Course Title	Industrial Production of Cosmetics / Supplements				
Course Code	PHA 708				
Course Category	Postgraduate/Master				
Level	Compulsory				
Year / Semester	2nd semester				
Teacher's Name	P. Dallas, K Gardikis, A. Varvaresou, M. Gourni				
ECTS	8	Lectures / Week	2 + intersnship	Laboratory / week	-
Course Purpose	The course seeks to educate students in the Principles of Pharmaceutical Technology regarding the production line of cosmetics / supplements, on an industrial scale. The Principles of Good Production Practice (GMPs) and the quality control of the final products are analyzed. In addition, the study and applications of monoclonal antibodies as well as nanotechnology formulations in cosmetics / dietary supplements are studied. Finally, students learn to critically assess research findings from scientific literature.				
Learning outcomes	Upon completion of the course students will be able to: (a) Analyze the principles of Pharmaceutical Technology (b) Describe the production line of cosmetics / supplements on an industrial scale (c) Explain the Principles of Good Productive Practice (GMPs) (d) Understand the quality control of the final products (e) Describe the applications of monoclonal antibodies, as well as nanotechnology products, in cosmetics / nutritional supplements. (f) Critically assess research findings from scientific literature				
Pro-required	-	Co-required	-		
Course content	• Principles of Pharmaceutical Technology • Elements of Biophysical Pharmacy • Production process of main formulations • Production line of cosmetics / supplements on an industrial scale • Principles of Good Production Practice (GMPs)				

	• Quality control of the final product • Monoclonal antibodies and applications • Nanotechnology products, in cosmetics / nutritional supplements An internship period (practical training) in cosmetics and nutrition products industry is also completed.
Teaching Methodology	The theoretical part of the course is offered through lectures and discussions. Methods such as discussion, questions/answers, pros/cons, brainstorming, debates, and cooperative learning are used to enhance the student's participation. A debate-focused flipped classroom will be used to enhance student engagement, while also improving learning outcomes. Online discussion forums and the peer-feedback are also applied. In addition, recent research findings and literature reviews are included and students practice on critical assessment of scientific findings. An internship period (practical training) in cosmetics and nutrition products industry is also completed. Mobility will be encouraged.
Bibliography	**Bibliography in Greek:** • Pharmaceutical Analysis, D. Watson, Parisianou, 2015 • Physical Pharmacy, 2nd Edition, D Attwood, A Florence, Parisianos, 2014 **Bibliography in English:** • Lachman/Lieberman's The Theory And Practice Of Industrial Pharmacy, 4th Edition, 2015
Evaluation	1. Final examination (60%) The final exam is a written exam and is scheduled during the exam period at the end of the semester. The subject matter is determined by the teacher and communicated in a timely manner to the students. 2. Mid-term examination (25%) The midterm exam is a written exam and is scheduled within the semester (6th - 8th week of courses). The subject matter is determined by the teacher and communicated in a timely manner to the students. 3. Submission - Presentation of projects (15%) This work is individual or group and concerns the elaboration of a small-scale research project. Students are expected to design and implement small-scale research, (including literature review, methodology, presentation of results and discussion) and present their research to their classmates as part of the course and assessment.
Language	Greek / English