Syllabus

Course Description

Course Title	Sustainable engineering design: theory, application, evaluation
Course Code	47599
Course Title Additional	
Scientific-Disciplinary Sector	IIND-03/B
Language	English
Degree Course	Master in Industrial Mechanical Engineering
Other Degree Courses (Loaned)	
Lecturers	Prof. Yuri Borgianni, Yuri.Borgianni@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/35189 dr. Aurora Berni, Aurora.Berni@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/42284
Teaching Assistant	
Semester	Second semester
Course Year/s	all
CP	3
Teaching Hours	30
Lab Hours	0
Individual Study Hours	75
Planned Office Hours	9
Contents Summary	The course combines fundamentals of sustainable design and human-product interaction to enable the development of sustainable products featured by more probable consumer acceptability.
Course Topics	Sustainable engineering and product design, Circular design, Bio-materials,

	Human-Product Interaction, Attractiveness and marketing of sustainable products
Keywords	Sustainability; Eco-design; Circular Economy; User Experience; Life Cycle Assessment
Recommended Prerequisites	none
Propaedeutic Courses	
Teaching Format	Because of the blended format, multiple teaching and learning formats are foreseen: - online lectures disseminating the fundamentals of the discipline - in-presence seminars for deepening specific topics - teamwork - in-presence lectures to provide further instructions for the teamwork - workshops
Mandatory Attendance	The attendance of the "in-presence-week" is mandatory
Specific Educational Objectives and Learning Outcomes	Learning outcomes: Creating awareness of the opportunities to design more sustainable products and systems and get preliminary feedback on the acceptability of solutions.
Specific Educational Objectives and Learning Outcomes (additional info.)	- Different strategies for sustainable design - Circular design - Fundamentals of User Experience - Interplay of factors determining the goodness of sustainable design actions
Assessment	The assessment is based on the evaluation of the teamwork presentation (50%) and an individual test in the fashion of multiple-choice (50%)
Evaluation Criteria	For the teamwork: • reasonable application of selected sustainable design principles for a redesign case study. • motivated approach to illustrate the developed concepts to other groups for preliminary evaluation • clarity and completeness of the presentation For the individual test, the number of correct answers will be counted.

Required Readings	none; required materials for learning will be provided during the BIP/course
Supplementary Readings	
Further Information	
Sustainable Development Goals (SDGs)	Responsible consumption and production, Quality education