to be able to solve image processing problems.
Course Learning Outcomes	1- It will be able to bring practical solutions to complex image processing problems with correct approaches. 2- It will be able to produce both theoretical and practical solutions to problems that may be encountered in Image Processing. 3- It will have basic knowledge on image restoration, image transformations, image filtering, image smoothing.
Instruction Methods	The mode of delivery of this course is Face to Face
Weekly Schedule	1. Week: Basics of Image Processing 2. Week: Sampling and quantization 3. Week: numeric display images 4. Week: Resolution 5. Week: Image magnification and reduction 6. Week: Neighborhood, contiguity, connectivity 7. Week: Neighborhood, contiguity, connectivity 8. Week: Regions, borders 9. Week: Image on the navigation 10. Week: simple image processing algorithms 11. Week: simple filters and applications 12. Week: Color models 13. Week: Image file formats 14. Week: Image file formats
Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours Internet browsing, library work Report Preparing Preparing a Presentation Presentations Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam

Assessment Criteria		Numbers	Total Weighting (%)	
Assessment Criteria	Midterm Exams	1	30	
	Assignment	1	30	
	Application			
	Projects			
	Practice			
	Quiz			
	Percent of In-term Studies (%)		60	
	Percentage of Final Exam to Total Score (%)		40	
	Attendance			

	Activity	Total Number of Weeks	Duration (weekly hour)					Total Period Work Load
Workload	Weekly Theoretical Course Hours	14			3			42
	Weekly Tutorial Hours	3			3			9
	Reading Tasks	14			3			42
	Studies	14			3			42
	Material Design and Implementation	5			5			25
	Report Preparing	1			7			7
	Preparing a Presentation	1			5			5
	Presentations	1			3			3
	Midterm Exam and Preperation for Midterm Exam	1			10			10
	Final Exam and Preperation for Final Exam	1			15			15
	Other (should be emphasized)							
	Total Workload							200
	Total Workload / 25							8
	Course Credit (ECTS)							8

	No	Program Outcomes	1	2	3	4	5
Contribution Level Between Course Learning Outcomes and Program Outcomes	1	Reaches the expansion of knowledge by conducting scientific research in the field of engineering and evaluation, interpretation and application of information.				X	
	2	Has extensive and in depth knowledge including the latest techniques, methods applied and their limitations in engineering.				X	
	3	Completes and applies knowledge by using scientific methods by using limited or missing data and integrates information from different disciplines.			X		
	4	Be aware of new and developing practices of the profession, examines and learns when needed.				X	
	5	Defines and formulates problems related to the field, develops methods to solve them and applies innovative methods in solutions.				X	
	6	Develops new and / or original ideas and methods, designs complex systems or processes and develops innovative / alternative solutions in their designs.			X		
	7	Designs and applies theoretical, experimental and modeling based researches, examines and solves the complex problems encountered in this process.				X	

8	Works effectively in disciplinary and multidisciplinary teams, leads such teams and develops solution approaches in complex situations, works independently and takes responsibility.				X	
9	Communicates oral and written using a foreign language at least at the level of European Language Portfolio B2.				X	
10	Conveys the process and results of the studies in written and oral form in a systematic and clear manner in national and international environments within or outside the field.				X	
11	Knows the social, environmental, health, security, legal aspects of engineering applications; project management, and business life applications and be aware of the constraints of these engineering applications.			X		
12	Considers social, scientific and ethical values in the stages of data collection, interpretation and announcement and in all professional activities.				X	

The Course's Lecturer(s) and Contact Informations	Name Surname: Asst. Prof. Dr. Uraz YAVANOĞLU E-mail address: uraz@gazi.edu.tr