



UNIVERSITY OF
PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

DEPARTMENT OF PHARMACY

SCHOOL OF HEALTH SCIENCES

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POSTGRADUATE PROGRAM: **COSMETOLOGY - PREPARATION AND EVALUATION
OF COSMETIC PRODUCTS**

COURSE TITLE: EFFICACY TESTING AND CLAIM SUPPORT TECHNIQUES
CODE: PHA-COS-22

**EFFICACY TESTING AND CLAIM SUPPORT TECHNIQUES
COURSE OUTLINE**

1. GENERAL

SCHOOL	HEALTH SCIENCES		
ACADEMIC UNIT	DEPARTMENT OF PHARMACY		
PARTICIPATING INSTITUTIONS	-		
TITLE of POSTGRADUATE PROGRAM	COSMETOLOGY - PREPARATION AND EVALUATION OF COSMETIC PRODUCTS		
LEVEL	POSTGRADUATE		
COURSE CODE	PHA-COS-22	SEMESTER	B'
COURSE TITLE	EFFICACY TESTING AND CLAIM SUPPORT TECHNIQUES		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	CREDITS	
Courses	3	6	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES	None		
LANGUAGE of INSTRUCTION and EXAMINATIONS	Greek		
COURSE OFFERED to ERASMUS STUDENTS	No		
COURSE (URL)	http://www.pharmacy.upatras.gr/images/DS/PHA-COS-22_EN.pdf		

2. LEARNING OUTCOMES

Learning Outcomes
<p>By the end of this course the student will know the methods of supporting cosmetic product claims and will be able to develop corresponding test protocols and interpret their results. Specifically, students will be able to know</p> <ul style="list-style-type: none"> • The bio-engineering methods of studying various Skin Parameters (Measurement of Hydration, Transepidermal Water Loss, Color, Morphology of the Skin Surface, skin renewal time and the principles of their operation. • Study methods of various parameters of the hair. • The method of measuring the UV Protection Index of Sunscreen Products. • The methods of assessing the provided sun protection against UVA and UVB radiation in vitro • The methods of determining the percentage of water resistance of sunscreen products • How to develop testing protocols in volunteers with non-invasive (bio-engineering) methods. • The statistical processing and presentation of results.

General Competences

By the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

Search, analysis and synthesis of data and information, using the necessary technologies

Decision making

Autonomous (Independent) work

Group work

3. SYLLABUS

LECTURES

- Bio-engineering methods for the study of various skin parameters (Measurement of Hydration, Transepidermal Water Loss, Color, Skin Surface Morphology, Epidermal Renewal Time.
- Study methods of various parameters of hair.
- Measurement of the UV Protection Index of Sunscreen Products.
- Review and evaluation of methods for evaluating the photoprotection of sunscreen products - Sun protection index test methods
- Test method for protection against UVB radiation (SPF) in vivo
- Determination of sun protection against UVB radiation in vitro
- UVA sunscreen detection method in vivo
- Determination of sun protection against UVA radiation in vitro

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	In the classroom	
USE of INFORMATION and COMMUNICATIONS TECHNOLOGY	Learning process support through the e-class electronic platform to exchange files and lectures and to communicate with students. Lectures and presentations are all done using Information and Communication Technologies (ICTs) and information is searched through relevant databases.	
TEACHING METHODS	Activity	Semester Workload
	Lectures	60
	Literature study	50
	Assignment – Presentation of a relevant topic from the international literature	40
	Course Total (25 hours of work-load per ECTS credit)	150
STUDENT PERFORMANCE EVALUATION	Language of Evaluation: Greek	
	1. Written final exam (80%) which includes	
	<ul style="list-style-type: none"> • Short development questions • Critical thinking Questions 	
	2. Assignment – Development and execution of protocols for non-invasive (bio-engineering) methods and Protocols for Self-Assessment of Product claim support in Volunteers (20%)	

5. RECOMMENDED BIBLIOGRAPHY

1. Handbook of Cosmetic Science and Technology, André O. Barel, Marc Paye, Howard I. Maibach, eds, Marcel Dekker, Inc. New York • Basel, 2001, ISBN: 0-8247-0292-1
2. Formulas, Ingredients and Production of Cosmetics Technology of Skin- and Hair-Care Products in Japan Hiroshi Iwata, Kunio Shimada eds, Springer Tokyo Heidelberg New York Dordrecht London 2013, ISBN 978-4-431-54060-1
3. New Cosmetic Science T. Mitsui ed, Elsevier the Netherlands 1998, ISBN 0 444 82654 8
4. Chemistry and Technology of the Cosmetics and Toiletries Industry, Williams, D.F., Schmitt W.H eds, Springer Science+ Business Media New York 1992. ISBN 978-94-010-5007-4
5. THE SCCS NOTES OF GUIDANCE FOR THE TESTING OF COSMETIC INGREDIENTS AND THEIR SAFETY EVALUATION