SYLLABUS

1. Course title:

NANOTECHNOLOGY IN COSMETOLOGY

2. Code:

3. Cycle of study:

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4. ECTS credits:

3

5. Type of course:

Elective

6. Prerequisites:

-

7. Class restrictions:

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8. Duration / semester(s):

1 | V

9. Weekly contact hours and student workload:

Semester (1)	V	Semester (2)		(for two-semester courses)	Workload: (hours)
9.1. Lectures	2			Classes:	22.50
9.2. Seminars	0			Individual work:	65.67
9.3. Laboratory / Practice classes	0			In total:	88.17

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Cosmetology

12. Lecturer:

PhD. Merima Ibišević, assistant professor

13. Course aims:

- Acquiring knowledge of modern technological methods used in the production of cosmetic formulations.
- Gaining familiarity with cosmetic products developed using nanotechnology.

14. Learning outcomes:

Students will become familiar with modern technological methods used in the production of cosmetic products.

15. Course content:

Historical development, interdisciplinarity and ethical aspects of nanoscience and nanotechnology
Technological approaches to the design of nanosystems: nanoparticles, liposomes, microemulsions, multifunctional emulsions. Nanoencapsulation of aromas, fragrances and vitamins. Nanocoating.
New ingredients: biolipids, nanoorganic gels and biopolymers. Preparation of antibacterial and self-cleaning surfaces.
Integration of proteins and peptides into cosmetic products to stimulate their own production of collagen and extracellular matrix proteins.
Nanoparticles in cosmetic skin products.

16. Learning methods:

Lectures, seminar papers, interactive learning.
Students are required to attend lectures and actively participate in them, through discussion on the lecture topic. On a special form, the teacher will record the attendance and activity of students during the semester.

17. Assessment methods:

Activity - max. 10 points
Seminar paper - max. 40 points
Final exam - max. 50 points
Seminar paper: during the semester, students present their seminar papers at agreed times. The final exam will be held after the completed semester. The exam is in the form of a written test.

18. Assessment components:

The student's final success after all the foreseen forms of knowledge testing is evaluated and graded as follows: 10 (A)-95-100 - exceptional success without mistakes or with minor mistakes,
9 (B)-85-94 -above average, with some errors, 8 (C)-75-84 -with noticeable errors,
7 (D)-65-74 - generally good, with significant defects, 6 (E)-54-64 - meets the minimum criteria,
5 (F,FX)<54 - does not meet minimum criteria.

19. Mandatory reading list:

Đekić Liljana. Nanoinkapsulacija- primena i značaj u isporuci aktivnih supstanci, Beograd, 2014.

20. Additional reading list:

21. Web sources:

22. Applicable from the academic year:

2025./26.

23. Adopted in the Faculty/Academy session: