

UNIVERSITY OF LJUBLJANA  
FACULTY OF NATURAL SCIENCES AND ENGINEERING  
DEPARTMENT OF TEXTILES, GRAPHIC ARTS AND DESIGN

FIRST-LEVEL HIGHER EDUCATION STUDY PROGRAMME

**TEXTILE AND CLOTHING  
ENGINEERING**

ACADEMIC YEAR 2025/26

# INFORMATION ON TEXTILE AND CLOTHING ENGINEERING STUDY PROGRAMME

## Basic information

|                                       |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| Name of the programme                 | <b>Textile and Clothing Engineering</b>                                                   |
| Programme properties                  |                                                                                           |
| Programme type                        | Higher education professional study programme                                             |
| Degree                                | First level                                                                               |
| KLASIUS-SRV                           | Higher professional education (first Bologna cycle) (16203)                               |
| ISCED                                 | Production technologies (54)                                                              |
| KLASIUS-P                             | Textile, clothing, footwear and leather technology (broad programmes) (5420)              |
| KLASIUS-P-16                          | Textile, clothing, footwear and leather technology (unspecified) (5420)                   |
| Frascati                              | Technical sciences (2)                                                                    |
| Level SOK                             | Level SOK 7                                                                               |
| Level EOK                             | Level EOK 6                                                                               |
| Level EOVK                            | First level                                                                               |
| Fields/modules/courses                | No subdivision (study programme)                                                          |
| Member of the University of Ljubljana | Faculty of Natural Sciences and Engineering, Aškerčeva cesta 12, 1000 Ljubljana, Slovenia |
| Duration (years)                      | 3                                                                                         |
| Number of KT per year                 | 60                                                                                        |
| Ways of conducting studies            | Full-time                                                                                 |

## Basic goals of the programme

The European and, with it, the Slovenian textile and clothing industry is facing significant development challenges at the time of complete liberalisation of trade in textile products. Its future position will depend on the measures that will increase its competitive advantage. It will have to invest more in research and development, encourage innovation and lead an appropriate HR policy. In the Slovenian textile and clothing industry, the situation is particularly pressing due to the complete collapse of secondary education in the profession, first in the primary textile industry and now also in the clothing industry.

Analyses conducted within the EU show that the textile industry has a future even in developed economies, of course under certain conditions. The future can only be built by abandoning mass products, replacing them with textile and clothing products with high added value, high quality, superior design, creative products of the future, technical products, medical textiles, intelligent textiles etc.

In addition to other measures, the goals are closely related to the relevant knowledge and superior training of professional staff who have the skills and abilities to design, engineer and manufacture innovative products that will satisfy the demands and needs of the most demanding customers. The ultimate goal of such orientation is to produce products that will exceed customer requirements in every way and predict their future needs and requirements.

The main goal of the higher education professional programme Textile and Clothing Engineering is to train an expert who will be able to manage the technologically demanding processes of making yarn, fabrics, knits and knitwear, fibres, clothes and other ready-made products, as well as the processes of bleaching, dyeing, textile printing and a wide range of other finishing processes.

In accordance with the principles of the Bologna process, the programme represents a departure from the philosophy of teaching with an otherwise correct arrangement of various technologies applied to selected natural sciences contents. The default learning philosophy is such that in addition to the acquired knowledge, other competences of graduates, their skills and abilities are important as well, in this case with a focus on practical orientation. Due to the rapid development of technological processes in the field of textile and clothing technology, graduates acquire broad basic theoretical and professional knowledge and understanding associated with the awareness and ability of continuous additional education.

### **General competences (learning outcomes)**

- broad professional knowledge in the field of study, complemented by selected knowledge in the fields of natural sciences, management, information and communication technology, aesthetics and textile design;
- ability to understand and theoretically substantiate professional topics;
- developed practical skills and ability to immediately accept practical tasks;
- ability to identify concrete and abstract practical problems, their theoretical analysis, find solutions and take appropriate action;
- developed ability to learn independently in the professional field;
- ability to participate in development and research work and transfer development and research achievements into practice;
- ability to understand the interdependence between technology and design, ability to understand artistic writing and its technological translation into textiles and clothing;
- ability to communicate with colleagues and experts of related disciplines, which enables active participation in group work, also in the field of projects based on the integration of professional legalities with design practice;
- developed professional ethical and environmental responsibility;
- ability to use modern tools, skills and abilities, especially in the field of ICT in everyday professional work.

### **Subject-specific competences (learning outcomes)**

- ability to combine skills from the field of textile raw materials, mechanical and chemical textile technology into a designed product;
- ability to understand the interdependence between technology and design;
- readiness and competence for creative cooperation with designers in technologically innovative projects;
- knowledge of basic forms of clothing from prehistoric times to the present day, understanding of the connection between clothing and cultural development and the design styles of painting, sculpture, architecture, design; ability to recognise the harmony between function and form, construction and proportions of the human body and clothing; ability to read sketches and draw basic clothing, details and fashion accessories;
- knowledge and understanding of the basics of the scientific theory of fibres, knowledge of the properties of fibres and the ability to explain them with the general laws of physics and chemistry of materials;
- understanding of the influence of different technological phases on the properties of spun yarns, fabrics, knits, knitwear and fibres;

- ability to connect knowledge from different fields (construction, modelling, aesthetics, materials) and applications based on the definition of the purpose of the garment;
- ability to optimise the technological processes of clothing production and achieve a higher quality of finished products;
- knowledge of the theoretical basics of finishing, which are the basis for professional work in the fields of dyeing, printing, finishing and care of textiles;
- ability to use equations to determine the parameters of coloured surfaces and colour differences between the reference and investigated coloured surface;
- knowledge of the technological procedures of preparatory work, dyeing, finishing, textile printing and textile care;
- ecological awareness in the implementation of textile care processes in terms of minimising the pollution of wastewater from laundries and drycleaners;
- knowledge of computer programs for computer-aided sampling of fabrics, knits and knitwear;
- mastering of the process of developing clothing pattern cuts (construction of clothing patterns);
- ability to monitor, analyse and manage work processes in a textile and clothing company;
- ability to plan work processes in a textile and clothing company using network planning methods;
- ability to perceive and evaluate costs incurred in the work process;
- ability to understand the role of marketing in the process of creating high added value textile and clothing collections;
- understanding of the necessity of transformation of companies in accordance with the developing information culture, thus gaining a competitive advantage of the company;
- ability to understand modern concepts of quality management systems and the concept of quality;
- ability to functionally use the techniques of interpersonal communication, negotiation, teamwork, leadership and creative thinking;
- mastering of the methodology of preparing a business plan;
- knowledge of the structure, content and possibilities of using bibliographic and factual databases for the contents of the study field.

## **Enrolment conditions**

Enrolment in the programme shall be possible for any person who has successfully passed the final examination in any four-year secondary school programme, vocational matura or general matura exam.

## **Criteria for selection in case of limited enrolment**

If the number of candidates applying for the programme exceeds the number of available enrolment places, candidates shall be selected according to the following criteria:

- overall performance at the final examination, vocational matura or general matura exam (60%);
- overall performance in the 3rd and 4th years of secondary school (40%).

## **Criteria for recognition of knowledge and skills acquired before enrolment in the programme**

A student can be credited for knowledge that corresponds in contents to the learning contents of the courses in the Textile and Clothing Engineering study programme acquired in various forms of education. The department Study Committee decides on the recognition of knowledge and skills acquired before the

enrolment, based on the student's written application, attached certificates and other documents proving the successfully acquired knowledge and the contents of these skills.

When crediting knowledge acquired before the enrolment, the department Study Committee will take into account the following criteria:

- whether conditions for enrolling into a specific educational programme are adequate (required prior education for starting the study programme);
- whether the scope of the completed educational programme (the number of hours of prior education as compared to the scope of the course in question) adequately compares with the credited requirements;
- whether the areas covered by the prior education programme, which the applicant would like to have credited, are comparable to the courses dealt with in the faculty study programme.

The acquired knowledge and skills may be credited as a completed study activity if the conditions for taking part in the educational programme were at least finished secondary school education, if the prior educational programme encompassed at least 75% of the scope of the course and if at least 75% of its contents cover the same areas as the course the applicant would like to have credited. If the Committee finds that the acquired knowledge can be credited, it is granted the same number of ECTS points as awarded at the faculty for the course in question.

A specific case of crediting skills and knowledge obtained prior to the enrolment is the crediting of Practical training if the student was full-time employed for at least one year at a company in graphic arts activities or similar. In this case, the employment must be proved with an appropriate document demonstrating the duration of the employment and the company's activities.

## Assessment methods

Assessment methods are in accordance with the Statute of the University of Ljubljana and are specified in the curricula.

