

Name of the module (English): Integrated Project 3					
Module code (UP): M35 (provisional)		Name of the module (Portuguese): Projeto Integrado 3			
Module code (THM): IMTM (provisional)		Name of the module (German): Integriertes Projekt 3			
Module code (UC): M35 (provisional)		Name of the module (Spanish): Proyecto Integrado 3			
Credits: 6 ECTS	Module status: Obligatory	Duration: 1 semester	Semester: 2	Year: 1	Frequency: Every year
Type of tuition: Classroom-based		Workload: 180 h	Attendance time: 60 h	Self-study time: 120 h	
Usability: Master (Degree in Sustainable Design, Construction and Management of the Built Environment)			Classification: Engineering / Architecture	Teaching language: English	
Module responsibility: Daniel Castro Fresno (UC)		Lecturers: Pablo Pascual Muñoz (UC)			
Description / Observations: Application-oriented, life-oriented and self-directed learning, whereby the integrated project implies the active participation as well as application of the knowledge provided in the other modules and seminars, in particular “Management of Construction Projects”, “Management of Construction Works” and “Sustainable Infrastructures and Circular Economy”. With the content learned in the different modules theoretical and practical knowledge is given. Students should now be able to define and understand the problems. In the continuously changing global market in which the students will compete, some of the more important skills of a master level professional are related to a proactive and adaptive profile. In this sense, entrepreneurship and leadership are the most important ones, especially in construction sector, where business creativity and innovation are extremely high valuable in order to open new markets and win tenders in an extreme competitive atmosphere. High team work ability, using emotional intelligence and empathy, together with negotiation skills are also highly demanded by multinational construction companies competing in the global market. Finally, to maintain the productivity along the time and be sustainable, it is fundamental to teach the students how to deal with the stress, giving their best under pressure and becoming as resilient as possible. For this, the use of creative techniques in project management as well as a proper training in the communication of results are crucial.					
Recommended Requirements: Basic knowledge about sustainable concepts in design, construction and managements of buildings and infrastructures.					
Basic competences: <ul style="list-style-type: none"> • Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context. • Students are able to apply their acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study. • Students are able to integrate knowledge and deal with the complexity of making judgments based on information that is incomplete or limited, including reflections on the social and ethical responsibilities associated with applying their knowledge and judgments. • Students are able to communicate their findings and the ultimate knowledge and reasons behind them to specialist and non-specialist audiences in a clear and unambiguous manner. • Students possess the learning skills to enable them to continue studying in a largely self-directed or autonomous manner. 					

Transverse competences:

To reach the proposed learning outcomes, the students will have to develop master level skills such as team working, time management, search for innovation, leadership, decision making, interdisciplinarity and communication skills.

The teaching methodologies proposed will enable this by including theoretical lectures with higher level of interaction with students and practical classes in which they will have to organise themselves to fulfil the objectives and deal with personal and professional relationships under pressure.

Specific competences:

Be able to propose a new business in the field of sustainable construction by preparing a market study and developing a business plan.

Learning outcomes:

- Develop the necessary skills to effectively communicate technical information.
- Communicate effectively under pressure, facing potential investors or clients' critic audits.
- Be acquainted with creativity techniques for project management.
- Embrace team working and exchange of ideas.
- Develop entrepreneurship and adaptive leadership skills.
- Plan and coordinate proposed operations in a project, working in formal and informal groups.
- Understand and accept cultural differences between members of a team with diverse backgrounds.
- Participate effectively in formal meetings, including chairing and secretarial work.
- Develop the necessary skills to meet the delivery deadlines under pressure.
- Understand and know how to cope with change, in particular deriving from the integration of new materials and technologies.

Know how to manage the processes of innovation and integration of sustainable approaches and their short- and long-term consequences, both in what concerns product performance and the implications of the work routines and financial income of performers.

Content:

1. Communication skills
 - Meeting communicative requirements for engineering communication
 - Professional presentation formats
 - Techniques for an effective oral presentation
2. Creative techniques in PM
 - Brainstorming
 - Nominal group technique
 - Affinity diagrams
 - Mind mapping
 - Multicriteria decision analysis
3. Organization at work
 - Benefits of collaboration
 - Team working vs. Collaborative working
 - Group dynamics
 - Networking
 - Partnering
4. Running a new business
 - Entrepreneurship
 - Leadership
 - Coaching
 - Negotiation
5. Application to the development of a Group Project
 - Project planning
 - Definition of structure, specific contents, format and style
 - Self-organization: definition of tasks, targets and deadlines
 - Arrangement of weekly formal meetings
 - Milestones, deliverables and audits
 - Written and oral presentation
 - Public and private self-assessment
6. Business plan

Teaching methodology:

Theoretical concepts will be presented to students through oral presentation and interactive methods and group dynamics such as video discussion or promotion of debates among students.

The practical part will require the development of an entrepreneurial project by the whole class, in groups, from the business proposal to the organization and planning for obtaining financing from investors.

The students will self-organize and define the structure of the project, define tasks, divide the work, pursue the goals and meet the deadlines. They will also propose and organize weekly meetings, which will be supervised by the teachers of the subject, who will act as observers. A panel specifically proposed for the subject of the project will finally evaluate the results obtained by the students.

Training activities:

	Number of hours	% Attendance
Theory	20	100
Classroom practice	40	100
Tutorials	5	100
Evaluation	5	100
Group work	60	0
Self-directed work	20	0

Assessment method:

	Minimum weighting	Maximum weight
Continuous classroom evaluation	10%	20%
Final written work	40%	60%
Oral presentation	10%	20%
Practical exercises	0%	30%

Grading system:

U.PORTO	20	19	18	17	16	15	14	13	12	11	10	9	...	0
Portugal	Very Good with distinction			Good with distinction		Good		Sufficient				Fail		
U.CANTABRIA	10.0	9.9	9.0	8.9	...	7.0	6.9	...	5.0	4.9	...	0.0		
Spain	Sobresaliente			Notable			Aprobado				Suspenso			
THM	100	...	88	87	73	72	58	57	...	50	49	...	0	
Germany	Excellent			Good with distinction		Satisfactory		Sufficient				Fail		

Bibliography:

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Ferriss, T. (2016) **Tools of Titans: The Tactics, Routines, and Habits of Billionaires, Icons, and World Class Performers.**

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Heifetz, R., Grashow, A., Linsky, M. (2009) **The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World.**

Kliem, R. (2013). **Creative, Efficient, and Effective Project Management.** New York: Auerbach Publications.

Burke, R., Barron, S. (2014) **Project Management Leadership: Building Creative Teams.** Wiley.