

**COURSE DATA****Data Subject**

<b>Code</b>	41052
<b>Name</b>	Natural systems and society
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	14.0
<b>Academic year</b>	2020 - 2021

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2001 - M.D. in Environmental and Territorial Management Techniques	Faculty of Geography and History	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2001 - M.D. in Environmental and Territorial Management Techniques	1 - Natural systems and society	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
SALOM CARRASCO, JULIA	195 - Geography

**SUMMARY**

The module is organised into four parts covering the most important aspects of the subject area:

- Part I : Natural systems and anthropogenic systems, erosion processes in the Mediterranean
- Part II : New territorial guidelines for urbanisation and Urban planning
- Part III : Territorial planning, environmental problems and governance
- Part IV: Territorial planning in practice



The **first part** is presented as an introduction and update of information as regards the processes taking place in the Mediterranean physical environment and its most important environmental problems, with particular attention to climate change.

The **second part** seeks, on the one hand, to analyze the territorial pattern prevailing today in the development of large urban spaces, the characteristics of the resulting new real city -the low-density city or dispersed city-, the factors that determine these processes and the important consequences that they have on the territory, in particular those that affect the environment. On the other hand, it is proposed to explain the content, regulation and practice of urban planning.

The **third part** explains the content, regulation and practice of territorial planning, by means of which it is a matter of giving coherence to the territorial planning and development processes that allow facing new territorial problems, challenges and guidelines. The spatial delimitation that territorial and urban planning supposes and the obligations that it establishes with its regulations establish the framework within which the management of a territory must inescapably unfold. Without their knowledge, the proper use of any management technique is not possible.

The **fourth part** carries out, from an applied perspective, a review of both the implementation of territorial planning instruments in the Valencian Community, and the contents that give rise to the concepts and processes of strategic planning applied to territories at scale local, municipal or supra-municipal. Finally, the available tools to incorporate adaptation to climate change in land use planning and in all public policies are analyzed.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

None

## OUTCOMES

### 2001 - M.D. in Environmental and Territorial Management Techniques

- Capacidad de realizar la planificación territorial: análisis, diagnóstico y propuestas.
- Análisis del medio físico de una manera integrada, interrelacionando sus componentes a partir del trabajo de campo y manejo de elementos cartográficos y toma de datos.



- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.

## LEARNING OUTCOMES

- Recognition of geomorphological processes and forms (fluvial, coastal and hillside) at different spatial and time scales.
- Knowledge of the relationship between environmental issues and the forms and processes of social change and collective perceptions.
- Identification and interpretation of territorial processes and their impact on the environment.
- Knowledge of the powers of the different public administrations in the area of environmental protection and territorial legislation at the regional, national and European level.
- Studies, interpretation and analysis of territorial planning projects in rural and urban areas.
- Recognition of the problems associated with urbanisation and its implications on sustainability.

## DESCRIPTION OF CONTENTS

### 1. The Mediterranean region: climate change, human action and characterisation

Sensitivity of natural systems to anthropogenic impact

Anthropogenic changes in natural systems

Spatial characterisation of the Mediterranean environment: an environment in transition

Recent environmental history: an intensification of human action?

Evidence of climate change in the Valencian Community: measures of adaptation

### 2. Erosion Processes



Forms and processes. Interactions

Accelerated erosion processes related to runoff

Gravitational accelerated erosion processes

Soil protective factors

Influence of soil use on erosion

### **3. The river system**

- Flow and sediment: genesis of runoff, flow, regime. Sediment sources, transfer and rates
- Processes on the river bed: flow characteristics, erosion and transport
- Forms of river beds: controls of the shape of the channel, settings, development of the floodplain, alluvial channels and channels in bedrock
- Environmental change. Alluvial fans
- Human action in river beds, environmental degradation

### **4. The coastal system**

- Coastal Geomorphology: terminology.
- Coastal Processes: waves, tides, currents, winds.
- Forms: beaches, dunes, Roger W Suddards-lagoon systems, dunes, estuaries-deltas. -The anthropic action in the coast.
- Sea-level change. Global warming and its effects on the coast.

### **5.**

#### **New territorial guidelines for urbanization**

The delimitation of urban development. The debate on land for development. The value of non-developable land and its regulation. The stages of development in Europe and in Spain. Urban sprawl and low-density city. Features of a low-density city  
Causes behind the creation of a low-density city  
The consequences of a low-density city  
Alternatives to a low-density city and its social and political viability

### **6. Urban planning**

Urbanism as a public service. Urban planning and management. The distribution of constitutional powers  
General planning. The physical model: main determinations, concept and meaning. Management model  
Planning of development. Types and objectives. Partial plans and internal reform plans  
The delimitation of urban development. The debate on developable land. The valuation of undeveloped land and its regulation.

**7. Territorial planning, environment and governance**

Territorial planning: what is it, who makes it and what is it supposed to be good for?

Spatial planning tools: review and critical analysis. From instruments to management: coherence, interest scalability and participation. New territorial strategic planning, incremental planning and ecosystem-based management. Territorial and urban governance. A European perspective

Geopolitics and government of the territory in Spain and composite State: the difficult and long road to governance

Analysis and balance of good and bad practices: integrated coastal management, state water policy and infrastructure, new forms of governance in the regional-local level

Territorial conflicts: one step forward towards a new era of democratic governance?

**8. Territorial planning in practice**

Territorial planning instruments in Valencia

Concepts and processes in the strategic local, municipal or supra-municipal planning

Engagement of the social actors in the strategic plan

Working examples

**9. Territorial policies for adaptation to climate change**

-Climate change on the Spanish Mediterranean coast: scientific evidence

-Climate change and atmospheric extremes with territorial impact

-Incorporation of climate change and climate risks in land use planning: working tools.

-Processes and policies. Institutional context and governance models in the 2030 horizon

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	60,00	100
Other activities	12,00	100
Seminars	5,00	100
Classroom practices	5,00	100
Tutorials	4,00	100
Development of individual work	100,00	0
Study and independent work	100,00	0
Preparation of evaluation activities	64,00	0
<b>TOTAL</b>	<b>350,00</b>	





## TEACHING METHODOLOGY

### Classroom lectures:

Explanation of the basic content of the course. Usual teaching resources such as presentations, images of different environments, graphics and diagrams are used. All material used in class is available to students in the virtual classroom. In addition, students will be advised to read specific literature to complement the information provided in class.

### Fieldwork:

2 field trips will be organised. This activity is mainly aimed at putting the student into contact with the reality of the Mediterranean physical environment.

### Readings of texts:

Texts, documents and plans will have to be read individually, before or after attending the lessons, as appropriate, for a better understanding of the contents, to facilitate participation and debate and to prepare possible written essays.

### Individual written assignments:

These will be based on the reading of texts about some topics included in the syllabus. The annex to the annual programme will specify the content, format and conditions.

### Group assignment:

This is to be prepared in groups of 3 or 4 people and the aim is to apply all or part of the concepts studied during the course to a particular territorial space.

The annex to the annual programme will specify the content, format and conditions.

### Tutorials:

Two types of tutorials will be offered: individual to help clarify concepts and theory, and in groups to direct the preparation of the practical assignment.



## EVALUATION

The assessment process is as follows:

The final mark will be based on the following items:

- Regular attendance at class (minimum of 80% attendance)
- Attendance at and participation in field trips (compulsory)
- Participation in class and knowledge of the readings required
  - Individual written assignment
  - Group assignment
  - Oral presentation of assignments

## REFERENCES

### Basic

- IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Holden, J. (2008): An Introduction to Physical Geography and the Environment. Pearson
- Global Commission on Adaptation (2019): Adapt Now: a global call for leadership on climate resilience, World Resources Institute, September, 2019.pdf
- Davidson-Arnott, R. (2012): An introduction to coastal Processes and Geomorphology, Cambridge University Press 458 p.
- Esteban, Juli (2003): La ordenación urbanística: concepto, herramientas y prácticas. Barcelona, Electa, 377 p
- Indovina, Francesco (Coordinador) (2007): La ciudad de baja densidad. Barcelona, Diputació de Barcelona, Col·lecció Estudis, 540 p.
- Farinós, J. (2008a): Gobernanza territorial para el desarrollo sostenible: Estado de la Cuestión y Agenda, Boletín de la Asociación de Geógrafos Españoles, nº 46, págs. 11-32. <http://age.ieg.csic.es/boletin/46/02-GOBERNANZA.pdf>



### Additional

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- Ernst, W.G. ed (2000): Earth Systems: processes and issues. Cambridge: Cambridge University Press.
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- Olcina Cantos, J. (2020) Clima, cambio climático y riesgos climáticos en el litoral mediterráneo español. Oportunidades para la geografía. Documents d'Anàlisi Geogràfica, vol. 66 nº 1, 159-182. Disponible en: [https://rua.ua.es/dspace/bitstream/10045/102007/1/2020\\_Olcina\\_DAG.pdf](https://rua.ua.es/dspace/bitstream/10045/102007/1/2020_Olcina_DAG.pdf)
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- Smithson, Addison, K. & Atkinson, K. (2008): Fundamentals of the Physical Environment. Routledge introductions to environment series. London and New York. (4º Edición).
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- Young, A. (1972) Slopes. Oliver & Boyd. 288 p
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- Fernández, Gerardo Roger (2008): Urbanismo y financiación local, Papeles de Economía Española, , 115, 212-224
- Monclús, Javier (Editor) (1998): La ciudad dispersa. Suburbanización y nuevas periferias. Barcelona, Centro de Cultura Contemporánea de Barcelona, 223 p.
- La ciutat compacta, la ciutat difusa, Papers, nº 36 (maig 2002), Institut d'Estudis Metropolitans, Barcelona.
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- Farinós, J. (2008b): Inteligencia para la gobernanza territorial, en De Souza, A. y Simancas, M.R. (coord.) Sociedad civil organizada y desarrollo sostenible en Sociedad civil organizada y desarrollo sostenible. Santa Cruz de Tenerife, Gobierno de Canarias, págs. 19-33.
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- Hildenbrand Scheid, Andreas (2007): Tres propuestas para una relación efectiva entre las escalas regional y local en materia de Ordenación del Territorio, en Farinós, J. y J. Romero (Eds.), op. cit., pp. 147-189.
- Miró, J.J., Estrela, M.J., Caselles, V., Gómez, I. (2018). Spatial and temporal rainfall changes in the Júcar and Segura basins (1955-2016): Fine-scale trends. International Journal of Climatology, 1-24. DOI: 10.1002/joc5689

## **ADDENDUM COVID-19**

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

### **SEMI-PRESENTIAL TEACHING**

#### **1. Contents**

The contents initially included in the teaching guide are maintained

#### **2. Workload and time schedule**

The activities and their hours of dedication in ECTS credits marked in the original course guide will be kept. If the classrooms capacity according to the sanitary norms allows it, the theoretical and practical class attendance will be 100%; if the capacity couldn't be guaranteed, the class attendance would be reduced, replacing face-to-face classes with synchronous non-face-to-face teaching.

Field work trips in the first semester are transferred to the second, being conditioned to the health situation. In case of not being able to carry them out for health reasons, they will be replaced by non-contact activities that will be specified at the beginning of the term in the Annex to the Course Guide, like the rest of the teaching planning.

If the sanitary situation changes and no access to the University facilities is possible, all teaching activities will be carried out completely online (synchronous non-classroom teaching). In this case, the adaptations will be communicated to the students through the Virtual classroom.

#### **3. Teaching Methodology**



Theory and practice classes that may be complemented with different types of materials and activities in the Virtual classroom.

Tutorials will be done online (through the UV corporate mail) or face-to-face by prior appointment with the teacher.

If the sanitary situation changes and no access to the University facilities is possible, teaching and tutorials will be carried out completely online. In this case, the adaptations will be communicated to the students through the Virtual classroom.

#### **4. Evaluation**

The evaluation criteria established in the Course Guide are kept.

If the University facilities were closed on the dates set in the official calendar for the exams, the face-to-face exam would be replaced by an online test.

#### **5. Bibliographic references**

The recommended bibliography in the Course Guide is kept. If the sanitary situation changes and the access to the recommended bibliography is not possible, it will be replaced by materials accessible online.