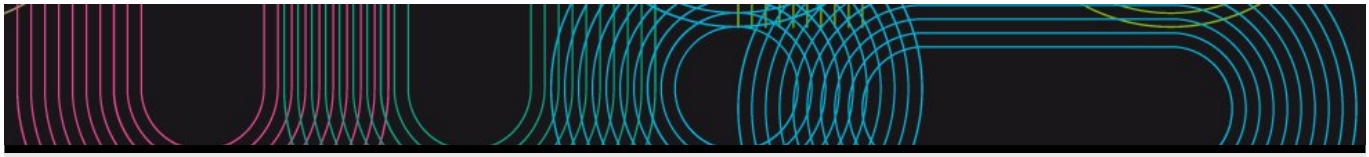

IDENTIFYING DATA				
Mathematics: Overview of mathematics				
Subject	Mathematics: Overview of mathematics			
Code	P03G370V01203			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	9	Basic education	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Botana Ferreiro, Francisco Ramón			
Lecturers	Botana Ferreiro, Francisco Ramón			
E-mail	fbotana@uvigo.es			
Web	http://webs.uvigo.es/fbotana/			
General description				

Competencies	
Code	
B1	Ability to understand the biological, chemical, physical, mathematical and representation systems necessary for the development of professional activity, as well as to identify the different biotic and physical elements of the forest environment and renewable natural resources susceptible to protection, conservation and exploitations in the forest area.
C3	Ability to solve mathematical problems that may arise in engineering. Ability to apply knowledge about: linear algebra; geometry; differential and integral calculation. Basic knowledge about computers, operating systems, databases, programming and calculation programs for use in engineering.
C5	Ability to solve mathematical problems that may arise in engineering. Ability to apply knowledge about: differential equations and partial derivatives; numerical methods, numerical algorithm, differential geometry; differential and integral calculation.
D1	Ability to understand the meaning and application of the gender perspective in the different fields of knowledge and in professional practice with the aim of achieving a more just and egalitarian society
D6	Organization and planning capacity
D7	Skill in the use of IT tools and ICTs.
D8	Ability to solve problems, critical reasoning and decision making

Learning outcomes	
Expected results from this subject	Training and Learning Results

1R. 2018 Knowledge and understanding of the mathematicians and other inherent basic sciences to the his speciality in engineering, it a level that allow them purchase the rest of the competitions of the qualifications.	B1	C3 C5	D1 D6 D7
3R. 2018 Be conscious of the multidisciplinary context of the engineering.			D8
4R. 2018 Capacity to #analyze products, processes and complex systems in the his field of study; choose and apply analytical methods, of calculation and experimental *relevantes of form *relevante and interpret correctly the results of these analyses.			
5R. 2018 Capacity to identify, formulate and resolve problems of engineering in the his speciality; choose and apply analytical methods, of calculation and experiments properly established; Recognize the importance of the social restrictions, of health and security, environmental, economic and industrial.			
6R. 2018 Capacity to project, design and develop complex products (pieces, component, products finished, etc.), processes and systems of the his speciality, that fulfil the requirements established, including the knowledge of the social aspects, of health and environmental security, economic and industrial; as well as select and apply methods of appropriate project.			
7R. 2018 Capacity of the project using any knowledges advanced of the his speciality in engineering.			
8R. 2018 Capacity to realize bibliographic researches, consult and use databases and other sources of information with discretion, to realize @simulación and analysis with the objective to realize investigations on technical subjects of the his speciality.			
11R. 2018 Understanding of the techniques and methods of analysis, project and applicable investigation and his limitations within the scope of the his speciality.			
12R. 2018 practical Competition to resolve complex problems, realize complex projects of engineering and realize specific investigations stop his speciality.			

Contents

Topic	
Differential geometry	Functions of several real variables Curves and surfaces
Infinitesimal calculation	Concept of limit in *R^*n Limit and continuity of vectorial functions of several real variables Jacobian Matrix multiple Integration Integrals of line
Differential equations	Resolution of ordinary differential equations Resolution of equations in partial derivatives
Numerical methods	Interpolation approximate Resolution of equations numerical Integration

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	30	48	78
Problem solving	10	16	26
Presentation	10	16	26
Laboratory practical	25	50	75
Problem and/or exercise solving	5	5	10
Essay questions exam	5	5	10

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

Methodologies

	Description
Lecturing	(*)Clase estándar usando pizarra e medios informáticos por tódolo/as participantes
Problem solving	(*)Problemas complementarios dos contidos puramente teóricos
Presentation	(*)Voluntarias, en función do nivel e disposición do alumnado
Laboratory practical	(*)Resolución de problemas mediante sistemas de cálculo matemático

Personalized assistance

Assessment

	Description	Qualification	Training and Learning Results	
Lecturing	(*)Comprensión específica e global dos contidos	20	C5	D1
Problem solving	(*)Uso de técnicas estándar, ideas orixinais	5	C5	D6

Presentation	(*)Claridade, verbalización, uso de recursos externos	15	C5	D1
Laboratory practical	(*)Destreza, capacidade atopar recursos,	40	C5	D6
Problem and/or exercise solving	(*) Uso de técnicas estándar, ideas orixinais	5	C5	D6
Essay questions exam	(*)Capacidades de expresión e comprensión	15	C5	D1

Other comments on the Evaluation

Exam Data

4 June 2020, 16:00 h.

3 July 2020 10:00 h.

http://forestales.uvigo.es/gl/

Sources of information

Basic Bibliography

Complementary Bibliography

Arthur Mattuck, **Differential Equations**, http://ocw.mit.edu/OcwWeb/Mathematics/18-03Spring-2006/VideoLectures/index.htm,

Paul Dawkins, **Differential Equations**, http://tutorial.math.lamar.edu/classes/de/de.aspx,

William Stein, **Sage**, http://sagemath.org,

Michael Corral, **Vector Calculus**, http://www.mecmath.net/calc3book.pdf,

Dale Hoffman, William Stein, David Joyner, **Integral Calculus and Sage**, http://sage.math.washington.edu/home/wdj/teaching/calc2-sage/calc2-sage.pdf,

Recommendations

Subjects that it is recommended to have taken before

Mathematics: Mathematics and IT/P03G370V01103