SYLLABUS

1. Course title:

Toxicology of Cosmetic Products

2. Code:

3. Cycle of study:

1

4. ECTS credits:

7

5. Type of course:

Mandatory

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester(s):

1 | 5

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)	
	x				
9.1. Lectures	4			Classes:	78.75
9.2. Seminars	0			Individual work:	118.2
9.3. Laboratory / Practice classes	3			In total:	197

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Cosmetology

12. Lecturer:

Dr sci. Maida Šljivić Husejnović°°°°°

13. Course aims:

To achieve student understanding of fundamental knowledge related to the behavior and effects of poisons on the body, including toxicokinetic and toxicodynamic aspects, classification of poisons, poison analysis, first aid measures, and poisoning therapy, with special emphasis on the most significant toxins found in cosmetic formulations and their impact

on health.

14. Learning outcomes:

By the end of the course, successful students who have consistently fulfilled their obligations throughout the semester will be able to:
• analyze and interpret the results of quality control of cosmetic products,
• apply methods for the identification and quantification of raw materials and active substances,
• understand the stability, biopharmaceutical effectiveness, and health safety of formulations,
• recognize health risks and professional responsibility in cosmetic product analysis,
• work in accordance with legal regulations and the principles of Good Laboratory Practice (GLP) and Good Manufacturing Practice (GMP).

15. Course content:

- **Introduction to cosmetic product toxicology**
- **Definition and classification of poisons**
- **Toxicity factors**
- **Target organs of toxicity**
- **Dose-effect relationship**
- **Analytical approach to poison investigation**
- **Toxicity tests**
- **Principles of working with experimental animals in testing cosmetic formulations**
- **General principles of poisoning therapy; antidotes**
- **Mechanisms of toxicity**
- **Toxicokinetics and toxicodynamics**
- **Teratogenesis, mutagenesis, and carcinogenesis of cosmetic products**
- **Poisoning by gaseous and volatile toxins in the production and use of cosmetic preparations**
- **Poisoning by mineral and plant toxins in the production and use of cosmetic preparations**
- **Food and drug poisoning**
- **Toxic effects of cosmetic product ingredients**

16. Learning methods:

Teaching methods: Lectures, consultations, laboratory exercises, independent seminar work.

- **Lectures – Students are required to attend lectures regularly and actively participate in discussions.**
- **Consultations – Through individual or group consultations, students can clarify uncertainties and deepen their acquired knowledge.**
- **Laboratory exercises – Students are required to complete the prescribed number of experimental exercises and pass the midterm test.**
- **Seminar work – Students prepare a seminar paper based on literature research on a given topic and present it orally.**

17. Assessment methods:

Pre-examination activities (minimum 54, maximum 100 points):
- **Class participation – 0–5 points**
- **Seminar paper – 5.5–10 points**
- **Midterm test (colloquium) – 8–15 points**
- **First partial exam – 16–30 points**
- **Second partial/final exam – up to 40 points**

Class participation:
Active student involvement during lectures and/or practical sessions is evaluated with 0–5 points, based on engagement and motivation demonstrated in class.

Seminar paper:
Students are required to write an independent seminar paper based on relevant literature on a given topic and defend it orally. This activity is graded with 5.5–10 points.

Midterm test (Colloquium):
Students take a written test based on the content covered during laboratory exercises. A maximum of 15 points is awarded, with 8 points being the threshold for satisfactory performance.

Examination:
Students may take the final examination in two parts, written and/or oral.
- **The first partial exam covers approximately 40% of the course content and is taken during the semester after the relevant units have been completed. A passing grade requires 16–30 points.**

- **The second partial/final exam covers the remaining 60% of the course content and is taken at the end of the semester after all lectures are completed. Students accumulate points toward their final grade in this phase.**

To receive a passing grade, students must earn a sufficient total number of points through all pre-examination activities and knowledge assessments.

If the required number of points is not achieved during the semester, the final exam and any failed components may be retaken during the regular or remedial examination periods.

18. Assessment components:

Student performance is continuously monitored throughout the course and expressed in points.

The final student success, based on all forms of knowledge assessment, is evaluated and graded as follows:

- **10 (A) – 95-100 points: Excellent performance without errors or with negligible errors.**
- **9 (B) – 85-94 points: Above average performance with occasional errors.**
- **8 (C) – 75-84 points: Performance with noticeable errors.**
- **7 (D) – 65-74 points: Generally good performance with significant deficiencies.**
- **6 (E) – 54-64 points: Meets the minimum criteria.**
- **5 (F, FX) – less than 54 points: Does not meet the minimum criteria.**

19. Mandatory reading list:

Lectures Authorized by the Course Lecturer/Course Professor

20. Additional reading list:

Jokanović M.Toksikologija. Elit Medica, Beograd, 2001.
Begić A. i sar. Eksperimentalna toksikologija sa teoretskim osnovama, InScan, Tuzla, 2019.
Mokranjac M. Toksikološka hemija, Grafopan, Beograd, 2001

21. Web sources:

22. Applicable from the academic year:

2025/2026

23. Adopted in the Faculty/Academy session: