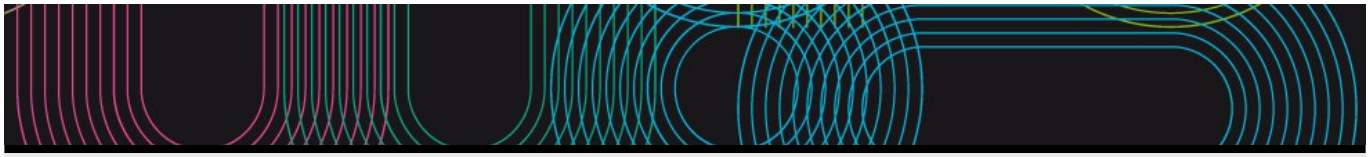

IDENTIFYING DATA				
Geographic analysis methods				
Subject	Geographic analysis methods			
Code	V10G060V01904			
Study programme	(*)Grao en Ciencias do Mar			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	3rd	2nd
Teaching language	Spanish			
Department				
Coordinator	Torres Palenzuela, Jesús Manuel Díez Ferrer, José Bienvenido			
Lecturers	Díez Ferrer, José Bienvenido Lago Cameselle, Alejandra Torres Palenzuela, Jesús Manuel			
E-mail	jbdiez@uvigo.es jesu@uvigo.es			
Web				
General description	Principles of territorial analysis and their cartographic representation.			

Competencies	
Code	
A1	Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study
A2	Students can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study
A3	Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues
C1	To know the vocabulary, codes and concepts inherent to the oceanographic scientific field
C3	Critical understanding of the history and current status of the Marine Sciences
C5	Basic knowledge of research methodology in oceanography
C6	Ability to identify and understand the problems in the field of oceanography
C9	To be familiar with the public and private, national and international organizations and institutions related to the Marine Sciences
C11	To manage the use of littoral and coastal region and their resources in a sustainable way
C12	To be able to operate the instrumental techniques applied to sea
C13	To acquire, evaluate, process and interpret oceanographic data within the theories currently in use
C15	To recognize and implement good scientific practice in measurement and experimentation, both in the field and in the laboratory
C18	To transmit writing, verbal and graphical information for audiences of various types
C19	To map and characterize the seabed and the underground in marine and coastal areas
C26	To plan, direct and write technical reports on marine issues
C37	Technical advice or assistance on issues related to the marine and coastal environment
D1	Analysis and synthesis ability
D5	Information technology skills (search and data analysis)

Learning outcomes	
Expected results from this subject	Training and Learning Results

Projection Systems and Reference Systems	A1	C12 C13 C15 C18 C37	D5
Digital Terrain Models	A2 A3	C1 C5 C6 C11 C12 C13 C19	D5
Improvement, corrections and transformation of images	A3	C1 C5 C6 C12 C13 C15 C18	D5
Interpolation of data (Creation of surfaces from point data)	A1 A3	C1 C5 C6 C12 C13 C15	D5
3D visualization and navigation.	A1 A3	C1 C3 C5 C12 C13 C15	D5
GIS Applications	A1 A2 A3	C1 C3 C5 C6 C9 C11 C12 C18 C19 C26 C37	D1 D5

Contents	
Topic	
1. Introduction to cartography and geographic information systems	(*) Non hai subtemas
2. The scale	There are not subtopics
3. Reference systems and projection systems	There are not subtopics
4. Geographic information systems software	There are not subtopics
5. Data acquisition and processing: locations and attributes	There are not subtopics
6. Sources of geographic and cartographic information.	There are not subtopics
7. Digital terrain models	There are not subtopics
8. Digital analysis and processing of geographic information	There are not subtopics
9. 3D visualization.	There are not subtopics
10. Applications of geographic information systems. Thematic maps.	There are not subtopics

Planning			
	Class hours	Hours outside the classroom	Total hours
Practices through ICT	20	30	50
Seminars	7	14	21
Lecturing	25	50	75

Problem and/or exercise solving	1.5	0	1.5
Laboratory practice	2.5	0	2.5

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

Methodologies

	Description
Practices through ICT	The methodology is the directed study.
Seminars	Personalized attention and referring to the techniques and contents and its application in the works and practices
Lecturing	The lecture is the method mainly employed, using the dialogue as much as possible

Personalized assistance

Methodologies	Description
Lecturing	The assessment of the knowledge will be carried out continuously during the course period. This implies, the compulsory accomplishment of a series of exercises by the student, in order to observe his/her progress. The control of all the activities carried out during the teaching period, especially the practical classes, and the verification of the results of the compulsory exercises, will be used by the teacher as elements to judge if the student has achieved the initial objectives of training in the contents of a discipline. Tutorials by Professor Jesus Torres: from Monday to Wednesday from 16h to 17h. Tutorials by Professor Alejandra L. Cameselle: Wednesday and Thursday from 12h to 14h. Tutorials by Professor JoséBienvenido Diez Wednesday from 12 a.m. to 2 p.m. Students willing so could attend personal tutorials to solve doubts and/or uncertainties, which will mainly take place during the timetables indicated. To better optimise the procedure, the student is requested to previously contact his/her teacher with reasonable anticipation.
Practices through ICT	The assessment of the knowledge will be carried out continuously during the course period. This implies, the compulsory accomplishment of a series of exercises by the student, in order to observe his/her progress. The control of all the activities carried out during the teaching period, especially the practical classes, and the verification of the results of the compulsory exercises, will be used by the teacher as elements to judge if the student has achieved the initial objectives of training in the contents of a discipline. Tutorials by Professor Jesus Torres: from Monday to Wednesday from 16h to 17h. Tutorials by Professor Alejandra L. Cameselle: Wednesday and Thursday from 12h to 14h. Tutorials by Professor JoséBienvenido Diez Wednesday from 12 a.m. to 2 p.m. Students willing so could attend personal tutorials to solve doubts and/or uncertainties, which will mainly take place during the timetables indicated. To better optimise the procedure, the student is requested to previously contact his/her teacher with reasonable anticipation.
Tests	**Description**
Problem and/or exercise solving	The assessment of the knowledge will be carried out continuously during the course period. This implies, the compulsory accomplishment of a series of exercises by the student, in order to observe his/her progress. The control of all the activities carried out during the teaching period, especially the practical classes, and the verification of the results of the compulsory exercises, will be used by the teacher as elements to judge if the student has achieved the initial objectives of training in the contents of a discipline. Tutorials by Professor Jesus Torres: from Monday to Wednesday from 16h to 17h. Tutorials by Professor Alejandra L. Cameselle: Wednesday and Thursday from 12h to 14h. Tutorials by Professor JoséBienvenido Diez Wednesday from 12 a.m. to 2 p.m. Students willing so could attend personal tutorials to solve doubts and/or uncertainties, which will mainly take place during the timetables indicated. To better optimise the procedure, the student is requested to previously contact his/her teacher with reasonable anticipation.

Assessment

	Description	Qualification	Training and Learning Results		
Practices through ICT	The methodology is the directed study.	30	A2 A3	C1 C5 C9 C11 C12 C13 C18 C19	D5
Seminars	Personalized attention	10	A1	C3 C6 C15 C26 C37	D1

Problem and/or exercise solving	The exam should be part of a systematic evaluation, understood as the one that follows a previously established schedule and that is not done in an occasional or incidental way. The intention of the exam is to evaluate: * The knowledge that the student possesses about the subjet. * The ability to relate some knowledge to others. * The application of knowledge to solve specific problems.	30	A1 A2 A3	C1 C5 C6 C12 C15 C26	D1
Laboratory practice	Practical tests are particularly useful in assessing the application of the acquired knowledge, both theoretical and practical. They imply difficulties of implementation but they provide an excellent mean for the assessment of the application of the acquired knowledge.	30	A1 A2 A3	C5 C6 C9 C11 C12 C13 C18 C19 C26	D1 D5

Other comments on the Evaluation

Students are strongly requested to fulfil a honest and responsible behaviour. It is considered completely unacceptable any alteration or fraud (i.e., copy or plagiarism) contributing to modify the level of knowledge and abilities acquired in exams, evaluations, reports or any kind of teacher□s proposed work. Fraudulent behaviour may cause failing the course for a whole academic year. An internal dossier of these activities will be built and, when reoffending, the university rectorate will be asked to open a disciplinary record.

Date, time and place of exams will be published in the official web of Marine Sciences Faculty:

http://mar.uvigo.es/index.php/en/alumnado-actual-2/examenes-3

Sources of information

Basic Bibliography

Robinson, Arthur H., **Elementos de cartografía**, Omega, 1987

Joly, Fernand, **La Cartografía**, Oikos-Tau, 1988

Complementary Bibliography

BOSQUE SENDRA, J. et al, **Sistemas de Información Geográfica.**, Rama, 1994

LONGLEY, P., GOODCHILD M.F., MAGUIRRE, D.J., RHIND, D.W., **Geographic Information Systems and Science.**, John Wiley & Sons., 2011

Recommendations

Contingency plan

Description

=== EXCEPTIONAL PLANNING ===
Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===
* Teaching methodologies maintained: The lectures, seminars and laboratory practices will be in a virtual way through the remote campus. The professor will assist the students in downloading and installing on their personal computers the free software necessary for the practicals and seminars. Most of the data sets needed for the exercises are housed on open repositories with easy access for students.
In the case of semi-presenciality, the theoretical classes would be virtual and the practices classes would be adapted to the presenciality allowed by current regulations.

* Teaching methodologies modified: Not applicable

* Non-attendance mechanisms for student attention (tutoring): Student attention will be held in the virtual offices of the teachers, after making an appointment. For specific matters, institutional email may also be used.

* Modifications (if applicable) of the contents: Not applicable

* Additional bibliography to facilitate self-learning: Not applicable

* Other modifications

=== ADAPTATION OF THE TESTS ===
The same weight is maintained as for face-to-face teaching. The face-to-face tests will be conducted online, using Faitic and the virtual office.