



## IDENTIFYING DATA

### Electrotechnology and rural electrification

Subject	Electrotechnology and rural electrification			
Code	P03G370V01304			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Moldes Eiroa, Ángel			
Lecturers	Moldes Eiroa, Ángel			
E-mail	angelmoldes@uvigo.es			
Web				
General description	They will study the principles of operation of the electricity and the electrical circuits, as well as the components, the design and the calculation of an electrical installation.			

## Competencies

Code	
B9	Knowledge of hydraulics, construction, electrification, forest roads, machinery and mechanization necessary both for the management of forest systems and for their conservation.
C14	Ability to know, understand and use the principles of: electrical engineering and forest electrification.
D8	Ability to solve problems, critical reasoning and decision making

## Learning outcomes

Expected results from this subject	Training and Learning Results
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- 2\*\*R. 2018 Knowledge and understanding of the disciplines of engineering of his speciality, to the necessary level to purchase the rest of the competitions of the degree, including notions of the last advances.
- 3\*\*R. 2018 Be conscious of the multidisciplinary context of the engineering.
- 4\*\*R. 2018 Capacity to analyse products, processes and complex systems in his field of study; choose and apply analytical methods, of calculation and experimental notable of notable form and interpret properly the results of these analyses.
- 5\*\*R. 2018 Capacity to identify, formulate and resolve problems of engineering in his speciality; choose and apply analytical methods, of calculation and experiments properly established; Recognise the importance of the social restrictions, of health and security, environmental, economic and industrial.
- 6\*\*R. 2018 Capacity to project, design and develop complex products (pieces, components, products #finish, etc.), processes and systems of his speciality, that fulfil the requirements established, including the knowledge of the social appearances, of health and environmental security, economic and industrial; as well as select and apply methods of appropriate project.
- 7\*\*R. 2018 Capacity of the project using some knowledges advanced of his speciality in engineering.
- 8\*\*R. 2018 Capacity to make bibliographic researches, consult and use databases and other sources of information with discretion, to make simulations and analysis with the aim to make investigations on technical subjects of his speciality.
- 9\*\*R. 2018 Capacity to consult and apply codes of best practices and security of his speciality.
- 10\*\*R. 2018 Capacity and capacity to project and make experimental investigations, interpret results and obtain conclusions in his field of study.
- 11\*\*R. 2018 Understanding of the technicians and methods of analysis, project and applicable investigation and his limitations in the field of his speciality.
- 12\*\*R. 2018 practical Competition to resolve complex problems, make complex projects of engineering and make specific investigations for his speciality.
- 13\*\*R. 2018 Knowledge of the application of materials, teams and tools, technological processes and of engineering and his limitations in the field of his speciality.
- 15\*\*R. 2018 Knowledge of the social implications, of health and security, environmental, economic and industrial of the practice in engineering.

## Contents

Topic

INTRODUCTION AND AXIOMS

CIRCUITS OF CONTINUOUS CURRENT

CIRCUITS OF ALTERNATES CURRENT

TRIFÁSIC SYSTEMS BALANCED

OPERATION OF THE NATIONAL ELECTRICAL SYSTEM

ELEMENTS OF AN ELECTRICAL SYSTEM

CALCULATION OF ELECTRICAL INSTALLATIONS

ELECTRONIC REGULATION FOR LOW TENSION

## Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	16	16	32
Problem solving	16	48	64
Laboratory practical	16	0	16
Practices through ICT	12	18	30
Problem and/or exercise solving	3	0	3
Problem and/or exercise solving	1	0	1
Essay	4	0	4

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

## Methodologies

	Description
Lecturing	EXHIBITION BY PART OF The PROFESSOR OF The THEORETICAL BASES OF The ASIGN#PUT
Problem solving	FORMULATION And RESOLUTION OF PROBLEMS RELACIONED WITH The ASIGN#PUT
Laboratory practical	ACTIVITIES OF APPLICATION OF KNOWLEDGES IN SPACES WITH SPECIALIZED EQUIPMENT
Practices through ICT	ACTIVITIES OF APPLICATION OF KNOWLEDGES IN CLASSROOM OF COMPUTING

## Personalized assistance

Methodologies	Description
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Lecturing
Problem solving
Practices through ICT
Laboratory practical

<b>Assessment</b>			
	Description	Qualification	Training and Learning Results
Laboratory practical	It EVALUATED BY MEANS OF The DELIVERY OF A MEMORY WITH The NUMERICAL RESULTS OBTAINED IN The PRACTICES	10	C14
Problem and/or exercise solving	It EVALUATED BY MEANS OF The APPROACH OF PROBLEMS THAT The STUDENT will HAVE TO ANSWER OF FORM WRITTEN	40	C14
Problem and/or exercise solving	It EVALUATED BY MEANS OF The APPROACH OF QUESTIONS THAT The STUDENT will HAVE TO ANSWER OF FORM WRITTEN	20	C14
Essay	It EVALUATED The QUALITY OF A PROJECT OF ELECTRICAL INSTALLATION CALCULATED BY The STUDENT	30	C14

### Other comments on the Evaluation

Will not conserve any note of previous announcements, except the note of the work and of the practices inside the same academic year. The note obtained in the work in the announcement of January will be valid for the announcement of Julio.

Calendar of examinations: First Announcement: 24 January 2020, 10:00 Hours Second Announcement: 22 June 2020, 12:00 Hours

### Sources of information

#### Basic Bibliography

#### Complementary Bibliography

PARRA, PEREZ, PASTOR, ORTEGA, **TEORÍA DE CIRCUITOS**, 2003,

GONZÁLEZ, GARRIDO, CIDRÁS, **EJERCICIOS RESUELTOS DE CIRCUITOS ELÉCTRICOS**, 1999,

SPITTA, **INSTALACIONES ELÉCTRICAS**, 1980,

MINISTERIO CIENCIA Y TECNOLOGÍA, **R.D. 842/2002 REGLAMENTO ELECTROTÉCNICO PARA BAJA TENSIÓN**, 2002,

MINISTERIO CIENCIA Y TECNOLOGÍA, **R.D.223/2008 REGLAMENTO DE LÍNEAS ELÉCTRICAS DE ALTA TENSIÓN**, 2008,

MINISTERIO CIENCIA Y TECNOLOGÍA, **R.D.337/2014 REGLAMENTO SOBRE CONDICIONES TÉCNICAS Y GARANTÍAS DE SEGURIDAD EN INSTALACIONES ELÉCTRICAS DE ALTA TENSIÓN**, 2014,

### Recommendations

#### Subjects that it is recommended to have taken before

Physics: Physics I/P03G370V01102

Physics: Physics II/P03G370V01202

Mathematics: Overview of mathematics/P03G370V01203

Mathematics: Mathematics and IT/P03G370V01103

### 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

\* Teaching methodologies modified

\* Non-attendance mechanisms for student attention (tutoring)

\* Modifications (if applicable) of the contents

\* Additional bibliography to facilitate self-learning

\* Other modifications

=== ADAPTATION OF THE TESTS ===

\* Tests already carried out

Test XX: [Previous Weight 00%] [Proposed Weight 00%]

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\* Pending tests that are maintained

Test XX: [Previous Weight 00%] [Proposed Weight 00%]

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\* Tests that are modified

[Previous test] => [New test]

\* New tests

\* Additional Information

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