Eunice EUROPEAN UNIVERSITY

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EUROPEAN UNIVERSITY FOR CUSTOMISED EDUCATION

STUDY GUIDE

SYSTEMS AND TRANSDUCERS FOR ENERGY HARVESTING FROM RENEWABLES

Organised by

University of Catania

b-tu Brandenburg University of Technology Cottbus - Senftenberg · UC Universidad de Cantabria · Università di Catania · Université Polytechnique HAUTS-DE-FRANCE · UMONS University of Mons · University of the Peloponnese · Vaasan yliopisto University of Vaasa · Politécnico de Viseu

1. IDENTIFYING DATA.	
· Course Name.	SYSTEMS AND TRANSDUCERS FOR ENERGY HARVESTING FROM RENEWABLES
· Coordinating University.	University of Catania
· Partner Universities Involved.	
· Course Field(s).	Electrical Engineering
· Related Study Programme.	Electrical and electronic disciplines
· ISCED Code.	0713
· SDG.	GOAL 7, GOAL 12, GOAL 13, GOAL 11
· Study Level.	The course is part of a Master (Electrical Engineering for Sustainable Green Energy Transition). It is open to Master's and Doctoral study programs.
· EUNICE Key Competencies	• Green – strongly • Orange- moderately • Red – partially • Blank cell - not at all

Problem solving	
Teamworking	
Communication	
Self-management	
Cognitive flexibility	
Digital competence	
Technical competence	

	Global intercultural competence	

· Number of ECTS credits allocated.	9
· Mode of Delivery.	Onsite and on Teams for EUNICE students
· Language of Instruction.	English
· Course Dates.	1 October – 16 January
· Precise Schedule of the Lectures.	Twice a week
· Key Words.	Sensors, transducers, energy harvesting, autonomous measurement systems
· Catchy Phrase.	Empowering a sustainable future through innovative electrical engineering and renewable energy solutions

· Prerequisites and co-requisites.	Prerequisites: Basic principles of sensors, transducers, and measurements English language proficiency Study Level: Master's and Doctoral
· Number of EUNICE students that can attend the Course.	10
· Course inscription procedure(s).	

2. CONTACT DETAILS.	
· Department.	Department of Electrical Electronic and Computer Engineering
· Name of Lecturer.	Prof. Carlo Trigona
· E-mail.	carlo.trigona@unict.it
· Other Lecturers.	

3. COURSE CONTENT.

https://www.dieei.unict.it/courses/lm-28/course-units/?seuid=18B0681D-7F96-4E1B-9105-7833A51D9FD4

same link for point 4,5,6

4. LEARNING OUTCOMES.

5. OBJECTIVES.

6. COURSE ORGANISATION.

UNITS

1.	

LEARNING RESOURCES AND TOOLS.

PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.

Laboratory activity and experimental study

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

A laboratory-based experimental activity will be assigned in accordance with the course requirements

OBSERVATIONS.

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

It is generally desirable for students to possess foundational knowledge of how sensors, transducers, and measurement systems operate. Although these topics will be revisited during the course to facilitate the development of advanced solutions, prior understanding can significantly support the comprehension and practical application of the concepts explored throughout the course. Students

are encouraged to conduct independent research online, and to assist in this endeavor, several open-access articles are provided below.

[1] Improved_Energy_Harvesting_from_Wideband20160810-759-zycn6j-libre.pdf
[2] 0960-1317_20_12_125020-libre.pdf
[3] Green Energy Harvester from Vibrations Based on Bacterial Cellulose
[4] Living Sensors: The Greenest Paradigm in Instrumentation and Measurements
[5] IEEE Xplore Full-Text PDF: