



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali		
ACADEMIC YEAR	2024/2025		
BACHELOR'S DEGREE (BSC)	GASTRONOMIC SCIENCE		
SUBJECT	HERBACEOUS CROPS CULTIVATION METHODS AND QUALITY		
TYPE OF EDUCATIONAL ACTIVITY	B		
AMBIT	70195-Scienze delle produzioni e delle tecnologie alimentari		
CODE	22826		
SCIENTIFIC SECTOR(S)	AGR/02		
HEAD PROFESSOR(S)	IACUZZI NICOLÒ	Ricercatore a tempo determinato	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	6		
INDIVIDUAL STUDY (Hrs)	90		
COURSE ACTIVITY (Hrs)	60		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	2		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	IACUZZI NICOLÒ Monday 09:00 12:00 tutti i giorni previo appuntamento via mail: nicolo.iacuzzi@unipa.it Tuesday 09:00 13:00 Stanza docente, Edificio 4, ingresso L, secondo piano. Wednesday 09:00 12:00 Polo Universitario di Caltanissetta		

<p>PREREQUISITES</p>	<p>The attendance of the course "Methods of cultivation and production quality of herbaceous field crops" requires the knowledge of Biology and General Botany for the understanding of the main content and objectives of the course. The course provides no mandatory prerequisites.</p>
<p>LEARNING OUTCOMES</p>	<p>a) Knowledge and understanding At the end of the course the student will acquire the basic knowledge of the principles of the various agriculture models (conventional, low-input, organic, integrated, etc.) and any regulatory references that codify them, as well as the factors that influence quantity and quality production. The student will be able to understand the main aspects of the agronomic management of the main herbaceous field crops in a perspective of sustainable agriculture and will have theoretical and technical information to critically assess the relationships between the agronomic interventions, environment and quality of the products. The student will be able to use the specific language in the technical-agronomic field.</p> <p>b) Applying knowledge skill and understanding The knowledge of the productive and qualitative characteristics of the main grown herbaceous field crops obtained due to the influence of the main agronomic practices, will allow the student to be able to analyze and identify the cultivation systems of herbaceous field crops that are sustainable from an economic, environmental and health point of view.</p> <p>c) Making judgments The student will be able to evaluate and identify the productions of the main herbaceous field crops grown with the most suitable characteristics for direct human consumption or as a matrix for the food industry supply chains, as well as food quality and safety.</p> <p>d) Communications skills The student, on the basis of his work and his learning process, will be able to present orally and clearly and exhaustively transfer the information and technical solutions of the agronomic management and the quality requirements of the main open field herbaceous crops to professionals, entrepreneurs, administrators, representatives of public opinion and towards a non-specialist public.</p> <p>e) Learning skills The student will be able to update and deepen the topics of the course through the consultation of scientific texts, scientific publications and popular magazines, specialist seminars in the sector, etc. and will have the ability to transfer the knowledge acquired in the working and professional sector.</p>
<p>ASSESSMENT METHODS</p>	<p>The course includes a final exam which consists of an oral test. The oral test consists of an interview in order to check the skills and disciplinary knowledge provided by the course. Evaluation will be provided as a mark out of 30. The interview will include open and semi-structured questions in order to verify the gained knowledge, the computing and presentation skills of the student. The questions aim to verify the acquired knowledge, the elaborative skills, as well as the possession of an adequate expository capacity. With regard to the assessment of knowledge, students have to be able to make connections between the course contents. The evaluation of computing skills will be determined by the student's ability to provide independent judgments about the course contents, to understand the possible practical application of the course and to place the subject content within the target professional context. With regards to the evaluation of the computing capacities, a high quality of language will be required for the reference professional context. To this end, reports and scientific publications will be provided during the course to stimulate the language properties inherent in this teaching. The highest score (30/30 with honours) will be awarded to the student who will prove to have a high capacity for judgment, a strong ability to put into practice the knowledge of the course through examples and/or models, a strong ability to provide solutions to the main problematic and to have a high quality the technical language. The lowest score (18/30) will be awarded to the student who will prove to have a low capacity for judgment, a poor ability to put into practice the knowledge of the course through examples and/or models, a poor ability to provide solutions to the main problematic and to have a low quality the technical language. The assessment method will be deemed insufficient in the event that the student demonstrates that he / she possesses an extremely lacking knowledge of the teaching topics and a poor ownership of the sectoral language. The evaluation score will increase proportionally and will reach intermediate levels between 18 and 30 with honours as the degree of knowledge demonstrated by the student on general and specific topics increases.</p>
<p>EDUCATIONAL OBJECTIVES</p>	<p>The aim of the course "Methods of cultivation and production quality of herbaceous field crops" is to provide students with scientific knowledge and methods regarding the main aspects of the crop agricultural production. Particularly, the study of the ecology principles, agronomy and various cultivation methods of the main herbaceous field crops chain will allow the student to understand the main management aspects of the productive</p>