## Student obligations

To enrol in the higher year, a student must have confirmed attendance in all courses, complete all practical classes and obtain the following number of ECTS credit points for enrolment in each individual year:

- minimum of 54 ECTS credit points for enrolment in the 2nd year;
- 60 ECTS credit points from the 1st year and minimum of 54 ECTS credit points from the 2nd year for enrolment in the 3rd year.

The department Study Committee may exceptionally grant progression to a higher year for a student who has achieved at least 42 ECTS credit points in the previous year if there are justified reasons for exception. Justified reasons are listed in the Statute of the University of Ljubljana.

To re-enrol in the same year of the study (repetition of the same year), students must have:

- all practical classes completed and minimum of 28 ECTS credit points for the 1st year;
- all practical classes completed and minimum of 28 ECTS credit points for the 2nd year.

During the course of studies, a student can repeat a class once or change the study programme once for having failed to meet their obligations in the former study programme.

## Transfer between programmes

Transfer is possible between two study programmes:

- which ensure the acquisition of comparable competences or learning outcomes at the end of the studies;
- among which, according to the criteria for the recognition of knowledge and skills acquired before the enrolment in the first-level higher education professional study programme Textile and Clothing Engineering, at least half of the obligations under the European Transferable Credit System (ECTS) can be recognised from the first study programme, referring to compulsory courses from the higher education professional study programme Textile and Clothing Engineering.

An individual exam passed in the original study programme is recognised as passed in the first-level higher education study programme Textile and Clothing Engineering if the contents of the two courses are at least 75% compatible. The recognised exam is evaluated with credit points in the original study programme, not exceeding the earmarked credit points in the first-level higher education professional study programme Textile and Clothing Engineering.

A candidate can enrol into the 2nd or 3rd year of the first-level higher education study programme Graphic and Media Technology through transfer if:

- they meet the conditions for enrolment in the study programme,
- vacant places are available.

The department Study Committee determines for each candidate separately the extent to which it recognises the already completed study obligations, determines other obligations and decides which year the candidate can transfer to.

## Requirements for completing studies

In order to complete the studies, students must meet all requirements in all courses they have enrolled in and prepare and defend their thesis.

## Requirements for completing individual parts of the programme, if contained in the programme

The programme does not contain individual parts of the programme.

## Professional or scientific or artistic title (and abbreviation)

Bachelor of Applied Science (B.A.Sc.)

# STUDY PROGRAMME CURRICULUM

## TEKSTILNO IN OBLAČILNO INŽENIRSTVO

2025/2026

|                                 |                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Name of study programme         | <b>Tekstilno in oblačilno inženirstvo</b>                                                                                                    |
| Programme characteristics       |                                                                                                                                              |
| Type                            | higher professional                                                                                                                          |
| Cycle                           | bachelor                                                                                                                                     |
| University of Ljubljana members | <ul style="list-style-type: none"> <li>Faculty of Natural Sciences and Engineering, Aškerčeva cesta 12, 1000 Ljubljana, Slovenija</li> </ul> |

### Year 1, obvezni

#### 1st semester

|       |                        |                                                         |                            | Contact hours |         |           |                    |                      |                         |             |      |          |
|-------|------------------------|---------------------------------------------------------|----------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|       | University Course Code | Course title                                            | Lecturers                  | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1.    | 0068390                | Information technologies                                | Stanislav Praček           | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 2.    | 0068408                | Introduction to Textile and Fashion design              | Almira Sadar, Marija Jenko | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 3.    | 0068396                | Development of clothing patterns                        | Živa Zupin                 | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 4.    | 0068398                | Textile raw materials                                   | Marija Gorjanc             | 30            | 30      | 15        | 0                  | 15                   | 90                      | 180         | 6    | no       |
| 5.    | 0089530                | Yarns                                                   | Dunja Šajn Gorjanc         | 30            | 30      | 30        | 0                  | 0                    | 90                      | 180         | 6    | no       |
| 6.    | 0068389                | Physical-mechanical properties of textiles and clothing | Matejka Bizjak             | 30            | 30      | 30        | 0                  | 0                    | 90                      | 180         | 6    | no       |
| Total |                        |                                                         |                            | 180           | 90      | 165       | 0                  | 15                   | 450                     | 900         | 30   |          |

#### 2nd semester

|    |                        |                     |                  | Contact hours |         |           |                    |                      |                         |             |      |          |
|----|------------------------|---------------------|------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|    | University Course Code | Course title        | Lecturers        | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1. | 0068393                | Basics of finishing | Barbara Simončič | 45            | 45      | 0         | 0                  | 0                    | 90                      | 180         | 6    | no       |

|       |         |                                               |                                               |     |     |     |   |   |     |     |    |    |
|-------|---------|-----------------------------------------------|-----------------------------------------------|-----|-----|-----|---|---|-----|-----|----|----|
| 2.    | 0068397 | English for Specific Purposes                 | Barbara Luštek Preskar, prof. angl. in nem.   | 0   | 60  | 0   | 0 | 0 | 60  | 120 | 4  | no |
| 3.    | 0068399 | Woven fabrics                                 | Matejka Bizjak                                | 30  | 15  | 45  | 0 | 0 | 90  | 180 | 6  | no |
| 4.    | 0068394 | Knitted fabrics and knitwear                  | Živa Zupin                                    | 30  | 30  | 30  | 0 | 0 | 90  | 180 | 6  | no |
| 5.    | 0068391 | Nonwovens                                     | Dunja Šajn Gorjanc                            | 30  | 0   | 30  | 0 | 0 | 60  | 120 | 4  | no |
| 6.    | 0643010 | Technological design of textiles and clothing | Klara Kostajnshek, Matejka Bizjak, Živa Zupin | 30  | 30  |     |   |   | 60  | 120 | 4  | no |
| Total |         |                                               |                                               | 165 | 180 | 105 | 0 | 0 | 450 | 900 | 30 |    |

## Year 2, obvezni

### 1st semester

|       |                        |                                     |                                      | Contact hours |         |           |                    |                      |                         |             |      |          |
|-------|------------------------|-------------------------------------|--------------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|       | University Course Code | Course title                        | Lecturers                            | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1.    | 0068405                | Statistical Methods in Textile      | Stanislav Praček                     | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 2.    | 0068388                | Aesthetics of Textiles and Clothing | Karin Košak                          | 30            | 30      | 0         | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 3.    | 0068404                | Production planning and management  | Andrej Demšar                        | 30            | 30      | 0         | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 4.    | 0068401                | Bleaching and finishing             | Barbara Simončič, Petra Forte Tavčar | 60            | 15      | 15        | 0                  | 0                    | 90                      | 180         | 6    | no       |
| 5.    | 0068400                | Dyeing                              | Marija Gorjanc                       | 30            | 15      | 45        | 0                  | 0                    | 90                      | 180         | 6    | no       |
| 6.    | 0068407                | Basic methods in textile testing    | Andrej Demšar                        | 30            | 30      | 30        | 0                  | 0                    | 90                      | 180         | 6    | no       |
| Total |                        |                                     |                                      | 210           | 120     | 120       | 0                  | 0                    | 450                     | 900         | 30   |          |

### 2nd semester

|  |                        |              |           | Contact hours |         |           |                    |                      |                         |             |      |          |
|--|------------------------|--------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|  | University Course Code | Course title | Lecturers | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |

|       |         |                                                   |                                     |     |     |     |   |   |     |     |    |    |
|-------|---------|---------------------------------------------------|-------------------------------------|-----|-----|-----|---|---|-----|-----|----|----|
| 1.    | 0565012 | Technical textiles and composites                 | Dunja Šajn Gorjanc, Tatjana Rijavec | 45  | 30  | 15  | 0 | 0 | 90  | 180 | 6  | no |
| 2.    | 0068402 | Apparel manufacturing                             | Matejka Bizjak                      | 30  | 15  | 45  | 0 | 0 | 90  | 180 | 6  | no |
| 3.    | 0068406 | Textile printing                                  | Petra Forte Tavčar                  | 30  | 15  | 45  | 0 | 0 | 90  | 180 | 6  | no |
| 4.    | 0099737 | Textile care 1                                    | Barbara Simončič, Brigita Tomšič    | 30  | 15  | 15  |   |   | 60  | 120 | 4  | no |
| 5.    | 0565032 | Planning textiles and comfortableness of clothing | Tatjana Rijavec                     | 15  | 15  | 30  |   |   | 60  | 120 | 4  | no |
| 6.    | 0099739 | Ecology in textile                                | Petra Eva Forte Tavčer              | 30  | 15  | 15  |   |   | 60  | 120 | 4  | no |
| Total |         |                                                   |                                     | 180 | 105 | 165 | 0 | 0 | 450 | 900 | 30 |    |

### Year 3, obvezni

#### 1st semester

|       |                        |                    |                  | Contact hours |         |           |                    |                      |                         |             |      |          |
|-------|------------------------|--------------------|------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|       | University Course Code | Course title       | Lecturers        | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1.    | 0099786                | Practical training | Mirjam Leskovšek |               |         |           |                    |                      | 600                     | 600         | 20   | no       |
| 2.    | 0111844                | Diploma work       |                  | 0             | 0       | 0         |                    | 150                  | 150                     | 300         | 10   | no       |
| Total |                        |                    |                  | 0             | 0       | 0         | 0                  | 150                  | 750                     | 900         | 30   |          |

#### 2nd semester

|    |                        |                    |           | Contact hours |         |           |                    |                      |                         |             |      |          |
|----|------------------------|--------------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|    | University Course Code | Course title       | Lecturers | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1. | 0111837                | Optional subject 1 |           | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 2. | 0111839                | Optional subject 2 |           | 30            | 15      | 15        | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 3. | 0111840                | Optional subject 3 |           | 45            | 15      | 0         | 0                  | 0                    | 60                      | 120         | 4    | no       |
| 4. | 0111841                | Optional subject 4 |           | 30            | 0       | 30        |                    |                      | 60                      | 120         | 4    | no       |

|    |         |                    |  |     |    |     |   |    |     |     |    |    |
|----|---------|--------------------|--|-----|----|-----|---|----|-----|-----|----|----|
| 5. | 0111842 | Optional course 5  |  | 30  | 15 | 15  |   |    | 60  | 120 | 4  | no |
| 6. | 0111843 | Optional subject 6 |  | 45  | 15 | 0   |   |    | 60  | 120 | 4  | no |
| 7. | 0643011 | Project work       |  |     | 30 | 45  |   | 15 | 90  | 180 | 6  | no |
|    |         | Total              |  | 210 | 90 | 135 | 0 | 15 | 450 | 900 | 30 |    |

### Year 3, izbirni predmeti

#### 2nd semester

|     |                        |                                                          |                                 | Contact hours |         |           |                    |                      |                         |             |      |          |
|-----|------------------------|----------------------------------------------------------|---------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|----------|
|     | University Course Code | Course title                                             | Lecturers                       | Lectures      | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Elective |
| 1.  | 0068094                | Computer-assisted design of yarns and woven fabrics      | Klara Kostajnšek                | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 2.  | 0068093                | Computer-assisted design of knitted fabrics and knitwear | Živa Zupin                      | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 3.  | 0068092                | Computer systems in apparel manufacturing                | Živa Zupin                      | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 4.  | 0068095                | Computer-assisted design for printing                    | Marija Gorjanc                  | 15            | 30      | 15        | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 5.  | 0078173                | Marketing of textiles and clothing                       | Mateja Kos Koklič               | 45            | 15      | 0         | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 6.  | 0068061                | Entrepreneurship                                         | Blaž Zupan                      | 30            | 0       | 30        | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 7.  | 0068098                | Quality management                                       | Andrej Demšar                   | 30            | 30      | 0         | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 8.  | 0068373                | Textile and clothing tradition                           | Klara Kostajnšek, Živa Zupin    | 45            | 15      | 0         | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 9.  | 0068097                | Leather and fur                                          | Marija Gorjanc                  | 15            | 30      | 0         | 0                  | 15                   | 60                      | 120         | 4    | yes      |
| 10. | 0068372                | Interior textiles                                        | Živa Zupin                      | 30            | 30      | 0         | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 11. | 0068371                | Styling Consulting                                       | Nataša Peršuh                   | 30            | 30      | 0         | 0                  | 0                    | 60                      | 120         | 4    | yes      |
| 12. | 0643012                | Special clothing patterns                                | Živa Zupin                      | 45            | 15      |           |                    |                      | 60                      | 120         | 4    | yes      |
| 13. | 0643014                | Basics of colour measurement                             | Sabina Bračko                   | 30            | 15      | 15        |                    |                      | 60                      | 120         | 4    | yes      |
| 14. | 0642834                | Medical textiles                                         | Brigita Tomšič                  | 30            | 30      |           |                    |                      | 60                      | 120         | 4    | yes      |
| 15. | 0643013                | Digital in Design                                        | Karin Košak, Tanja Nuša Kočevar | 30            | 30      |           |                    |                      | 60                      | 120         | 4    | yes      |

|       |         |                                 |                    |     |     |     |   |    |      |      |    |     |
|-------|---------|---------------------------------|--------------------|-----|-----|-----|---|----|------|------|----|-----|
| 16.   | 0643493 | HOLISTIC THINKING<br>AND ACTING | Andrej Demšar      | 30  | 30  |     |   |    | 60   | 120  | 4  | yes |
| 17.   | 0643494 | BUSINESS<br>COMMUNICATION       | Andreja Jaklič     | 30  | 30  |     |   |    | 60   | 120  | 4  | yes |
| 18.   | 0643495 | Project work                    |                    | 15  | 30  |     |   | 15 | 60   | 120  | 4  | yes |
| 19.   | 0644162 | Information competences         | Danica<br>Dolničar | 30  | 15  | 15  |   |    | 60   | 120  | 4  | yes |
| Total |         |                                 |                    | 570 | 375 | 165 | 0 | 30 | 1140 | 2280 | 76 |     |

**ATTACHMENT:**  
**CURRICULUM OF SUBJECTS**

# BARVANJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |          |
|-----------------------------------|----------|
| <b>Predmet:</b>                   | Barvanje |
| <b>Course title:</b>              | Dyeing   |
| <b>Članica nosilka/UL Member:</b> | UL NTF   |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068400 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11131   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 45                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Marija Gorjanc |
|-----------------------------------|----------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                                |
|------------------------------------------------------------------------------|--------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>          |
| Vpis v letnik študija.                                                       | Enrolment into the study year. |

|                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                            | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                |
| Barvila glede na tehnološke značilnosti predstavitev osnovnih in specialnih barvil, priprava tehnološke vode, tehnološki postopki barvanja ter strojna oprema, barvila in postopki barvanja naravnih, kemičnih in sintetičnih vlaken, barvanje mešanic vlaken, vrednotenje barvnih obstojnosti tekstilij na podlagi SIST EN ISO standardov | Dyes according to their technological properties introduction of basic and special dyes, preparation of process water, technological processes of dyeing and dyeing machines, dyes and dyeing processes of natural, chemical and synthetic fibres, dyeing of blends, and evaluation of colour fastness properties of dyed textiles based on SIST EN ISO standards |

|                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                   |
| H. Zollinger, Color chemistry. Weinheim : VCH, 2001; Cellulosics Dyeing, Edited by J. Shore. Bradford : Society of Dyers and Colourists, 1995; |
| Wool Dyeing, Edited by D.M: Lewis. Bradford : Society of Dyers and Colourists, 199;                                                            |
| BURKINSHAW, S.M., Chemical principles of synthetic fibre dyeing, Glasgow : Blackie Academic &                                                  |

Professional, an imprint of Chapman & Hall, 1995;

Blends Dyeing, Edited by J. Shore. Bradford : Society of Dyers and Colourists, 1998;

BAMFIELD, P., Chromic Phenomena Technological applications of colour chemistry, Cambridge : The Royal Society of Chemistry, 2001.

Izbrani strokovni in znanstveni članki iz periodičnih publikacij, ki so na voljo v knjižnici Oddelka za tekstilstvo ter v elektronskih revijah. / Selected professional and original scientific articles from periodicals, available in the library of the Department of Textiles and in electronic journals.

#### **Cilji in kompetence:**

Cilji: Študent se seznani z barvili za barvanje različnih tekstilij, tekstilnimi pomožnimi sredstvi, procesi barvanja ter s standardi preizkušanj obstojnosti obarvanj.

Kompetence: Sposobnost načrtovanja in izvedbe postopka barvanja glede na vrsto vlaken, vrsto barvila, razpoložljivo strojno opremo za doseg ustreznih obstojnosti obarvanj. Razumevanje tehnične dokumentacije in vloge sestavin barvalne kopeli ter prenos receptur v prakso. Sposobnost prilagajanja zahtevam tržišča, hiter odziv na spremembe in vpeljava novih postopkov barvanja v prakso. Sposobnost in razumevanje uporabe ustreznih standardiziranih metod za preizkušanje obstojnosti obarvanj, ovrednotenje postopka barvanja z vidika kakovosti in sposobnost interpretacije doseženih rezultatov testiranja.

#### **Objectives and competences:**

Objectives: Dyes for dyeing of textiles, auxiliaries, dyeing processes as well as standard methods for testing of colour fastness properties are introduced to student.

Competencies: Ability to plan and perform the dyeing process according to fabric type, dye type, available machinery to obtain appropriate colour fastness properties. Understanding the technical documentation and the role of dyebath components. Transfer of dyeing recipes into the practice. Capability of adapting to market demands, rapid response to changes and introduction of new dyeing processes into the practice. Ability to understand and use of appropriate standardized methods for testing the colour fastness properties. Ability of evaluation of performed dyeing process in terms of quality and ability to interpret the obtained results.

#### **Predvideni študijski rezultati:**

Študent pozna osnovne značilnosti barvil za barvanje tekstilij, pozna postopke barvanja in jih zna načrtovati in izvesti. Zna poiskati in izbrati ustrezno barvilo med proizvajalci barvil glede na uporabne lastnosti tekstilije. Ima poglobljeno znanje o dogajanju v barvalni kopeli med procesom barvanja. Zna načrtovati in izbrati ustrezne postopke poobdelave glede na ustrezno barvilo z namenom izboljšati obstojnosti obarvanj. Zna poiskati in uporabiti ustrezne standardne metode za vrednotenje kakovosti obarvanja tekstilije, izvesti postopek testiranja, ovrednotiti rezultate izvedenih analiz in napisati ustrezno strokovno mnenje.

#### **Intended learning outcomes:**

The student knows the basic characteristics of dyes, dyeing processes and he knows how to plan them. According to application properties of textiles, he is able to find and choose an appropriate dye among dyestuffs manufacturers. He has deep knowledge of what is happening in the dyebath during dyeing process. He understands the role of auxiliaries in the dyebath. He knows to plan and choose appropriate after-treatments in order to improve the colour fastness properties of dyed textile. He knows how to find and use appropriate standard methods for evaluation of dyeing process quality. He is able to perform testing method, evaluate obtained results and write a proper professional opinion.

#### **Metode poučevanja in učenja:**

Predavanje in laboratorijske vaje.

#### **Learning and teaching methods:**

Lectures and laboratory practices.

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                   |         |              |
|-------------------|---------|--------------|
| Izpit             | 50,00 % | Written exam |
| Opravljen seminar | 20,00 % | Seminar work |

|                                    |         |                                              |
|------------------------------------|---------|----------------------------------------------|
| Opravljenе vaje in kolokvij iz vaj | 30,00 % | Completed laboratory practice and colloquium |
|------------------------------------|---------|----------------------------------------------|

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

GORJANC, Marija, KERT, Mateja, MUJADŽIĆ, Amra, SIMONČIĆ, Barbara, FORTE-TAVČER, Petra, TOMŠIČ, Brigita, KOSTAJNŠEK, Klara. Cationic pretreatment of cotton and dyeing with Fallopia japonica leaves = Kationska predobdelava bombaža in barvanje z listi japonskega dresnika (Fallopia Japonica). Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2019, vol. 62, [no.] 3, str. 181-186, ilustr. ISSN 0351-3386. <http://www.dlib.si/details/URN:NBN:SI:doc-5PXVDRA8>, DOI: 10.14502/Tekstilec2019.62.181-186. [COBISS.SI-ID 3642480]

GORJANC, Marija, SAVIČ, Aleksandar, TOPALIĆ-TRIVUNOVIĆ, Ljiljana, MOZETIČ, Miran, ZAPLOTNIK, Rok, VESEL, Alenka, GRUJIĆ, Dragana. Dyeing of plasma treated cotton and bamboo rayon with Fallopia japonica extract. Cellulose. 2016, vol. 23, no. 3, str. 2221-2228. ISSN 0969-0239. DOI: 10.1007/s10570-016-0951-9. [COBISS.SI-ID 29466151]

GORJANC, Marija, JAZBEC, Katja, MOZETIČ, Miran, KERT, Mateja. UV protective properties of cotton fabric treated with plasma, UV absorber and reactive dye. Fibers and polymers, ISSN 1229-9197, 2014, vol. 15, no. 10, str. 2095-2104. [COBISS.SI-ID 3066992]

ZDOVC, Kristina, GORJANC, Marija, KERT, Mateja. Vpliv dodatka tenzida na adsorpcijo C. I. Acid Red 14 na poliamidno 6 snutkovno pletivo = Influence of surfactant addition on adsorption of C. I. Acid Red 14 on polyamide 6 knitwear. Tekstilec, ISSN 0351-3386, 2013, letn. 56, št. 4, str. 312-322, ilustr. [COBISS.SI-ID 2966640]

# BELJENJE IN APRETURA

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Predmet:</b>                   | Beljenje in apretura    |
| <b>Course title:</b>              | Bleaching and finishing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                  |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068401 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11130   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 60                      | 15                  | 15                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Barbara Simončič, Petra Forte Tavčar |
|-----------------------------------|--------------------------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                                  |
|--------------------------|----------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Slovenščina |
|                          | Vaje/Tutorial: Slovenščina       |

|                                                                              |                       |
|------------------------------------------------------------------------------|-----------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b> |
|------------------------------------------------------------------------------|-----------------------|

|                        |                                 |
|------------------------|---------------------------------|
| Vpis v letnik študija. | Enrolment in the year of study. |
|------------------------|---------------------------------|

### Vsebina:

Postopki priprave tekstilnih substratov na njihovo plemenitenje: razškrbljenje, izkuhavanje, pranje, beljenje, mercerizacija bombaža, optično osvetljevanje, termično fiksiranje sintetičnih vlaken, alkaliziranje poliestrov, karbonizacija volne, encimske obdelave in drugi sodobni pripravljalni postopki kot npr. obdelava s plazmo.

Postopki kemijske apreture: vrhunska, vodo in oljeodbojna, soil-release, porometriks izdelki, mehčalna, antistatična, trdilna, protimikrobna, ognjevarna, super-wash.

Postopki mehanske apreture: kompresijsko krčenje, kalandriranje, kosmatenje, brušenje, valjanje, dekatiranje.

Pri posameznem postopku priprave in apreture se predstavi namen in učinki, postopek aplikacije,

### Content (Syllabus outline):

Pretreatment of textile substrates for their finishing: desizing, scouring, washing, bleaching, mercerization of cotton, optical lightning, thermal fixation of synthetic fibres, alkalizing of polyesters, carbonization of wool, enzymatic treatment and other modern pretreatment processes, like plasma.

Processes of chemical finishing: easy-care, water and oil repellent, soil-release, porometric products, softening, antistatic, hardening, antimicrobial, flame retardant, super-wash finishing.

Processes of mechanical finishing: compacting, calendering, napping, shearing, sueding, milling, decatizing.

In the particular pretreatment and finishing process, the aim, the effects, the application process,

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>strojna oprema, kemijska sredstva, vpliv na okolje, analiza kakovosti postopkov priprave in apreture.</p> <p>Laboratorijske vaje: laboratorijska izvedba različnih postopkov priprave tekstilnih substratov na plemenitenje in apretiranje po klasičnem impregnirnem postopku in sodobnem nanotehnološkem postopku z elektropredenjem.</p> <p>Seminarsko delo: pregled literature in predstavitev posameznih najsodobnejših postopkov priprave in apreture.</p> | <p>equipment, chemical agents, environmental impact and quality assessment are presented.</p> <p>Laboratory work: laboratory implementation of various processes of pretreatment of textile substrates and their finishing with the conventional pad-dry-cure process and the modern nanotechnological process of electrospinning.</p> <p>Seminar work: literature review and presentation of the particular contemporary pretreatment and finishing processes.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Temeljna literatura in viri/Readings:**

Forte-Tavčer, P. Osnovni postopki priprave tekstilij na plemenitenje. Ljubljana : NTF, Oddelek za tekstilstvo, 2005.

Karmakar, S.R. Chemical technology in the pretreatment processes of textiles. Amsterdam : Elsevier, 1999.

Carty, P. in Byrne, M.S. The chemical and mechanical finishing of textile materials. 2nd. edition. Newcastle : UNN Commercial Enterprises Limited, 1987, 139 str.

Textile Finishing. D. Heywood (ur.), Bradford: Society of Dyers and Colourists, 2003.

Schindler WD Hauser PJ. Chemical finishing of textiles. Cambridge: CRC Press, 2004.

### **Cilji in kompetence:**

Študent osvoji znanja s področja pripravljanih del in apreture, ki so potrebna za strokovno in kakovostno izvedbo postopkov plemenitenja tekstilij.

