Universida_{de}Vigo

Subject Guide 2018 / 2019

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Fundame Subject	ntals of Image Processing Fundamentals of						
Subject	Image Processing						
Code	V05G300V01632						
Study	Degree in						
programm	e Telecommunications						
	Technologies Engineering						
Descriptor	s ECTS Credits		Choose	Year		Quadme	ster
Descriptor	6		Optional	3rd		2nd	
Teaching	Spanish		<u></u>				
language							
	ntSignal Theory and Communications						
	or Martín Herrero, Julio						
Lecturers	Martín Herrero, Julio						
E-mail Web	julio@uvigo.es http://faitic.uvigo.es						
General	Introduces to the student the basics of dig	uital image p	rocessing				
description	5	ntar intage p	locessing				
Compete	ncies						
Code							
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Торіс	
GUI programming	(*).
Basic preprocessing.	
Image restoration.	
Global and local operators.	
Linear and nonlinear filters.	
Segmentation	
Mathematical morphology.	

Planning	Class hours	Hours outside the	Total hours
		classroom	
Computer practices	19.6	78.4	98
Lecturing	21	21	42
Systematic observation	0	0	0
Laboratory practice	2	8	10
*The information in the planning table i	s for guidance only and does no	ot take into account the het	erogeneity of the students

Methodologies	
	Description
Computer practices	Handling and tuning analytic tools and algorithms, identifying which ones to use in different scenarios. All learning aims are addressed.
Lecturing	Master talks by the teacher on central topics, promoting critical discussion of concepts. All learning aims are addressed.

Personalized attention			
Methodologies	Description		
	Implementation of image processing methods within an image processing and visualization framework with graphic user interface, programming in C and C++.		

	Description		Training and		
			Learning Results		
Computer practices	Personalised monitoring of the student's work in the laboratory, with	100	B3	C34	D2
	feedback. All teaching aims specified in the corresponding section of		B4	C38	D3
	this guide are evaluated.		B10		
Systematic	Personalised monitoring of the student's work in the laboratory, with	100	B3	C34	D2
observation	feedback. All teaching aims specified in the corresponding section of		B4	C38	D3
	this guide are evaluated.		B10		
Laboratory practice	Final exam.	100	B3	C34	D2
			B4	C38	D3
			B10		

Other comments on the Evaluation

The assistance to class under continuous evaluation is compulsory, unless exceptional circumstances concur. Continuous evaluation is used for assessment, based in the work of the student in the classroom and at home. There is a final exam in the official date marked by the Board of School in May, for those students that have not passed the continuous evaluation. This final exam will be marked between 0 and 10 points. It covers all the subjects seen during the semester. To approve, the student has to obtain, at least, five points. Students wishing to improve their continuous evaluation marks can also attend the final exam: in this case the mark of this exam will be the final mark. The students that have passed the continuous evaluation and are satisfied with their mark do not need to attend the final exam. Along the semester the students will before the final exam. The delivery of the personal work the last week of class will imply the official participation in continuous evaluation.

The extraordinary evaluation of July will be an extraordinary final exam, for those students that have not passed neither the continuous evaluation neither the final exam in May. The final mark will be the mark of the extraordinary final exam in both cases. This extraordinary final exam will be marked between 0 and 10 points, and covers all the subjects. To approve, the student has to obtain, at least, five points.

Note that there are two final exams, but both correspond to a single and the same call ("convocatoria").

Sources of information

Basic Bibliography

Rafael C. Gonzalez, Richard E. Woods, Digital Image Processing, 3ª, Prentice Hall,

Complementary Bibliography

Robert Laganière, **OpenCV Computer Vision Application Programming Cookbook**, Packt Publishing, 2014 Jasmin Blanchette, Mark Summerfield, **C++ GUI Programming with Qt 4**, Prentice Hall, 2008

Recommendations

Subjects that continue the syllabus

Image processing and analysis/V05G300V01931

Subjects that are recommended to be taken simultaneously

Imaging Systems/V05G300V01633

Subjects that it is recommended to have taken before

Programming I/V05G300V01205 Fundamentals of Sound and Image/V05G300V01405 Digital Signal Processing/V05G300V01304

Other comments

Simultaneously taking the subject Imaging Systems is emphatically recommended. You also should have passed the subject Programming, or have some notions of, at least, C programming.