

ORGANIC ELECTRONICS DEVICES

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	8000.1.022.0	SEMESTER	255th
COURSE TITLE	Organic Electronics Devices		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	WEEKLY TEACHING HOURS	CREDITS
	2	4
Total	2	4

COURSE TYPE general background, special background, specialised general knowledge, skills development	Erasmus
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES
Learning outcomes
Upon completion of the subject, students will be able to: • Understand the physics behind organic semiconductors • Understand electronic transport mechanism in the organic semiconductors. • Identify the molecules that can be used for different functions in organic electronics • Chose a proper method (or different methods) for fabricating particular component • Understand the importance of interfaces and morphology for organic electronics • Gain an introductory knowledge on organic solar cells and organic LEDs
General Competences
Understanding Organic Semiconductor Physics, Operating Principles of Key Devices, Structure-Property Relationships, Fabrication & Processing Techniques, Device Characterization, Multidisciplinary Communication, Technical English Fluency.

3. SYLLABUS
• Introduction to Organic Electronic • Electronic transport in crystalline organic materials and conductive polymers • Conducting Polymers, small molecules organic semiconductors, • Polymer organic semiconductor, • Electrical and optical properties of organic semiconductors. • Basic Organic LED structure, thin film layers: Hole injection, hole transport, emissive, electron transport and electron injection layers used in organic LEDs. • Fabrication and characterization techniques. • Recent advances in organic solar cells and LEDs

4. TEACHING and LEARNING METHODS - EVALUATION					
DELIVERY Face-to-face, Distance learning, etc.	Project				
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students					
TEACHING METHODS The manner and methods of teaching are described in detail.	<table border="1"> <tr> <td>Activity</td> <td>Semester workload</td> </tr> <tr> <td>Course total</td> <td></td> </tr> </table>	Activity	Semester workload	Course total	
Activity	Semester workload				
Course total					
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	Oral Presentation (50%) Final Exam (50%)				
5. ATTACHED BIBLIOGRAPHY					
Lecture notes					

