

## Chemistry and Technology of Cosmetics - theoretical part (2017-07-10)

Lp.	Modul	Kod		Method	Conversion time (hrs)	ECTS	Price (Euro)
						<b>32</b>	
1.	<b>Structure and physiology of the skin</b>	<b>A1</b>	Module discusses the latest state of knowledge about the functioning of the human skin. It discusses in detail the physiology of the epidermis, the formation and functioning of the epidermal barrier, physiology and anatomy of the dermis and subcutaneous tissue. For anyone interested in reliable, scientific basis of the functioning of our skin and of cosmetics.	EL	15	3	145
2.	<b>Structure and physiology of the hair</b>	<b>A2</b>	Module discusses the latest state of knowledge about the functioning of the scalp and hair. It discusses in detail the structure of hair and chemistry of hair, explains the possibilities of affecting of cosmetic ingredients on the structures of the hair. Presents the latest state of knowledge on the process of hair growth and the possibility of hair growth regulation (stimulation of hair growth, hair loss treatment, etc.). Trichology scientific base.	EL	15	3	145
3.	<b>Basic knowledge of cosmetics</b>	<b>A3</b>	Knowledge of cosmetics "in a nutshell". What really works in cosmetics? Are cosmetics can harm? We recommend this module especially for those starting their adventure with modern cosmetology and cosmetic chemistry.	EL	15	3	145
4.	<b>Surfactants</b>	<b>A4</b>	Systematized, the latest knowledge of all groups of surfactants used in cosmetic formulations. Practical applications, properties, influence on the skin.	EL	10	2	100
5.	<b>Emollients</b>	<b>A5</b>	Systematized latest knowledge of all groups of the emollients used in cosmetic formulations. Influence on the skin, advantages and disadvantages, sensory parameters and many other information useful in the industrial, medical and cosmetological	EL	10	2	100
6.	<b>Thickeners and rheology modifiers</b>	<b>A6</b>	How to thicken hydrogel? What are the mechanisms and possibilities of thickening solutions of detergents? How to change the consistency of the emulsion?	EL	10	2	100
7.	<b>Introduction to cosmetic microbiology</b>	<b>A7</b>	Basics of microbiology. Preservatives and rules for the selection of preservatives. Microbial low risk systems: "self preserving" and "preservative booster ". Preservation challenge tests for cosmetics: Pharmacopoeia method, ISO, Koko test.	EL	10	2	100
8.	<b>Emulsions and other heterogenous systems</b>	<b>A12</b>	Physicochemistry of emulsions and other heterogeneous systems used in the production of cosmetics. Classic emulsions, multiple emulsions, microemulsions, liquid crystal and other systems. Stability, raw materials, the directions of applications. Indicated prior knowledge of theoretical issues, eg. On the basis of the module A4.	EL	10	2	100
9.	<b>Natural cosmetics</b>	<b>A20</b>	What is "natural cosmetic"? Are the products of chemical synthesis in "eco cosmetics"? What are the options for action of natural cosmetics? What can be read between the lines on the label of the cosmetic? The module for anyone interested in natural cosmetics. Persons outside the beauty industry can come in handy earlier completion of the module A3.	EL	10	2	100
10.	<b>"Hypoallergenic" cosmetics and products for sensitive skin</b>	<b>B2</b>	What is "sensitive skin"? The problem of so called "atopic skin". Cosmetics as therapeutic aids. Anti-irritants. Formulation strategies. Regeneration of the skin barrier and reduction of risk of allergy. Analysis of the contents of the labels of market cosmetics.	EL	10	2	100
11.	<b>Modeling and anticellulite cosmetics</b>	<b>B3</b>	Cellulite - cosmetic and esthetic problem. Scope of cosmetic-related effects, efficacy of short- and lohg-term treatments. Formulation strategies. Marketing promises and actual effects.	EL	10	2	100
12.	<b>Sun protection</b>	<b>B4</b>	UV protection. Old and new generation of filters. Stability of organic filters. Safety of use. Strategies for the formulation of "everyday" cosmetics and beach products. Analysis of the contents of the labels of cosmetics. Evaluation of sunscreen and methods of determination of SPF and other protection factors.	EL	10	2	100
13.	<b>Anti-age cosmetics</b>	<b>B5</b>	Biologically active substances of the old and new generation (including biomimetic peptides). Antiradical substances. Mechanisms of anti-age cosmetics activity. The protective effect on fibroblasts and ECM components. Analysis of contents of labels of market cosmetics. Strategies of formulation. Marketing promises and actual effects.	EL	10	2	100
14.	<b>Skin-cleansing cosmetics</b>	<b>B6</b>	How washing influence the skin? How to recognize a skin-cleansing cosmetic? What is meant by common catchword? Is the "shower oil" an oil? Body wash and facial cleansing. Cleansing without water. Various bath cosmetics. Strategies of formulation. Analysis of contents of labels of market cosmetics.	EL	10	3	125
15.	<b>Diploma</b>	<b>D</b>	Final paper - literature based monography	EL	-	10	450

EL- e-learning

BL - blended learning