Predmetno specifične kompetence:

- poznavanje tehnoloških postopkov pripravljanih del in apreture glede na specifičnost tekstilnega substrata,
- poznavanje najsodobnejših nanotehnoloških postopkov plemenitenja tekstilij,
- sposobnost povezovanja znanj s področji konstrukcijskih, mehanskih, fizikalnih in kemijskih lastnosti tekstilij ter postopki pripravljanih del in apretiranja, kar je pogoj za kakovostno izvedbo modifikacije površin vlaken,
- sposobnost konstruktivnega povezovanja pri timskem delu,
- sposobnost ekološkega razmišljanja.

### **Objectives and competences:**

Students acquire knowledge in the field of the textile pretreatment and finishing which are necessary for professional and quality implementation of these processes

Subject-specific competencies:

- knowledge of the technology and application of the pretreatment and finishing processes depending on the specificity of the textile substrate,
- knowledge of modern nanotechnological textile finishing processes,
- the ability to synthesize knowledge from the fields of structural, mechanical, physical and chemical properties of textiles and the pretreatment and finishing processes which is a prerequisite for the quality of fibre surface modification,
- the ability of the constructive teamwork,
- the ability of ecological thinking.

### **Predvideni študijski rezultati:**

Znanje in razumevanje:

- študent razume namen in cilje posameznih postopkov plemenitenja tekstilij,
- pozna najustreznejše postopke dela glede na zahtevane uporabne lastnosti tekstilij,
- razume, katere obdelave zahtevajo tekstilni substrati glede na svojo strukturo in predelovalno stopnjo,
- pozna strojno opremo, optimalne pogoje obdelav,
- zna strokovno ravnati s tekstilnimi pomožnimi sredstvi in kemikalijami,
- zna oceniti in interpretirati rezultate obdelav,
- zna ekološko razmišljati.

### **Intended learning outcomes:**

Knowledge and understanding:

- a student understands of the aim and the goals of the particular finishing processes of textiles,
- he knows the most appropriate procedures depending on the required functional properties of textiles,
- he understands which treatment processes are required relating to the textile structure and the processing step,
- he knows the equipment, optimal processing conditions, auxiliaries and chemicals
- he is able to assess and interpret the results of

|  |                                                    |
|--|----------------------------------------------------|
|  | treatments,<br>- he knows how ecological thinking. |
|--|----------------------------------------------------|

|                                                   |                                         |
|---------------------------------------------------|-----------------------------------------|
| <b>Metode poučevanja in učenja:</b>               | <b>Learning and teaching methods:</b>   |
| Predavanja, seminarsko delo, laboratorijske vaje. | Lectures, seminars and laboratory work. |

|                                |                     |                                     |
|--------------------------------|---------------------|-------------------------------------|
| <b>Načini ocenjevanja:</b>     | <b>Delež/Weight</b> | <b>Assessment:</b>                  |
| Pisni izpit,                   | 60,00 %             | Written exam                        |
| predstavitev seminarskega dela | 10,00 %             | presentation of the seminar work    |
| kolokvij iz vaj                | 30,00 %             | colloquium from the laboratory work |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

ŠTULAR, Danaja, SAVIO, Elisa, SIMONČIČ, Barbara, ŠOBAK, Matic, JERMAN, Ivan, POLJANŠEK, Ida, FERRI, Ada, TOMŠIČ, Brigita. Multifunctional antibacterial and ultraviolet protective cotton cellulose developed by in situ biosynthesis of silver nanoparticles into a polysiloxane matrix mediated by sumac leaf extract. *Applied Surface Science*, 2021, vol. 563, str. 1-12. DOI: [10.1016/j.apsusc.2021.150361](https://doi.org/10.1016/j.apsusc.2021.150361). [COBISS.SI-ID [67347971](#)].

RASHID, Mohammad Mamunur, SIMONČIČ, Barbara, TOMŠIČ, Brigita. Recent advances in TiO<sub>2</sub>-functionalized textile surfaces. *Surfaces and interfaces*. 2021, vol. 22, str. 1-33. <https://www.sciencedirect.com/science/article/pii/S2468023020308828>. [COBISS.SI-ID [45430275](#)].

TOMŠIČ, Brigita, MARKOVIĆ, Darka, JANKOVIĆ, Vukašin, SIMONČIČ, Barbara, NIKODINOVIĆ-RUNIĆ, Jasmina, ILIC-TOMIC, Tatjana, RADETIĆ, Maja. Biodegradation of cellulose fibers functionalized with CuO/Cu<sub>2</sub>O nanoparticles in combination with polycarboxylic acids. *Cellulose*. 2022, vol. 29, iss. 1, str. 287–302. DOI: [10.1007/s10570-021-04296-6](https://doi.org/10.1007/s10570-021-04296-6). [COBISS.SI-ID [86095363](#)].

GLAŽAR, Dominika, JERMAN, Ivan, TOMŠIČ, Brigita, CHOUHAN, Raghuraj S., SIMONČIČ, Barbara. Emerging and promising multifunctional nanomaterial for textile application based on graphitic carbon nitride heterostructure nanocomposites. *Nanomaterials*, 2023, vol. 13, iss. 3, article 408, str. 1-26. DOI: [10.3390/nano13030408](https://doi.org/10.3390/nano13030408). [COBISS.SI-ID [138579459](#)].

RASHID, Mohammad Mamunur, TOMŠIČ, Brigita, SIMONČIČ, Barbara, JERMAN, Ivan, ŠTULAR, Danaja, ZORC, Matija, ČELAN KOROŠIN, Nataša. In situ tailoring of Ag-doped-TiO<sub>2</sub>/TPMP/cotton nanocomposite with UV-protective, self-sterilizing and flame-retardant performance for advanced technical textiles. *Polymer degradation and stability*, 2023, vol. 216, 110504, str. 1-11. DOI: [10.1016/j.polymdegradstab.2023.110504](https://doi.org/10.1016/j.polymdegradstab.2023.110504). [COBISS.SI-ID [161627395](#)].

ŠPIČKA, Nina, FORTE-TAVČER, Petra. Low-temperature bleaching of knit fabric from regenerated bamboo fibers with different peracetic acid bleaching processes. *Textile research journal*, ISSN 0040-5175, 2015, vol. , no. , 9 str., doi: 10.1177/0040517514563728.

FORTE-TAVČER, Petra. Impregnation and exhaustion bleaching of cotton with peracetic acid. *Textile research journal*, ISSN 0040-5175, 2010, vol. 80, no. 1, str. 3-11.

ŠPIČKA, Nina, FORTE-TAVČER, Petra. Complete enzymatic pre-treatment of cotton fabric with incorporated bleach activator. *Textile research journal*, ISSN 0040-5175, 2013, vol. 83, no. 6, str. 566-573

# CELOSTNO RAZMIŠLJANJE IN DELOVANJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>Predmet:</b>                   | CELOSTNO RAZMIŠLJANJE IN DELOVANJE |
| <b>Course title:</b>              | HOLISTIC THINKING AND ACTING       |
| <b>Članica nosilka/UL Member:</b> | UL NTF                             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643493

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Andrej Demšar

Vrsta predmeta/Course type: Izbirni/Elective

Jeziki/Languages:

|                      |                         |
|----------------------|-------------------------|
| Predavanja/Lectures: | Angleščina, Slovenščina |
| Vaje/Tutorial:       |                         |

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisites:

|                                           |                                                     |
|-------------------------------------------|-----------------------------------------------------|
| Vpis v letnik študija in izbira predmeta. | Enrolment into study year and selecting the course. |
|-------------------------------------------|-----------------------------------------------------|

Vsebina:

Content (Syllabus outline):

Vsebina predmeta bo osredinjena na študenta z namenom razvijanja njegovih kompetenc na področju njegove stroke (grafika, tekstilstvo, materiali in metalurgija, geotehnologija in rudarstvo). Vzpodbujano bo celostno in transdisciplinarno razmišljanje ter povezovanje naravoslovnih in tehnoloških znanj z družboslovnimi in humanističnimi znanji.

Na študiju primerov praks različnih strok (grafika, tekstilstvo, materiali in metalurgija, geotehnologija in rudarstvo) se bodo poskušale izluščiti dobre prakse. Med drugim bodo v okviru predmeta predstavljene naslednje vsebine: kompetence inženirjev prihodnosti, komunikacija, lateralno razmišljanje, holistična retorika - kako se sporazumevati, ustvarjalnost, karijerne in osebne odločitve.

The content of the course will be student oriented in order to develop their personal competencies on their professional field (graphic arts, textiles, materials and metallurgy, geotechnology and mining). The course will promote and encourage holistic and transdisciplinary thinking. The connecting of natural and technological knowledge with social sciences and humanities will be encouraged.

Through the study of examples of practices of different professions (graphic arts, textiles, materials and metallurgy, geotechnology and mining) good practices will be defined.

Among other, the following topics will be presented within the scope of the course: competences of engineers of the future, communication, lateral thinking, holistic rhetoric - how to communicate, creativity, career and personal decisions.