	processes and make more informed judgments regarding the concepts of quality, food safety and sustainability of primary productions. The acquisition of this knowledge will carefully permit to direct the choice of raw materials for fresh consumption, for transformation and/or for the various gastronomic preparations.
TEACHING METHODS	The course consists of frontal teaching (Microsoft Power Point), practices in the classroom and technical-educational events to visit experimental fields.
SUGGESTED BIBLIOGRAPHY	a) Paolo Ceccon, Massimo Fagnano, Carlo Grignani, Michele Monti, Simone Orlandini. Agronomia. Edises editore. I edizione. ISBN-10: 8879599658, ISBN-13: 978-8879599658. b) Guido Baldoni. Coltivazioni erbacee. Libreria universitaria editore. EAN: 9788833593456, ISBN: 8833593452. c) Materiale didattico fornito dal Docente Lecture di approfondimento: a) Pubblicazioni scientifiche inerenti gli argomenti trattati durante il corso

SYLLABUS

Hrs	Frontal teaching
2	Introduction and presentation of the course. Definitions and tasks of Agronomy. Current role of agriculture and future prospects for meeting food and environmental needs. Ecology and agriculture: notes on the history and evolution of ecological systems and agroecosystems.
2	The ecosystems: structure and functioning. Properties and characteristics of the ecosystems: biomass, productivity, stability and diversity.
2	The agroecosystems: characteristics and organization. The productivity. The levels of productivity: potential yield, forecast and average yield. Growth and limiting factors. Productivity and the physical environment.
3	Structure and composition of the atmosphere. Functions of the atmosphere and their effects on plants. Climate and agricultural plants. Climatic factors. Solar radiation. Temperature. Evapotranspiration. Rainfall. Wind. Classification of the main climatic areas. Phenology and growing regions.
3	Agricultural and natural soils. Functions of the soil and main effects on plants. Fertility and productivity of soil. Soil texture and structure. Thermal, biological and hydrological soil properties.
2	Soil tillage. Aims, functions, techniques, classification and new perspectives. Soil humidity and tillage. Minimum tillage and no tillage.
2	The management of the water in the soil: soil hydraulic arrangements, dry farming and irrigation. The main irrigation methods. The quality of the irrigation water.
2	Soil organic matter. Importance and main functions. Organic fertilization. Mineral fertilization. Fertilization techniques.
2	The cultivation systems. Intercropping and crops rotation.
3	Weed control. Preventive methods for weed management. Direct physical methods for weed control. Biological methods for weed control. Chemical weeding. Effect of the herbicides on successive crops. Herbicide, environment and public health.
5	The main agricultural production methods: conventional agriculture, organic agriculture, integrate agriculture and others. Techniques of management of various agricultural systems. Principles, aims and laws regarding the organic agriculture.
7	Herbaceous field crops: importance and diffusion of the main herbaceous field crops. Growing, productive and qualitative aspects. Cereals: durum wheat, common wheat, spelt, oats and barley, rice and corn. Grain legumes: pea, chickpea, lentil, broad bean and bean.
7	The industrial crops: soy, sunflower, sugar beet, potato and tomato. The aromatic and medicinal plants: oregano, rosemary, thyme and mint.
Hrs	Practice
8	Recognition and practical information on cereals and other herbaceous field crops.
Hrs	Others
10	Technical-educational events to visit experimental fields and/or farms.