Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	Introduction to printing technologies and flexible components
Course code	
Scientific sector	ING-INF01
Degree	PhD in Advanced Systems Engineering
Semester	2
Year	1
Academic year	2021/2022
Credits	3
Modular	No

Total lecturing hours	30
Attendance	Preferred
Prerequisites	None
Course page	None

Specific educational objectives	The course is a specialized course in the interdisciplinary area of physics, material science, chemistry, electronics, and biotechnology, addressing the implementation of flexible electronics technologies. It is designed to acquire knowledge in flexible electronics device technology, from materials, processes, devices to systems and applications: state of the art and current status on commercialization. The specific educational objectives are to: - Acquire basic understanding and knowledge of printing and microfabrication technologies. - Acquire basic understanding and knowledge of device characterization methods.

Lecturer	Martina Aurora Costa Angeli https://www.unibz.it/it/faculties/sciencetechnology/academic-staff/person/44155-martina-aurora-costa-angeli
Scientific sector of the lecturer	ING-INF01
Teaching language	English
Office hours	From Monday to Friday, on appointment
List of topics covered	The course will provide an overview on the advances in the emerging electronics (as flexible electronics) covering aspect related materials, fabrication techniques (lithography, printing, laser processing), characterization and application. During the course several examples and study case will be presented such as wearable sensors,

	energy harvesters, solar cell, communication system. Examples applications from academia and industry will be given by external experts.
Teaching format	Presentations and theoretical classroom lessons, individual literature review, presentation on a given topic. The material for lectures will be available on Teams.

Learning outcomes	Knowledge and understanding: theoretical know-how on printing, microfabrication, and characterization technologies for electronic components. Applying knowledge and understanding: practical know-how on printing, microfabrication, and characterization technologies for electronic components. Making judgments: Capability of identifying the most suitable fabrication and characterization methods to realize specific electronic devices for a given targeted application. Communication skills: ability to give a specialized technical presentation supported by power-point slides.

Assessment	A project work developed by the student will be assessed: presentation and discussion of a topic related to the contents of the course agreed between lecturer and students.
Assessment language	English
Evaluation criteria and criteria for awarding marks	Quality of the presentation and engagement in the practical project.

Required readings	Assigned in class
Supplementary readings	Materials provided by the lecturer