



IDENTIFYING DATA

Real time machine visión

Subject	Real time machine visión			
Code	V05M185V01207			
Study programme	(*)Máster Universitario en Visión por computador			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	English			
Department				
Coordinator	Martín Herrero, Julio			
Lecturers	Martín Herrero, Julio			
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General description	Workshop for getting acquainted with machine vision cameras and hardware, their configuration, fine tuning and how to work with them in real time.			

Competencies

Code	
A5	CB10 Students should possess the learning skills to enable them to continue studying in a largely self-directed or autonomous manner.
B3	Ability to develop computer vision systems depending on the existent needs and apply the most suitable technological tools
C6	To know and apply the fundamentals of image acquisition and machine vision systems

Learning outcomes

Expected results from this subject	Training and Learning Results
The students will learn how to efficiently program real time acquisition and processing of images proper of machine vision applications.	A5 B3 C6

Contents

Topic	
Real time programming for machine vision	.
PC-frame-grabber communication	.
Memory management	.
Structure and usage of a typical machine vision SDK	.
Low-level programming for high speed industrial processes	.

Planning

	Class hours	Hours outside the classroom	Total hours
Workshops	75	0	75
Systematic observation	0.1	0	0.1

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Workshops	Hands-on workshop working in pairs in the lab with a computer and machine vision hardware, using C and C++. On-site attendance is compulsory, except when any extraordinary circumstances may concur.

Personalized assistance

Methodologies	Description
Workshops	Direct access to the teacher during the work at the lab.

Assessment

	Description	Qualification	Training and Learning Results
Systematic observation	The teacher will follow closely the performance and progress of the students during the workshop, with timely individual feedback.	100	

Other comments on the Evaluation

Sources of information

Basic Bibliography

Davies, **Machine Vision**, 9780122060939, 3, Elsevier, 2005

Complementary Bibliography

Several, **Webinar series**, <https://www.baslerweb.com/en/company/news-press/webinar/>, Basler, 2020

Recommendations

Other comments

Good working knowledge of C/C++ is essential. Note that this subject requires on-site attendance at the University of Vigo in the programmed dates and times.

Contingency plan

Description

If work cannot be carried on the laboratory due to legal enforcement, it will be performed on an individual basis at home, using pre-recorded image streams to simulate realtime image acquisition. Contact with the teacher will be through open access online tools allowing remote desktop sharing on low-speed network connections.