**Temeljna literatura in viri/Readings:**

- DEMŠAR, Andrej, ANEJA, Arun P. The future of education. V: Textiles at the crossroads : proceedings. 19th World Textile Conference AUTEX 2019. Ghent: (MaTCh), Ghent University, 2019. ISBN 978-9079-8920-6-8. [COBISS.SI-ID 3629168]
- DEMŠAR, Andrej, ANEJA, Arun P. Čas sprememb = Time of changes. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2017, vol. 60, priloga 3, str. 131-136, ilustr. ISSN 0351-3386. [COBISS.SI-ID 303776768], [SNIP]
- DEMŠAR, Andrej, ANEJA, Arun P. Bending the curve: a holistic approach to technology education. V: Proceedings. 16th World Textile Conference AUTEX 2016, Ljubljana, Slovenia. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, 2016. 6 str. ISBN 978-961-6900-17-1. [COBISS.SI-ID 3267696]
- HERMAN, Bogdana; PAVLIHA, Marko: Mala šola retorike II, Lexpera, GV Založba, 2020 (ISBN: 978-961-247-447-8)
- Revolutionizing Sustainability Education; Edited By Ekaterina Ivanova, Isabel Rimanoczy, Routledge, London, 2021
- GOLDBERG, D. E., SOMERVILLE, M. : A whole new engineer : the coming revolution in engineering education, ThreeJoy Associates, 2014
- PLUT, Dušan, Ekosistemska družbena ureditev. Zv. 1, Podstati in gradniki ekosistemske družbene ureditve, Založništvo in izdelava - Ljubljana : Založba Univerze, 2022
- PLUT, Dušan, Ekosistemska družbena ureditev. Zv. 2, Slovenija in Evropa, Založništvo in izdelava - Ljubljana : Založba Univerze, 2023

**Cilji in kompetence:**

Osnovno vodilo predmeta je osredinjenje na študenta in na razvoj študentovih kompetenc s pomočjo celostnega (holističnega), kritičnega in transdisciplinarnega razmišljanja. Temeljni cilj predmeta je razvijanje samostojnega, odprtega in celostnega razmišljanja študentov, katerega poslanstvo je delovati v dobro širše družbene skupnosti.

Spodbujano bo:

- celostno, transdisciplinarno in kritično razmišljanje o sistemih, njihovih medsebojnih povezavah ter posledicah njihovega delovanja;
- povezovanje naravoslovnih in tehnoloških znanj z družboslovnimi in humanističnimi znanji;
- holistična retorika;
- skozi kritični premislek in celostni pristop ustvarjanje novih modelov, rešitev in vizij;
- razmišljanje o današnjem času s pogledom na včeraj, danes in jutri.

**Objectives and competences:**

The basic guideline of the course is the student centred learning. Focusing on the student's competencies and skills and developing desired competencies through holistic, critical, and transdisciplinary thinking.

The basic goal of the course is to develop an independent, open-minded, holistic and aware person whose highest mission is to work for the good of the humanity.

The student will be encouraged in:

- holistic, transdisciplinary and critical thinking about systems, their interrelationships and the consequences of their activity;
- connecting of natural and technological knowledge with social sciences and humanities;
- holistic rhetoric;
- creating new models, solutions and visions through critical consideration and a holistic approach;
- thinking about present reality with a view on yesterday, today and about tomorrow.

**Predvideni študijski rezultati:**

Razširitev študentovega pogleda na okolje in družbo ter kompleksnost njune povezanosti. Celostno, transdisciplinarno in kritično razmišljanje omogoča kompleksnejše vpoglede v odnose med naravoslovjem, tehniko, okoljem in družbo ter slušatelje vzpodbuja k sprejemanju bolj odgovornih in trajnostnih odločitev.

**Intended learning outcomes:**

Expanding the student's view on the environment and society and complexity of their connection. Holistic, transdisciplinary and critical thinking enables more complex insight into relationships between natural sciences, technology, environment and society which enable students to make more responsible and sustainable decisions.

**Metode poučevanja in učenja:**

Predavanja in seminarsko delo.

**Learning and teaching methods:**

Lectures and seminar work.

|                                                        |                                                                    |
|--------------------------------------------------------|--------------------------------------------------------------------|
| Predavanja izvedejo različni učitelji različnih strok. | Lectures are given by different teachers of different professions. |
|--------------------------------------------------------|--------------------------------------------------------------------|

| Načini ocenjevanja:              | Delež/Weight | Assessment:                   |
|----------------------------------|--------------|-------------------------------|
| - seminarska naloga              | 70,00 %      | - seminar paper               |
| - predstavitev seminarske naloge | 30,00 %      | presentation of seminar paper |

| Ocenjevalna lestvica:                                    | Grading system:                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

- DEMŠAR, Andrej, ANEJA, Arun P. The future of education. V: Textiles at the crossroads : proceedings. 19th World Textile Conference AUTEX 2019. Ghent: (MaTCh), Ghent University, 2019. ISBN 978-9079-8920-6-8. [COBISS.SI-ID 3629168]
- DEMŠAR, Andrej, ANEJA, Arun P. Čas sprememb = Time of changes. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2017, vol. 60, priloga 3, str. 131-136, ilustr. ISSN 0351-3386. [COBISS.SI-ID 303776768], [SNIP]
- DEMŠAR, Andrej, ANEJA, Arun P. Education in 21st century. V: ITMC 2017. 6th edition of the International Conference on Intelligent Textiles and Mass Customisation, Ghent, Belgium. Ghent: Ghent University, Centre for Textile Science and Engineering, 2017. Str. [1-6], ilustr. [COBISS.SI-ID 3435120]
- DEMŠAR, Andrej, ANEJA, Arun P. Resume, eulogy, education and future. V: Shaping the future of textiles. 17th World Textile Conference AUTEX 2017, Corfu, Greece. Bristol: IOP Publishing, 2017. Vol. 254, 222003, str. 1-6. IOP conference series, Materials science and engineering, vol. 254. ISSN 1757-899X. <http://iopscience.iop.org/article/10.1088/1757-899X/254/22/222003>. [COBISS.SI-ID 3439984], [SNIP, WoS, Scopus]
- DEMŠAR, Andrej, ANEJA, Arun P. Bending the curve: a holistic approach to technology education. V: Proceedings. 16th World Textile Conference AUTEX 2016, Ljubljana, Slovenia. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, 2016. 6 str. ISBN 978-961-6900-17-1. [COBISS.SI-ID 3267696]
- DEMŠAR, Andrej, ANEJA, Arun P. Value of values : a new pedagogical paradigm. V: Proceedings 15th Autex Conference, 2015, Bucharest, Romania\_. Iasi: "Gheorghe Asachi" Technical University, Faculty of Textiles, Leather and Industrial Management, 2015. 6 f. ISBN 978-606-685-276-0. [COBISS.SI-ID 3152240]
- ZUPANČIČ, Maja, SVETINA, Matija. Socialni razvoj v zgodnji odraslosti. V: MARJANOVIČ UMEK, Ljubica (ur.), ZUPANČIČ, Maja (ur.). Razvojna psihologija. 2., dopolnjena in razširjena izd. Ljubljana: Znanstvena založba Filozofske fakultete, 2020. Zv. 3, str. 930-965, ilustr. ISBN 978-961-06-0285-9, ISBN 978-961-06-0296-5, ISBN 978-961-06-0379-5.
- SVETINA, Matija, ISTENIČ, Andreja, JUVANČIČ, Matevž, NOVLJAN, Tomaž, ŠUBIC KOVAČ, Maruška, VEROVŠEK, Špela, ZUPANČIČ, Tadeja. Beliefs about the environment : moving from the egocentric towards the ecocentric perspective. The international journal of sustainable development and world ecology. [Print ed.]. 2014, letn. 21, št. 6, str. 540-545, ilustr. ISSN 1350-4509.
- SVETINA, Matija. The microgenetic approach in the digitalised era. V: LEMAIRE, Patrick (ur.). Cognitive development from a strategy perspective : a festschrift for Robert S. Siegler. Abingdon; New York: Routledge, 2018. Str. 81-99, ilustr. ISBN 978-1-138-71137-2, ISBN 978-1-138-71136-5.
- SVETINA, Matija, ZUPANČIČ, Maja. Strategija upravljanja z življenjem v odraslosti : prečna študija v Sloveniji. Psihološka obzorja. [Tiskana izd.]. 2007, letn. 16, št. 4, str. 43-63, preglednice, graf. prikazi. ISSN 1318-1874.
- SVETINA, Matija. Intraindividualna variabilnost kot dejavnik učenja. Psihološka obzorja. [Tiskana izd.]. 2004, letn. 13, št. 1, str. 29-41, ilustr. ISSN 1318-1874.
- HERMAN, Bogdana; PAVLIHA, Marko: Mala šola retorike II, Lexpera, GV Založba, 2020 (ISBN: 978-961-247-447-8)
- PAVLIHA, Marko: Onkraj materialističnega prepričanja: duhovna dramila, Lexpera, GV Založba, 2021, (ISBN: 978-961-247-457-7)
- PAVLIHA, Marko: Dvanajst pred dvanajsto ali Za norost je zdravilo le modrost: eseji o iskanju svetlobe, UMco, 2014, (ISBN: 978-961-6954-07-5)



# DIGITALNO V OBLIKOVANJU

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Predmet:</b>                   | Digitalno v oblikovanju |
| <b>Course title:</b>              | Digital in Design       |
| <b>Članica nosilka/UL Member:</b> | UL NTF                  |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643013

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Karin Košak, Tanja Nuša Kočevar

Vrsta predmeta/Course type:

Jeziki/Languages:

Predavanja/Lectures:

Vaje/Tutorial:

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Vpis v letnik študija.

Prerequisites:

Enrolment in the study year

Vsebina:

Content (Syllabus outline):

Spoznavanje programske opreme in grafičnih vmesnikov specializiranih programov za proces oblikovanja in načrtovanje tekstilij in oblačil.

2D in 3D računalniška grafika za oblikovanje oblačil, modnih dodatkov ter tekstilnih elementov za interier.

3D modeliranje in metode virtualnega prototipiranja v procesu oblikovanja oblačil.

3D tisk na področju oblikovanja tekstilij, oblačil in dodatkov.

Vpliv digitalizacije na proces oblikovanja, izdelave, promocije in prodaje tekstilij in oblačil.

Pregled smernic na področju digitalizacije pri oblikovanju, izdelavi, promociji in prodaji

Knowledge of software and graphic interfaces of specialized programs for the process of design and planning of textiles and clothing.

2D and 3D computer graphics for the design of clothing, fashion accessories and textile elements for interior decoration.

3D modeling and virtual prototyping methods in the field of design of textiles, clothing and accessories.

The impact of digitalization on the process of design, production, promotion and sale of textiles and clothing.

Review of guidelines in the field of digitalization in the design, production, promotion and sale of fashion and design products. Virtuality of the design process and the final product.

Simulation of clothing and fashion accessories on the body, simulation of textile elements and accessories in interiors in 2D and 3D technologies. The use of digital technologies in the process of visual

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>produktov mode in oblikovanja. Virtualnost oblikovalskega procesa in končnega produkta. Simulacija oblačila in modnega dodatka na telesu, simulacija tekstilnega elementa in dodatka v interierju v 2D in 3D tehnologijah. Uporaba digitalnih tehnologij v procesu vizualne komunikacije oblačil in dodatkov. Priprava digitalnih datotek za tehnologije laserskega izreza, vezenin in 3D tiska.</p> <p>Seminar:<br/>Utrjevanje teoretičnih osnov s pomočjo uporabe 2D in 3D tehnologij v oblikovanju.</p> | <p>communication of clothing and accessories. Preparation of digital files for laser cutting, embroidery and 3D printing technologies.</p> <p>Seminar:<br/>Deepening the theoretical foundations through the use of 2D and 3D technologies in design.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- TALLON, K. Digital fashion illustration with Photoshop and Illustrator, London : Batsford, 2008
- TALLON, K. Digital fashion print, London : Batsford, 2011
- BOWLES, M., CERI, I. Digital textile design, London : Laurence King, 2009
- QUINN, B. Textile futures : fashion, design and technology, Oxford : Berg, 2010
- Makryniotis, T. 3D fashion design : technique, design and visualization, London: Batsford, 2015
- <https://support.clo3d.com/>
- <https://www.adobeforofashion.com/illustrator-tutorials.html>

### Cilji in kompetence:

Predmet predstavi študentu najpomembnejše trende na področju digitalnih tehnologij za vzorčenje tekstilij, oblikovanje oblačil, 2D in 3D predstavitev oblačil, modnih dodatkov, tekstilnih elementov v interierju ter izdelavo tehničnih skic.

Študent pozna in razume tudi smernice in trende novih digitalnih načinov za promocijo in prodajo tako fizičnih kot virtualnih oblačil in dodatkov.

Študent razvija prostorsko inteligenco ter sposobnost vizualiziranja in ustvarjanja iluzije tretje dimenzije.

Študent spozna možnosti uporabe digitalnih tehnik in postopkov pri oblikovanju oblačil, modnih dodatkov, tekstilij in dodatkov v interierju

### Objectives and competences:

The course introduces the student with the main trends in digital technologies for textiles, apparel design, 2D and 3D presentation of clothing, fashion accessories, textile elements in interior design, and the creation of technical sketches.

The student also knows and understands the guidelines and trends of new digital ways to promote and sell both physical and virtual clothing and accessories.

The student develops spatial intelligence and the ability to visualize and create illusions of the third dimension.

The student learns the possibilities of using digital techniques and processes in the design of clothing, fashion accessories, textiles, and interior accessories.

### Predvideni študijski rezultati:

Znanje in razumevanje:

Študent pozna, razume in zna uporabljati osnovna orodja in postopke za razvoj, predstavitev in izdelavo izbranega vzorca, oblačila, tehnične skice, tekstilnega izdelka ali modnega dodatka v 2D in 3D tehnologijah. Študent je sposoben sodelovanja z oblikovalcem pri 2D in 3D tehnologijah procesa snovanja in predstavitve tekstilij in oblačil.

### Intended learning outcomes:

Knowledge and understanding:

The student knows and understands how to use basic tools and processes to develop, present, and produce a selected pattern, garment, technical sketch, textile product, or fashion accessory in 2D and 3D technologies. The student will be able to collaborate with a designer in the design and presentation of textiles and apparel using 2D and 3D technologies.

| Metode poučevanja in učenja:                                  | Learning and teaching methods:                       |
|---------------------------------------------------------------|------------------------------------------------------|
| Predavanja, seminarji, raziskovalni seminarji, projektno delo | Lectures, seminars, research seminars, project work. |

| Načini ocenjevanja: | Delež/Weight | Assessment: |
|---------------------|--------------|-------------|
| Pisni izpit         | 50,00 %      | Examination |
| Seminar             | 50,00 %      | Seminar     |

| Ocenjevalna lestvica:                                    | Grading system:                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

##### Karin Košak

- KOŠAK, Karin. *Razvoj oblikovanja*. Ljubljana: NTF, OT, 2009. 116 str. ISBN 978-961-6045-76-6. [COBISS.SI-ID [247472384](#)/ univ. učbenik z recenzijo - tiskana oblika in 1 optični disk (CD-ROM)
- KOŠAK, Karin, MUCK, Deja, KOČEVAR, Tanja Nuša, ČUK, Marjeta, MORE, Alenka. 3D natisnjen in lasersko izrezan nakit na temo Plečnikove arhitekture = 3D printed and laser cut jewelry on the topic of Plečnik's architecture. V: GORJANC, Marija (ur.), SIMONČIČ, Barbara (ur.). *Sodobni tekstilni materiali : zbornik izplečkov*. 48. simpozij o novostih v tekstilstvu, Ljubljana, 6. junij 2019. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2019. Str. 47.
- KOŠAK, Karin. Comparison of trends of the 21st century : design, architecture, fashion through the perspective of the social aspect of sustainability, people. V: *Abstracts : program*. International Conference on Design and Light Industry Technologies, 19 - 20 November 2014, Budapest, Hungary. Óbuda: Óbuda University, Sándor Rejtő Faculty of Light Industry and Environmental Engineering, 2014. Str. 33.

- KOŠAK, Karin, MUCK, Deja, ČUK, Marjeta, KOČEVAR, Tanja Nuša. 3D printed jewellery design process based on sculpture inspiration. V: DEDIJER, Sandra (ur.). *Proceedings*. 10th International Symposium on Graphic Engineering and Design GRID 2020, Novi Sad, November 12-14th, 2020. Novi Sad: Faculty of Technical Sciences, Department of Graphic Engineering and Design, 2020. Str. 507-514, ilustr. International Symposium on Graphic Engineering and Design GRID.

