UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course:	PLANNING AND COASTAL AREAS MANAGEMENT	**Code:**	310816
Type:	ELECTIVE	**ECTS credits:**	4.5
Degree:	2343 - MASTERS DEGREE PROGRAMME IN ENGINEERING OF ROADS, CANALS AND PORTS	**Academic year:**	2019-20
Center:	603 - E.T.S. CIVIL ENGINEERS OF CR	**Group(s):**	20
Year:	2	**Duration:**	First semester
Main language:	English	**Second language:**	Spanish
Use of additional languages:		**English Friendly:**	N
Web site:		**Bilingual:**	N

Lecturer: **Mª DEL CARMEN CASTILLO SANCHEZ** - Group(s): **20**

Building/Office	Department	Phone number	Email	Office hours
A-44	INGENIERÍA CIVIL Y DE LA EDIFICACIÓN	926052560	mariacarmen.castillo@uclm.es	Se fijará al inicio del cuatrimestre/To be set at the beginning of the semester

2. Pre-Requisites

This subject adds to the knowledge obtained in the Coastal Engineering (Puertos y Costas) subject

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

This subject adds to the knowledge obtained in the Coastal Engineering (Puertos y Costas) subject taking into consideration the value of the coast and its resources and the strategies to manage them.

4. Degree competences achieved in this course

Course competences

Code	Description
CB06	Possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.
CB07	Apply the achieved knowledge and ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study
CB09	Know how to communicate the conclusions and their supported knowledge and ultimate reasons to specialized and non-specialized audiences in a clear and unambiguous way
CB10	Have the learning skills which allow to continue studying in a self-directed or autonomous way
G01	Scientific-technical and methodological capacity for the continuous recycling of knowledge and the exercise of the professional functions of consultancy, analysis, design, calculation, project, planning, leadership, management, construction, maintenance, conservation and exploitation in the fields of civil engineering.
G02	Understanding of the multiple technical, legal and property constraints that arise in the design of a public work, and the capacity to establish different valid alternatives, to choose the optimum one and to express it adequately, anticipating the problems of its construction, and using the most suitable methods and technologies, both traditional and innovative, with the aim of achieving the greatest efficiency and promoting the progress and development of a sustainable and respectful society with the environment.
G03	Knowledge, understanding and ability to apply the necessary legislation in the exercise of the profession of Civil Engineer.
G06	Ability to plan, design, inspect and manage land (roads, railways, bridges, tunnels and urban roads) or sea (port works and facilities) transport infrastructures.
G07	Knowledge to apply technical and managerial skills in R&D&I activities in the field of civil engineering.
G10	Capacity to carry out studies on spatial planning, on the coastal environment, on coastal planning and defence and on environmental aspects related to infrastructures.
G25	Ability to identify, measure, enunciate, analyse, diagnose and scientifically and technically describe a civil engineering problem
G27	Ability to communicate in a second language.
G29	Management capacity and teamwork.
IAMA1	Capacity for the alternative selection and general planning of a civil engineering action applied to the water industry, analysing the technological, functional, economic and environmental aspects.
IAMA2	Capacity to identify, quantify and interpret the consequences of hydraulic, maritime and environmental works and actions
IAMA3	Ability to understand the design constraints and the functioning of the different maritime works.
IAMA4	Knowledge of the project factors (parameters, agents and actions) involved in the design of maritime works.
TE07	Knowledge and skills to understand the dynamic phenomena involved in the ocean-atmosphere-coast environment and be able to provide answers to littoral, port and coastal problems, including the impact of actions on the coastline. Capacity to carry out studies and projects of maritime works.
TE10	Capacity for planning, management and operation of civil engineering related infrastructures.
TE11	Ability to analyse the environmental factors involved in an engineering action
TE12	Ability to assess the impact an engineering work can have on the environment and to define appropriate corrective measures.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Students interpret the consequences on coastal resources of different forms of coastal occupation and port actions.

Students identify the variables to be considered in coastal planning and management.

Students understand the integration of ports into the territory, their importance in the economic framework and their functioning.

Students understand the determinants of coastal and port planning and management.

Students know the alternatives for maintaining/restoring beaches.

6. Units / Contents

Unit 1: Introduction

Unit 2: Basic definitions on Coastal Management

Unit 3: Beaches

- **Unit 3.1** Stability and evolution models for beaches
- **Unit 3.2** Beach nourishment (soft engineering)
- **Unit 3.3** Beach armoring (hard engineering)

Unit 4: Ports

- **Unit 4.1** Vessel-Port-Land relations
- **Unit 4.2** Types of ports
- **Unit 4.3** Port facilities
- **Unit 4.4** Operational conditions
- **Unit 4.5** Resource Planning

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	G02 G03 G06 G07 G10 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	0.2	5	N	-	-	
Class Attendance (practical) [ON-SITE]	Combination of methods	CB07 G02 G06 G07 G10 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	0.4	10	Y	N	N	
Computer room practice [ON-SITE]	Problem solving and exercises	CB07 G07 G10 G27 IAMA1 IAMA2 IAMA3 TE07 TE10	0.15	3.75	Y	N	N	
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	CB06 CB07 CB10 G02 G03 G06 G07 G10 G25 G27 G29 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10 TE11 TE12	0.6	15	Y	N	N	
Study and Exam Preparation [OFF-SITE]	Self-study	CB06 CB07 CB10 G01 G02 G06 G07 G10 G25 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	1	25	N	-	-	
Analysis of articles and reviews [OFF-SITE]	Reading and Analysis of Reviews and Articles	CB06 CB07 CB10 G01 G02 G06 G07 G10 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	0.4	10	N	-	-	
Writing of reports or projects [OFF-SITE]	Group Work	CB06 CB07 CB09 CB10 G02 G03 G06 G07 G10 G25 G27 G29 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10 TE11 TE12	1.2	30	Y	Y	Y	
On-line Activities [OFF-SITE]	Combination of methods	CB09 G07 G10 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	0.35	8.75	Y	N	Y	
Writing of reports or projects [OFF-SITE]	Problem solving and exercises	CB07 G02 G06 G07 G10 G27 IAMA1 IAMA2 IAMA3 IAMA4 TE07 TE10	0.2	5	Y	N	Y	
			Total:	**4.5**	**112.5**			
			Total credits of in-class work: 1.35					**Total class time hours: 33.75**
			Total credits of out of class work: 3.15					**Total hours of out of class work: 78.75**

As: Assessable training activity
Com: Training activity of compulsory overcoming
R: Rescheduling training activity

8. Evaluation criteria and Grading System

	Grading System		
Evaluation System	**Face-to-Face**	**Self-Study Student**	**Description**
Assessment of active participation	10.00%	0.00%	Active participation in class
Practicum and practical activities reports assessment	10.00%	0.00%	Short exercise resolution
Assessment of activities done in the computer labs	5.00%	0.00%	Problem solving using software

Assessment of problem solving and/or case studies	35.00%	0.00%	Evaluated with the reports for each case
Oral presentations assessment	15.00%	0.00%	Oral exam based on presentation seminar and case report (individually graded through group exam)
Final test	25.00%	0.00%	Short test on basic concepts
Total:	**100.00%**	**0.00%**	

Evaluation criteria for the final exam:
In order to pass the subject, the following minimum marks must be satisfied:

a) Reports for each case study: 5;

b) Presentation of cases: 4;

c) Final exam: 4;

d) Global mark: 5;

Specifications for the resit/retake exam:
In order to pass the subject, the following minimum marks must be satisfied:

a) Reports for each case study: 5;

b) Presentation of cases: 4;

c) Final exam: 4;

d) Global mark: 5;

All these marks can be retaken on this exam.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	**hours**
Unit 1 (de 4): Introduction	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	.5
Unit 2 (de 4): Basic definitions on Coastal Management	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	1
On-line Activities [AUTÓNOMA][Combination of methods]	.75
Unit 3 (de 4): Beaches	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Class Attendance (practical) [PRESENCIAL][Combination of methods]	5
Computer room practice [PRESENCIAL][Problem solving and exercises]	1.75
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	7.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	5
Writing of reports or projects [AUTÓNOMA][Group Work]	15
On-line Activities [AUTÓNOMA][Combination of methods]	4
Writing of reports or projects [AUTÓNOMA][Problem solving and exercises]	2.5
Unit 4 (de 4): Ports	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Class Attendance (practical) [PRESENCIAL][Combination of methods]	5
Computer room practice [PRESENCIAL][Problem solving and exercises]	2
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	7.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	5
Writing of reports or projects [AUTÓNOMA][Group Work]	15
On-line Activities [AUTÓNOMA][Combination of methods]	4
Writing of reports or projects [AUTÓNOMA][Problem solving and exercises]	2.5
Global activity	
Activities	**hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	5
Class Attendance (practical) [PRESENCIAL][Combination of methods]	10
Computer room practice [PRESENCIAL][Problem solving and exercises]	3.75
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	25
Analysis of articles and reviews [AUTÓNOMA][Reading and Analysis of Reviews and Articles]	10
Writing of reports or projects [AUTÓNOMA][Group Work]	30
On-line Activities [AUTÓNOMA][Combination of methods]	8.75

Writing of reports or projects [AUTÓNOMA][Problem solving and exercises]	5
	Total horas: 112.5

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
PUERTOS DEL ESTADO	Revisión y Actualización del Método de Evaluación de Inversiones Portuarias (MEIPOR 2016)				2016	
	http://www.puertos.es/es-es/BibliotecaV2/MEIPOR_mayo_2016.pdf					
Gomis, Damiá; Álvarez, Enrique	Vulnerabilidad de los puertos españoles ante el cambio climático. Vol. 1	Puertos del Estado			2016	
	http://www.puertos.es/es-es/BibliotecaV2/VULNERABILIDAD_completo_alta.pdf					
Dean, Robert G.	Beach nourishment: theory and practice	World Scientific		981-02-1548-7	2005	
Dean, Robert G.	Coastal processes: with engineering applications	Cambridge University Press		0-521-60275-0	2004	
Kamphuis, J. William	Introduction to coastal engineering and management	World Scientific		981-02-4417-7	2002	
MINISTERIO MEDIO AMBIENTE, DIRECCIÓN GENERAL DE COSTAS, UNIVERSIDAD DE CANTABRIA	Documento temático de Regeneración de Playas.					
Peña Olivas, José Manuel de la	Guía técnica de estudios litorales: (manual de costas)	Colegio de Ingenieros de Caminos, Canales y Puerto		978-84-380-0342-8	2007	
Silvester, Richard	Coastal stabilization	World Scientific		981-02-3154-7	1997	
USACE	Coastal Engineering Manual	Coastal Engineering Research Center			2002	
	Advances in coastal and ocean engineering	World Scientific		981-02-1824-9 (v.1)	1995	
	Handbook of coastal and ocean engineering	World Scientific		981-281-929-0	2010	
	Handbook of coastal engineering	McGraw-Hill		0-07-134402-0	2000	
	Port engineering: planning, construction, maintenance, and s	John Wiley & Sons		0-471-41274-0	2004	