

**1. General information****Course:** MULTIMEDIA**Type:** CORE COURSE**Degree:** 346 - DEGREE IN COMPUTER SCIENCE AND ENGINEERING**Center:** 604 - SCHOOL OF COMPUTER SCIENCE AND ENGINEERING (AB)**Year:** 4**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 42356**ECTS credits:** 6**Academic year:** 2019-20**Group(s):** 13**Duration:** First semester**Second language:** English**English Friendly:** Y**Bilingual:** N**Lecturer:** PEDRO ANGEL CUENCA CASTILLO - Group(s): 13

Building/Office	Department	Phone number	Email	Office hours
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2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course**Course competences**

Code	Description
INS4	Problem solving skills by the application of engineering techniques.
INS5	Argumentative skills to logically justify and explain decisions and opinions.
PER4	Interpersonal relationship skills.
SIS3	Autonomous learning.
TI6	Ability to foster systems, applications, and services based on network technologies, including the internet, web, electronic commerce, multimedia, interactive services, and mobile computation.

5. Objectives or Learning Outcomes**Course learning outcomes**

Description

Knowledge of what the standards for digital content are.

Knowledge of the techniques and standards of multimedia compression.

Development of multimedia systems and applications.

Identification of what the contents are and their multimedia composition.

6. Units / Contents**Unit 1:****Unit 2:****Unit 3:****Unit 4:****Unit 5:****Unit 6:****Unit 7:****Unit 8:****7. Activities, Units/Modules and Methodology**

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	R	Description
Class Attendance (theory) [ON-SITE]	Lectures	INS4 INS5 TI6	0.98	24.5	Y	Y	Y	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	INS4 INS5 PER4 TI6	0.52	13	Y	Y	Y	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	INS4 INS5 TI6	0.72	18	Y	Y	N	
Progress test [ON-SITE]	Assessment tests	INS4 INS5 TI6	0.06	1.5	Y	N	N	
Final test [ON-SITE]	Assessment tests	INS4 INS5 TI6	0.12	3	Y	Y	Y	
Study and Exam Preparation [OFF-SITE]								

[SITE]	Self-study	SIS3 TI6	1.88	47	Y	Y	Y	
Study and Exam Preparation [OFF-SITE]	Problem solving and exercises	INS4 INS5 PER4 SIS3 TI6	0.52	13	Y	Y	Y	
Study and Exam Preparation [OFF-SITE]	Practical or hands-on activities	SIS3 TI6	0.72	18	Y	Y	Y	
Practicum and practical activities report writing or preparation [OFF-SITE]	Practical or hands-on activities	INS5 PER4 SIS3 TI6	0.48	12	Y	Y	Y	
Total:			6	150				
Total credits of in-class work: 2.4				Total class time hours: 60				
Total credits of out of class work: 3.6				Total hours of out of class work: 90				

As: Assessable training activity

Com: Training activity of compulsory overcoming

R: Rescheduling training activity

8. Evaluation criteria and Grading System			
Evaluation System	Grading System		Description
	Face-to-Face	Self-Study Student	
Final test	50.00%	0.00%	
Self Evaluation and Co-evaluation	5.00%	0.00%	
Practicum and practical activities reports assessment	15.00%	0.00%	
Progress Tests	20.00%	0.00%	
Assessment of problem solving and/or case studies	10.00%	0.00%	
Total:	100.00%	0.00%	

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Final test [PRESENCIAL][Assessment tests]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	22.5
Unit 1 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	1.5
Unit 2 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Unit 3 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	1.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	1.5
Progress test [PRESENCIAL][Assessment tests]	.13
Study and Exam Preparation [AUTÓNOMA][Self-study]	4.5
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	1.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	1.5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	1
Unit 4 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	1.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Progress test [PRESENCIAL][Assessment tests]	.25
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	1.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	2
Unit 5 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	4.5
Progress test [PRESENCIAL][Assessment tests]	.38
Study and Exam Preparation [AUTÓNOMA][Self-study]	4.5
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	4.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	4.5

Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	3
Unit 6 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	6
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	6
Progress test [PRESENCIAL][Assessment tests]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	6
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	4.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	6
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	4
Unit 7 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	1.5
Progress test [PRESENCIAL][Assessment tests]	.13
Study and Exam Preparation [AUTÓNOMA][Self-study]	1
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	1.5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	1
Unit 8 (de 8):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	1.5
Progress test [PRESENCIAL][Assessment tests]	.13
Study and Exam Preparation [AUTÓNOMA][Self-study]	1
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	.5
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	1.5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	1
Global activity	
Activities	hours
Study and Exam Preparation [AUTÓNOMA][Practical or hands-on activities]	18
Practicum and practical activities report writing or preparation [AUTÓNOMA][Practical or hands-on activities]	12
Class Attendance (theory) [PRESENCIAL][Lectures]	24.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	13
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	18
Progress test [PRESENCIAL][Assessment tests]	1.52
Final test [PRESENCIAL][Assessment tests]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	47
Study and Exam Preparation [AUTÓNOMA][Problem solving and exercises]	13
Total horas: 150.02	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Iain E. Richardson	The H.264 Advanced Video Compression Standard. Second Edition	Wiley	Reino Unido	978-0-470-51692-8	2010	
Jens-Rainer Ohm	Multimedia Signal Coding and Transmission	Springer	Alemania	978-3-662-46690-2	2014	
Vivienne Sze, Madhukar Budagavi, Gary J. Sullivan	High Efficiency Video Coding (HEVC): Algorithms and Architectures	Springer	Alemania	978-3-319-06894-7	2014	
Wien, Mathias	High Efficiency Video Coding (HEVC) : Coding Tools and Specification	Springer	Alemania	978-3-662-44275-3	2015	
Yun Q. Shi, Huifang Sun	Image and Video Compression for Multimedia Engineering Fundamentals, Algorithms, and Standards, Second Edition	CRC Press	Cambridge, USA	978-0-8493-7364-0	2008	