

Course name:
Basics Of Bio-Cosmetics Production

ECTS	4
Course status	facultative
Course final assessment / evaluation of outcomes	Exam
Prerequisite	knowledge of plant biology and the basics of biochemistry at the level of undergraduate or engineering agricultural / natural studies

Main field of study:

Agriculture and Horticulture, Biology and Biotechnology (Erasmus+)

Educational profile	General academic
Code of studies and education level	Bachelor/engineer (SI) or master of science (SM)
Semester of studies	Winter or summer
Language of instruction	English

Course offered by:

Name of faculty offering the course	Faculty of Biotechnology and Horticulture
Name of department offering the course	Department of Horticulture
Course coordinator	dr inż. Barbara Domagała

Learning outcomes:

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*
KNOWLEDGE – student knows and understands			
GEN_W1	Student describes the composition of cosmetics, with particular emphasis on plant raw materials used in their production.	EPB2_W01 EPB2_W04	R, P

GEN_W2	Student describes the effect of cosmetics on the skin and the mechanisms of their action.	EPB2_W01 EPB2_W04	R, P
GEN_W3	Student describes the lists the species of horticultural plants used in cosmetology and the active substances obtained from them.	EPB2_W01 EPB2_W04	R, P
GEN_W4	Student knows the history of cosmetology	EPB2_W01 EPB2_W04	R, P
GEN_W5	The student determines the effects of cosmetics on the human body	EPB2_W01 EPB2_W04	R, P
GEN_W6	The student knows the basics of the law relating to the cosmetics market in the European Union.	EPB2_W01 EPB2_W04	R, P
SKILLS – student is able to			
GEN_U1	Modifies the methods of preparing plant materials for cosmetic use.	EPB2_U01 EPB2_U05	R, P
GEN_U2	Student develops agrotechnics for the cultivation of more important species with the aim of using the product in cosmetics	EPB2_U01 EPB2_U05	R, P
GEN_U3	Student is able to prepare selected cosmetics of plant origin.	EPB2_U01 EPB2_U05	R, P
GEN_U4	The student determines the suitability of a given active plant	EPB2_U01 EPB2_U05	R, P

	ingredient for cosmetic purposes.		
SOCIAL COMPETENCIES – student is ready to:			
GEN_K1	Is able to define priorities for the proper selection and preparation of plant materials for use in cosmetics.	EPB2_K02	R, P
GEN_K2		EPB2_K04 EPB2_K05	R, P
GEN_K3		EPB2_K03	R, P

Teaching contents

Lectures:	30 hours
Topics	<p>History of cosmetology - the use of cosmetic products from antiquity to the present day.</p> <p>The mechanisms of action of cosmetics and other body care products. Differences between cosmetics, cosmeceuticals and drugs and dietary supplements.</p> <p>Anatomical and physiological structure as well as functions of skin, hair and nails.</p> <p>Classification of cosmetics according to their operation and the specificity of their intended use.</p> <p>Products of natural origin used in the cosmetics industry, in particular products of plant origin and their effects on the human body.</p> <p>Cosmetics of natural origin. Active substances contained in individual plant species used in cosmetics - their action and use.</p> <p>Fundamentals of the law relating to the production, marketing and sale of cosmetic products in the European Union.</p> <p>Development of instructions on the choice of species, preparation methods and application of the preparation.</p>
Accomplished learning outcomes	GEN_W1, GEN_W2, GEN_W3 GEN_W4, GEN_W5, GEN_W6
Means of verification, rules and criteria of assessment	Evaluation is based on test questions, in order to earn a positive mark at least 51% of answers must be correct.

	Contribution to the final grade from the course – 65%.
Classes:	30 hours
Topics	<p>Obtaining plant material for the production of cosmetics (oils, decoctions, extracts, infusions, dry matter, ground product, etc.)</p> <p>Principles of proper cultivation of plants with an emphasis on obtaining the highest possible efficiency when using plant material for the production of cosmetics.</p> <p>Establishing in-vitro cultivation of plants with cosmetic and healing properties.</p> <p>Production of cosmetics with washing, caring, fragrance, moisturizing properties, etc.</p> <p>Presentation of the production method, application and effectiveness of the plant-based cosmetic product produced by them.</p>
Accomplished learning outcomes	GEN_U1, GEN_U2, GEN_U3, GEN_U4, GEN_K1, GEN_K2, GEN_K3
Means of verification, rules and criteria of assessment	<p>Evaluation is based on: - individual reports from laboratory activities, contribution to the final grade from the course – 15%; - two tests from the laboratory topics (at least 51% of correct answers to earn a positive mark), contribution to the final grade from the course – 20%.</p>

References:

Basic	<p>Dweck, A. C. (2011). <i>Formulating natural cosmetics</i>. Allured Business Media.</p> <p>Dayan, N. (2008). <i>Skin aging handbook: an integrated approach to biochemistry and product development</i>. William Andrew.</p>
Supplementary	<p>Iwata, H., & Shimada, K. (2012). <i>Formulas, ingredients and production of cosmetics: technology of skin-and hair-care products in Japan</i>. Springer Science & Business Media.</p> <p>Verrill, A. H. (2013). <i>Perfumes and Spices: Including an Account of Soaps and Cosmetics-The Story of the History, Source, Preparation, And Use of the</i></p>

	<i>Spices, Perfumes, Soaps, And Cosmetics Which Are in Everyday Use. Read Books Ltd.</i>
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Structure of learning outcomes

Area of academic study: R – agricultural, forestry and veterinary sciences	2 ECTS**
Area of academic study: P – biological sciences	2 ECTS**

Structure of student activity

Contact hours		68 hrs	2.7 ECTS **
Including	lectures	30 hrs	
	classes and seminars	30 hrs	
	consultations	4 hrs	
	participation in research	0 hrs	
	obligatory traineeships	0 hrs	
	Participation in examination	4 hrs	
e-learning		0 hrs	0 ECTS **
Student own work		32 hours	1.3 ECTS **

*Areas of academic study in the fields of:

H- humanities; S - social studies; P – biological sciences; T – technological sciences; M- medical, sport and health sciences; R – Agricultural, forestry and veterinary sciences; A – the arts

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes