

General Information	
Academic subject	Production cycles and innovation
Degree course	Business Strategies and Management
Curriculum	
ECTS credits	6
Compulsory attendance	No
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Rosa Di Capua	rosa.dcapua@gmail.com	SECS-P/13

ECTS credits details	Disciplinary field	SSD	ECTS credits
Basic teaching activities	Commodity science	SECS-P/13	6

Class schedule	
Period	First semester
Year	2
Type of class	<ul style="list-style-type: none"> • Lectures • Exercises • Seminars • Project work

Time management	
Hours	48
In-class study hours	48
Out-of-class study hours	

Academic calendar	
Class begins	September 13, 2021
Class ends	December 23, 2021

Syllabus	
Prerequisites/requirements	Secs-P/13 Commodity Science
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<ul style="list-style-type: none"> • <i>The PRODUCTION CYCLES AND INNOVATION course aims to provide students with in-depth specialist knowledge about production processes, the use of raw materials in them and the new technologies that can be applied to improve production. The course also offers students a broad view of current entrepreneurial possibilities linked to technological trajectories (such as innovative start-ups and green technologies)</i> • <i>The student, having acquired the basic concepts and terminology, will be able to manage and evaluate a new present and potential technology and will have detailed knowledge of all the most current models of production process present on the market</i> • <i>The course aims at the student's understanding of the most current production decision-making dynamics, at the ability to evaluate production or production process implementation and with a problem-solving approach to manage any difficulty in real management situations</i> • <i>The student, at the end of the course, will have acquired the technical language useful for facing and covering</i>

	<p><i>managerial positions, as well as giving advice on concrete issues, through the analysis of technologies and productions.</i></p> <ul style="list-style-type: none"> • <i>The course offers specialized knowledge related to the management of technologies and productions.</i> • <i>The objective is to give the student an analytical technical-managerial capacity. Finally, through the study of innovative topics, it offers students the acquired knowledge that can be used on the territory both for public administrations and private companies.</i>
Contents	<ul style="list-style-type: none"> • Technology. Production functions. Paradigms and technological trajectories. Theories of technological change. Industrial revolutions. Technology strategy and value chain. • Invention and innovation. Types of innovation. Main dynamics of innovation and related models. Innovation as a process. The spread of innovation. Industry 4.0, Forms of technology transfer, Start-up, and Open Innovation. • Management and organization of industrial production. Production processes: continuous, line, batch, and job shop. Lean manufacturing. Operations Management and Supply Chain Management. Flexible production systems. Computer-aided product design (CAD/CAE/CAM), production process planning (CAPP) and superior integration (CIM). • Innovation and environmental regulation. Environmental authorization - IED directive. BREF/BAT (steel). AIA. The ILVA case: the current production cycle, the environmental problems of the current cycle and the possible innovations. • Kyoto Protocol: greenhouse effect phenomenon and climate change. Current emission levels of greenhouse gases in Italy and the EU. The main greenhouse gases and the sectors involved. The market for tradable emission permits. The principle of "cap and trade". Phase III of the ETS. • Environmental management tools of voluntary production site: ISO 14001, EMAS.
Course program	
Bibliography	<ul style="list-style-type: none"> • Tecnologia e Produzione – E.Chiaccherini. 2012 CEDAM • Tecnologia dei Cicli Produttivi – A. Morgante. 1992 Monduzzi Editore • ARCESE G., FLAMMINI S., MARTUCCI O., (2013): “Dall’Innovazione alla Startup – l’esperienza d’imprenditori italiani in Italia e in California”, McGraw-Hill, Milano. ISBN: 978-88-386-7407-5. (capitolo I) • Tecnologia Innovazione Operations – Grando, Verona, Vicari. 2010 EGEA • Slides and handouts by the teacher
Notes	
Teaching methods	<ul style="list-style-type: none"> • Lectures • Exercises

	<ul style="list-style-type: none"> • Seminars • Project work
Assessment methods (indicate at least the type written, oral, other)	Exemptions and Project Work Evaluation for Attending Students. Oral interview
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	<ul style="list-style-type: none"> • The student will have a broad vision of current entrepreneurial possibilities linked to technological trajectories • The student will be able to evaluate current production technologies and identify the best technologies available for each production process • The student will be able to solve the problems related to current production cycles and propose technological and innovative solutions from an environmental, economic and social point of view • The student will acquire adequate managerial skills with the aim of providing advice to companies on the issue of production technologies • The student will acquire specialized skills in the field of technology and production management
Further information	