



Universitat de Lleida

DEGREE CURRICULUM
**ELECTRICAL ENGINEERING
BASICS**

Coordination: PALACIN ROCA, JORGE

Academic year 2019-20

Subject's general information

Subject name	ELECTRICAL ENGINEERING BASICS			
Code	102116			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Energy and Sustainability Engineering	2	COMPULSORY	Attendance-based
	Bachelor's Degree in Automation and Industrial Electronic Engineering	2	COMPULSORY	Attendance-based
	Bachelor's Degree in Mechanical Engineering	2	COMPULSORY	Attendance-based
	Not informed	2	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRALAB	PRAULA	TEORIA
	Number of credits	0.4	2.6	3
	Number of groups	10	5	2
Coordination	PALACIN ROCA, JORGE			
Department	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING			
Teaching load distribution between lectures and independent student work	6 ECTS = 60h of lectures + 90h of autonomous work			
Important information on data processing	Consult this link for more information.			
Language	Catalan			
Distribution of credits	Lectures: 3 Credits Practical work: 3 Credits (laboratory -1.01, EPS)			
Office and hour of attention	Monday, from 11 to 12 and from 16 to 17. Please contact previously with the teacher.			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
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PALACIN ROCA, JORGE	jordi.palacin@udl.cat	19	Send email to arrange

Subject's extra information

The subject combines the learning of theoretical concepts and the experimental learning of practical concepts:

- The practical work will be done individually to develop skills and abilities.
- Lecture notes will be available.
- Practical lecture notes will be available.
- The notifications and notices of the subject will be sent by email from the virtual campus.

Learning objectives

Described at the competences section.

Competences

Degree-specific competences

- Knowledge and use of the basis of circuit theory and electric machines.

Learning Objectives

- Ability to apply the knowledge of electric technology.
- Ability to solve electrical problems in a practical context.

Degree-transversal competences

- Ability to work in situations where there is a lack of information.
- Ability to resolve problems and elaborate and defend arguments inside their field of study.

Subject contents

Without translate-

La numeración de los temas se corresponde con la numeración utilizada en los apuntes de la asignatura:

Tema 02. Conceptos eléctricos básicos

Tema 03. Sistemas de Corriente Continua

Tema 04. Sistemas de medida eléctricos

Tema 07. Métodos de resolución de circuitos

Tema 09. Introducción a la regulación de potencia en corriente continua

Tema 10. Sistemas de Corriente Alterna

Tema 11. Potencia en corriente alterna

Tema 12. Introducción a la regulación de potencia en alterna

Tema 13. Circuitos de trifásica

Tema 14. Energía eléctrica

Tema 16. Introducción a las instalaciones eléctricas

Tema 17. Introducción a los automatismos eléctricos

Tema 18. Introducción a las máquinas eléctricas estáticas

Tema 19. Introducción a las máquinas eléctricas dinámicas

Methodology

The activities are divided in two complementary parts: sessions of theoretical description of concepts and practical sessions.

As an autonomous work the student has to carry out the recommended problems.

Development plan

Weekly work organized in theory sessions of 2 hours combined with individual practical sessions of 2 hours.

Evaluation

The evaluation will have the following parts:

$$N = T1 + T2 + PRO + PRA$$

with:

T1: Partial evaluation 1 (**3 points**), 2 hours duration.

T2: Partial evaluation 2 (**5 points**), 2 hours duration.

PRO: Average evaluation of recommended numerical exercises during the semester (**0,25 points**).

PRA: Average evaluation of practical exercises during the semester (**1,75 points**). **Changing the scheduled practice group has a penalty of 0.2 points.**

If **N** is lower than 5.0 points the student can repeat the partial evaluations (**T1** and/or **T2**) in a final exam, 2 hours duration.

Bibliography

Basic Bibliography

- Lecture notes
- Practical lecture notes

Additional Bibliography

- Circuitos Eléctricos. James W. Nilsson, Susan A. Riedel. Pearson, Prentice Hall
- Máquinas Eléctricas. Stephen J. Chapman. Mc Graw Hill
- Circuitos Eléctricos. Problemas y ejercicios resueltos. Julio Usaola. Prentice Hall.
- Análisis de Circuitos en Ingeniería. William H.Hayt, Jack E. Kemmerly y Steven M.-Durbin. Prentice Hall
- Electrotecnia. Pablo Alcalde. Thomson Paraninfo.
- Máquinas Eléctricas- Jesús Fraile Mora. Mc Graw Hill.