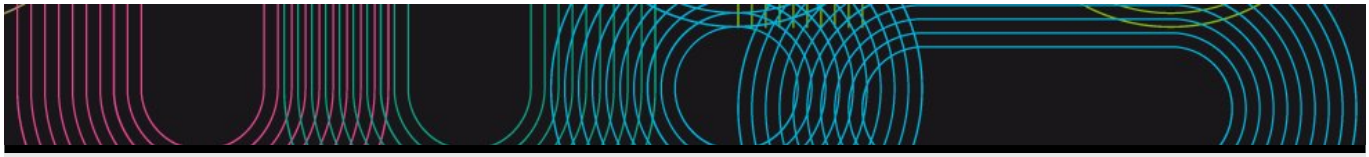

IDENTIFYING DATA				
Horizontal competencies and talent management				
Subject	Horizontal competencies and talent management			
Code	V04M183V01110			
Study programme	Máster Universitario en Industria 4.0			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish Galician English			
Department				
Coordinator	Peláez Lourido, Gustavo Carlos			
Lecturers	Formoso Vérez, Daniel González Cespón, José Luis Graña Escalante, Roberto Peláez Lourido, Gustavo Carlos Suárez Alonso, Ramón Carlos			
E-mail	gupelaez@uvigo.gal			
Web	http://masterindustria40.webs7.uvigo.es/wordpress/			
General description	It is essential for managers in the new 4.0 industry paradigms to acquire the professional skills necessary to lead change and direct the roadmap by understanding the horizontal competencies and managing the talent of their team members			

Training and Learning Results	
Code	
A1	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
A2	Students should be 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.
A3	Students are able to integrate knowledge and deal with the complexity of making judgements based on information which, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements.
A4	Students should be 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
B1	Organization and planning skills
B2	Problem solving.
B3	Descion making
B4	Information management capacity.
B5	Oral and written communication in your own language.
B7	Computer skills related to the field of study.
C33	Identify and develop key skills and abilities in multidisciplinary teams for the processes of implementation and evolution towards industry 4.0
C34	Develop skills for competency-based management of people in high-performance teams in the context of Design and Manufacturing
D1	Ability to understand the meaning and application of the gender perspective in different areas of knowledge and in professional practice with the aim of achieving a more just and equal society
D2	Incorporate criteria of sustainability and environmental commitment into professional practice. To acquire skills in the equitable, responsible and efficient use of resources
D3	Multidisciplinary teamwork
D4	Initiative and entrepreneurial aptitudes and actitudes.

Expected results from this subject	
Expected results from this subject	Training and Learning Results
Identify and develop key skills and abilities in multidisciplinary teams for the processes of implementation and evolution towards industry 4.0	A1 B1 B2 B4 B7 C33 D1 D2 D3 D4
Develop skills for competency management of people in high performance teams in the context of Design and Manufacturing industry 4.0	A2 A3 A4 B1 B2 B3 B4 B5 B7 C34 D1 D2 D3 D4

Contents	
Topic	
Evolution of the industry to the paradigms of the smart factories or 4.0: Roadmap of the digital transformation and how will affect to the human resources.	- Preliminary study of the Digital Transformation. Historical evolution. - Roadmap to the Factories of the Future: review of ideas, approaches and regulations.
Professional skills in the Connected Industry: current deficiencies, future perspectives.	- What will the work in the factories of the future be like? - New career perspectives: Skills most in demand during the digitalization process and after the transition. - Communication and Public Speaking - Leadership - Equipment management
How to drive the 4.0 paradigm implementation roadmap in the industry: opportunities, risks, preparation for change.	- Leadership skills and team management - Digital transition. Establishment, monitoring and control of the Roadmap. - Management of a Transition Project
Skills needed for change, techniques to support change: design & lean thinking, canvas and start-up models, disruptive thinking, NLP	- Entrepreneurship: capabilities for self-employment - Desgn & Lean Thinking - Startup Canvas - Disruptive Thinking - NLP
Talent management: What is talent and how can its evolution be interpreted? How is it activated, maintained and used in the industries of the future?	- What is talent and how is it interpreted in the digital transition? - How is talent activated, maintained and used in the Factories of the Future?
The values in the factory of the future: Social and human responsibility in the evolution towards industry 4.0.	- The Key Values in the Digital World - Corporate Social Responsibility - Transparency in Business - Sustainability: environmental and social aspects - Just Transition to the new industrial reality

Planning			
	Class hours	Hours outside the classroom	Total hours
Case studies	5	7	12
Debate	5	7	12
Seminars	5	5	10
Mentored work	5	19	24
Lecturing	2.5	7	9.5
Objective questions exam	0.5	2	2.5

Presentation	1	3	4
Systematic observation	1	0	1

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Case studies	Analysis of an event, issue or actual event in order to know, interpret, solve, generate hypotheses, comparing data, reflect, complete knowledge, diagnose and training in alternative dispute resolution procedures.
Debate	Open discussion between a group of students. You can focus on a topic of subject content, the analysis of a case, the outcome of a project, exercise or problem previously developed a keynote address ...
Seminars	Activity focused on the work on a specific topic, which allows to deepen or complement the contents of the subject. They can be used as a complement to the theoretical classes.
Mentored work	The student, individually or in groups, prepares a paper on the subject of matter or prepare seminars, research, memoirs, essays, summaries of readings, lectures, etc.. Generally it is an autonomous activity of the student that includes finding and collecting information, reading and literature management, writing ...
Lecturing	Presentation by the teacher of the contents on the subject under study, theoretical and / or guidelines for a job, exercise or project to be developed by the student.

Personalized assistance

Methodologies	Description
Case studies	To propose a series of cases and situations. - Develop and provide a script to guide the analysis and focus the points of interest for further discussion (background material) - Correct and provide feedback to students on the process and results of the proposed activities. Even if the activities are carried out autonomously, students will have access for tutoring sessions so that teachers can follow up on the activity.
Debate	Select topics, energize the debate and evaluate the students. Revise of tests and evaluation activities. Communication of the results (publication of notes and data and/or review procedure). Even if the activities are carried out autonomously, the students will have tutorial sessions at all times so that the teaching staff can monitor the activity.
Seminars	Preparation of documentation to guide the individual or group development of activities. Dynamization of the session. Even if the activities are carried out autonomously, the students will have tutorial sessions at all times so that the teachers can monitor the activity.
Mentored work	Determine or propose the topic of study. Monitoring and evaluating the work, both during the process and the final result. Even if the activities are carried out autonomously, the students will have tutorial sessions at all times so that the teachers can monitor the activity.
Tests	**Description**
Objective questions exam	Individualized attention to students during the tests. Review of the tests and evaluation activities.
Presentation	Preparation of evaluation activities and evaluation criteria/indicators Review of evidence and evaluation activities. Communication of results (publication of notes and data and/or review procedure). Even if the activities are carried out autonomously, the students will have tutorial sessions at all times so that the teaching staff can monitor the activity.
Systematic observation	Preparation of a list of aspects to be evaluated. Observation of the students.

Assessment

	Description	Qualification	Training and Learning Results			
Debate	Open talk among a group of students. Can be focused on a subject of the contents of the subject, on the analysis of a case, on the result of a project, exercise or problem previously developed in a master session... In the discussion, knowledge, skills and attitudes are evaluated. Objectives: To evaluate higher thinking (analysis and synthesis).	18	A3 A4	B1 B3 B4 B5	C33 C34	D1 D2 D3 D4

Mentored work	The students, individually or in groups, carry out activities, which can be - Monographic works, search for information in publications, databases, articles, books... on a specific topic. - Preparation of seminars, research, reports, essays, conferences, etc. - Reviews of current scientific articles. - Projects (design and development of projects). Objectives: - Acquire and consolidate knowledge - Evaluate knowledge. - Developing transversal skills and competences	15	A1 B1 C33 D1 A2 B4 C34 D2 A4 B5 D3 B7
Objective questions exam	Tests that evaluate knowledge that include closed questions with different answer alternatives (true/false, multiple choice, matching of elements...). Students select an answer from a limited number of possibilities (preferably four) with a reduction for failure of a value equal to the percentage of success (-0.25 pts. in the case of four possible answers, if the value of the question was 1 pt). The test of objective questions only evaluates knowledge. It does not evaluate skills or attitudes. It evaluates thinking skills inferior. It assesses knowledge, understanding and application.	20	A1 B2 C33 A2 B4 A3
Presentation	Exposure by the students to the teacher and/or a group of students of an aspect of the subject's contents or results of a work, exercise, project... You can carry out individually or in a group. In the presentation, knowledge, skills and attitudes are evaluated. The objectives are to evaluate higher thinking (analysis and synthesis).	17	
Systematic observation	Careful, rational, planned and systematic perception to describe and record the manifestations of student behaviour. It is possible to assess learning and actions and how they are carried out valuing order, precision, dexterity, efficiency... The aim is to evaluate higher thinking.	30	A1 B1 C33 D1 A2 B3 C34 D2 A3 B7 D3 A4 D4

Other comments on the Evaluation

Students who do not pass the subject in continuous training at the first opportunity of each academic year, in which the distribution of evaluation weights is as stablished above, will have the possibility of having an exam of objective questions, worth 100% of the final mark, in successive calls that are not the first opportunity of each academic year.

Ethical commitment: Students are expected to behave ethically. If unethical behaviour is detected (copying, plagiarism, use of unauthorised electronic devices,...), the student will be considered to be ineligible to pass the subject. Depending on the type of unethical behaviour detected, it could be concluded that the student has not reached the necessary skills to overcome the subject. Students are expected to behave in a respectful and dignified manner and to collaborate with the teaching system, teaching staff, coordination and administrative and services personnel of the Master's degree. Any question due to the lack of ethical and dignified behaviour of the student body may have repercussions on the evaluation of the subject.

Sources of information

Basic Bibliography

Gómez Mejía, Luis R, **Gestión de recursos humanos**, 8ª, Pearson, 2016

Goleman, Daniel, **Liderazgo : el poder de la inteligencia emocional**, Ediciones B, 2013

Arturo Merayo, **Curso práctico de técnicas de comunicación oral**, 3ª, Tecnos, 2012

Nayyar, Anand, Kumar, Akshi, **A Roadmap to Industry 4.0: Smart Production, Sharp Business and Sustainable Development**, 1st, Springer, 2020

Alp Ustundag, Emre Cevikcan, **Industry 4.0: Managing The Digital Transformation**, 1st, Springer, Cham, 2018

Ries, Eric, **El Método Lean Startup**, 11ª, Ediciones Deusto, 2017

Alexander Osterwalder, Yves Pygneur, **Generación de modelos de negocio : un manual para visionarios, revolucionarios y retadores**, 19ª, Ediciones Deusto, 2018

Juanma Romero, Luis Oliván, **Emprender en la era digital**, RTVE, 2017

Alex López, **Cliente Digital, Vendedor Digital**, 2ª, Códice, 2017

Complementary Bibliography

Ruiz Otero, Eugenio,, **Recursos humanos y responsabilidad social corporativa**, McGraw-Hill Educación, 2017

Beatriz Valderrama, **Gestión del Talento en la Era Digital**, 1ª, Eos, 2018

Recommendations