

COURSE OF STUDY *Herbal and Nutraceutical Science*

ACADEMIC YEAR 2023-2024

ACADEMIC SUBJECT *Agrotechniques for Medicinal and Aromatic Plants – I.C. Principles of Agronomy and First Technologies for the Processing of Medicinal and Aromatic Plants and Agrotechniques for Medicinal and Aromatic Plants (10 ECTS)*

General information	
Year of the course	<i>First</i>
Academic calendar (starting and ending date)	<i>Second semester (February 9th 2024 – June 14th 2024)</i>
Credits (CFU/ETCS):	<i>5</i>
SSD	<i>Agronomy and Field Crops (AGR/02)</i>
Language	<i>Italian</i>
Mode of attendance	<i>Compulsory</i>

Professor/ Lecturer	
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Department and address	<i>Dip. DiSSPA – Università degli Studi di Bari</i>
Virtual room	<i>Microsoft Teams</i>
Office Hours (and modalities: e.g., by appointment, on line, etc.)	<i>Monday to Friday by appointment only.</i>

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<i>125</i>	<i>32</i>	<i>15</i>	<i>78</i>
CFU/ETCS			
<i>5</i>	<i>4</i>	<i>1</i>	

Learning Objectives	<i>To provide general and basic knowledge on the problems related to the cultivation of aromatic and medicinal plants, with particular reference to the local area. Furthermore, skills will be acquired to face problems related to the technical itineraries of plants of interest in the health, food and cosmetics sectors.</i>
Course prerequisites	<i>Basic knowledge of Biology, Botany and Chemistry</i>

Teaching strategie	<i>Course topics are addressed with the aid of Power Point presentations, and classroom, laboratory or field practice. Possible visits to agricultural companies.</i>
Expected learning outcomes in terms of	
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ <i>General and basic knowledge of the problems related to the cultivation of medicinal and aromatic plants.</i> ○ <i>Knowledge about on the tools to deal with them.</i>

Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Understanding and making operational choices relating to the cultivation of crops destined for different medicinal and aromatic sectors by the use of appropriate knowledge.
Soft skills	<ul style="list-style-type: none"> ● <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Ability to acquire adequate skills to carry out a critical analysis of the technical-cultural itineraries of medicinal and aromatic plants. ○ Ability to allow them to express autonomous judgments. ● <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to achieve adequate skills to express the acquired knowledge clearly and effectively ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Ability to acquire learning skills to deepen and update the studies and independently broaden their knowledge regarding the agrotechniques of medicinal and aromatic plants.
Syllabus	
Content knowledge	<p><i>General part:</i> <i>The cultivation of medicinal plants: agricultural farms producing medicinal and aromatic plants; cultivation techniques; analysis of the production process.</i> <i>The propagation of medicinal and aromatic plants: seeds and plant propagation.</i> <i>Biotechnologies for medicinal plants: in vitro production of active ingredients.</i> <i>Harvest techniques. Organization of the supply chain and relationship between adoptable production models and agricultural farm typology: choice of species, production objectives, investment, technical processes.</i></p> <p><i>Special part:</i> <i>Botanical framework, areas of cultivation and expansion, cultivation techniques and technologies of processing, uses of main species of interest.</i></p>
Texts and readings	<p>MARZI, V, DE MASTRO G (2008). <i>Piante officinali – Coltivazione, trattamenti di post raccolta, contenuti di principi attivi, impieghi in vari settori industriali ed erboristici. p. 1-472, BARI: Adda</i></p> <p>Lecture notes.</p>
Notes, additional materials	<i>Scientific papers</i>
Repository	<i>All teaching material will be available to students on web platforms.</i>
Assessment	
Assessment methods	<i>The exam consists of an oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in practical activities (laboratory and educational visits).</i>
Assessment criteria	<ul style="list-style-type: none"> ● <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Understanding and highlighting the general and basic knowledge of the problem related to the cultivation of medicinal and aromatic plants. ● <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ Applying the knowledge of the general and basic problems related to the cultivation of medicinal and aromatic plants acquired during the course in different contexts. ● <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Managing the critical analysis of the technical-cultural itineraries and independently explaining the knowledge relating to the general and basic aspects of the problems of the cultivation of medicinal and aromatic plants. ● <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Acquiring communication skills and tools to analyse and discuss the knowledge of the relationships between agronomic and cultural problems and the quality of processed plant product with interlocutors

	<p>with similar and different backgrounds.</p> <p><i>Communication skills</i></p> <ul style="list-style-type: none"> ○ Communicating the theoretical acquired concepts of the various topics of study clearly and comprehensively, demonstrating the ability to connect them with each other and with current problems. ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Demonstrating the full maturity in achievement of learning and broadening their knowledge related to the general and basic problems of cultivation of medicinal and aromatic plants.
Final exam and grading criteria	<p><i>The total final mark 30. The exam pass mark is equal to or greater than 18/30. Higher marks are awarded where an adequate level for all the evaluation criteria is achieved.</i></p>
Further information	
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