##### Tanja Nuša Kočevar

- KOČEVAR, Tanja Nuša, DRUSANY, Manca. Designing a pattern with 3D printing on textiles. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). *Book of proceedings*. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 -27, 2021, İzmir-Turkey. Izmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 233-239, ilustr.
- GABRIJELČIČ TOMC, Helena (avtor, ilustrator), KOČEVAR, Tanja Nuša (avtor, ilustrator), ISKRA, Andrej (avtor, ilustrator). 3D animacije ustvarjanje od giba do simulacije. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2021. 211 str., ilustr.
- KOČEVAR, Tanja Nuša, NAGLIČ, Barbara, GABRIJELČIČ TOMC, Helena. 3D visualisation of a woman's folk costume. V: IOANNIDES, Marinos (ur.). *Digital cultural heritage : Final Conference of the Marie Skłodowska-Curie Initial Training Network for Digital Cultural Heritage, ITN-DCH 2017, Olimje, Slovenia, May 23-25, 2017 : revised selected papers*. Cham: Springer International Publishing, 2018. Str. 304-323, ilustr. Lecture notes in computer science, 10605.

## DIPLOMSKO DELO

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                |
|-----------------------------------|----------------|
| <b>Predmet:</b>                   | Diplomsko delo |
| <b>Course title:</b>              | Diploma work   |
| <b>Članica nosilka/UL Member:</b> | UL NTF         |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 1. semester | obvezni   |

|                                                     |         |
|-----------------------------------------------------|---------|
| Univerzitetna koda predmeta/University course code: | 0111844 |
| Koda učne enote na članici/UL Member course code:   | 11115   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 0                       | 0                   | 0                  |                                         | 150                                                 | 150                                               | 10   |

Nosilec predmeta/Lecturer:

Vrsta predmeta/Course type:

|                   |                      |  |
|-------------------|----------------------|--|
| Jeziki/Languages: | Predavanja/Lectures: |  |
|                   | Vaje/Tutorial:       |  |

#### Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Vpis v 3. letnik študija.  
Opravljene vse ostale študijske obveznosti.  
Odobrena tema diplomske naloge.

#### Prerequisites:

Enrollment in the 3rd year of study.  
Completion of all other degree requirements.  
Confirmation of thesis theme

#### Vsebina:

Diplomsko delo je specializirano na strokovne vsebine s področja, ki ga pokriva prvostopenjski študij Tekstilno in oblačilno inženirstvo.  
Diplomsko delo vsebuje:

- namen dela, predstavitev problema oz. razlog za raziskavo,
- pregled znanj iz literature oz. tuje in domače izkušnje,
- nakazane rešitve problema,
- sklepi in priporočila.

Diplomsko delo študent izdela pod mentorstvom izbranega učitelja, ga javno predstavi in zagovarja.

#### Content (Syllabus outline):

The Thesis may be specialized on the subject study from the area of the first degree in Textile and Clothing Engineering program.  
The Thesis includes:

- the purpose of the thesis, the statement of the problem or reason for an investigation,
- the review of literature and knowledge and/or foreign and domestic experience,
- the implicit solution of the problem,
- conclusions and recommendations.

Student completes the thesis under the supervision of a teacher and ends the study with the public presentation and defend it.

#### Temeljna literatura in viri/Readings:

**Izbrana literatura glede na nalogo, ki jo opravlja. / Selected readings, depending on the thesis he/she is working on.**

**Cilji in kompetence:**

CILJI: Študent osvoji delo v praksi. Izdelava diplomskega dela študenta usposobi za reševanje strokovnih ali preprostejših znanstveno-raziskovalnih problemov na področjih, ki jih pokriva prvostopenjski študijski program Tekstilno in oblačilno inženirstvo.  
KOMPETENCE: Praktično uporabi med študijem pridobljeno znanje.

**Objectives and competences:**

OBJECTIVES : The student becomes familiar with the work in practice. Through thesis work, the student becomes capable of dealing with professional or simpler scientific research problems in the areas covered by the first level study program in Textile and Clothing Engineering.  
COMPETENCES: Practical application of the knowledge acquired in the course.

**Predvideni študijski rezultati:**

Študent razume osnove stroke, dokaže samostojno reševanje konkretnih problemov s povezovanjem temeljnih znanj, ki jih uporabi pri izdelavi diplomskega dela. Pridobi nove informacije, jih kritično analizira in uporabi pri določitvi problemov in njihovem reševanju. Pridobljeno znanje in rešitve konkretnega problema v diplomskem delu je sposoben podati in zagovarjati pred širšim krogom zainteresiranih uporabnikov

**Intended learning outcomes:**

The student understands the basics of profession. The student demonstrates the ability to solve concrete problems by integrating basic skills and using them to produce a consistent thesis. The student synthesizes and analyzes new information and uses it to identify and solve problems. The student is able to present and defend the acquired knowledge and solutions to a specific problem in the thesis to a wider audience of interested users.

**Metode poučevanja in učenja:**

Praktično delo, študij literature, konzultacije z mentorjem, pisanje diplomskega dela.

**Learning and teaching methods:**

Practical work, study of literature, consultations with supervisor, writing of thesis.

**Načini ocenjevanja:**

**Delež/Weight**

**Assessment:**

|                                              |         |                                                          |
|----------------------------------------------|---------|----------------------------------------------------------|
| Ocena pisnega diplomskega dela               | 70,00 % | Assessment of the written thesis                         |
| Ocena javne predstavitve in zagovora diplome | 30,00 % | Assessment of public presentation and the thesis defence |

**Ocenjevalna lestvica:**

**Grading system:**

|  |  |
|--|--|
|  |  |
|--|--|

**Reference nosilca/Lecturer's references:**

Reference nosilcev razvidne iz učnih načrtov pri posameznih predmetih v okviru prvostopenjskega študija Tekstilno in oblačilno inženirstvo. / References of lecturers listed in the curricula of each course in the Textile and Clothing Engineering program

# EKOLOGIJA V TEKSTILSTVU

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Predmet:</b>                   | Ekologija v tekstilstvu |
| <b>Course title:</b>              | Ecology in textile      |
| <b>Članica nosilka/UL Member:</b> | UL NTF                  |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

|                                                     |         |
|-----------------------------------------------------|---------|
| Univerzitetna koda predmeta/University course code: | 0099739 |
| Koda učne enote na članici/UL Member course code:   | 11155   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 15                 |                                         |                                                     | 60                                                | 4    |

|                            |                        |
|----------------------------|------------------------|
| Nosilec predmeta/Lecturer: | Petra Eva Forte Tavčer |
|----------------------------|------------------------|

|                             |                      |
|-----------------------------|----------------------|
| Vrsta predmeta/Course type: | Obvezni / Compulsory |
|-----------------------------|----------------------|

|                   |                                  |
|-------------------|----------------------------------|
| Jeziki/Languages: | Predavanja/Lectures: Slovenščina |
|                   | Vaje/Tutorial: Slovenščina       |

| Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti: | Prerequisites:             |
|-----------------------------------------------------------------------|----------------------------|
| Vpis v letnik študija.                                                | Enrolment into study year. |

### Vsebina:

- osnove ekologije
- okoljska zakonodaja
- organizacija in standardizacija poslovanja z vidika trajnostnega razvoja
- ekološki produkt in okoljske oznake
- vpliv procesov izdelave vlaken, tekstilij in oblačil na ljudi in okolje
- okolju prijazni postopki pridobivanja in obdelave vlaken
- zdravju nevarne snovi na tekstilijah
- ravnanje z odpadki na splošno in ravnanje s tekstilnimi odpadki
- postopki recikliranja in razgradnje odpadnih tekstilij
- odpadna voda v tekstilnih procesih
- varčevanje z vodo, elektriko in toploto v proizvodnji

### Content (Syllabus outline):

- basics of ecology
- environmental legislation
- standardization and environmental management systems
- sustainable product and and ecology labels
- influence of fibre, textiles and apparel production on environment and population
- environmental friendly processes of fibre production and processing
- toxic substances on textiles
- treatment of solid waste in general and treatment of textile waste
- recycling of textiles and biodegradation of textiles
- technological effluents
- saving of water and energy in production of textiles

### Temeljna literatura in viri/Readings:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Milenko Roš, Sodobni postopki čiščenja odpadnih vod, Zelena Slovenija, 2015.</li> <li>• Jani Zore, Gospodarjenje z odpadki, Zelena Slovenija, 2015</li> <li>• Jana Sterže, Varstvo okolja, Zelena Slovenija, 2013</li> <li>• Vanesa Čanji, Prehod v zeleno gospodarstvo, Zelena Slovenija, 2018</li> <li>• Adrijana Viler Kovačič, Okoljevarstvena zakonodaja, Zelena Slovenija, 2010</li> <li>• WANG Y. Recycling in Textiles, Woodhead Publishing, Cambridge, 2006.</li> <li>• MIRAFAB M., HORROCKS A.R. Ecotextiles, Woodhead Publishing, Cambridge, 2007.</li> </ul> |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cilji in kompetence:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Objectives and competences:</b>                                                                                                                                                                                                                                                                                                                                                                                                 |
| Študent spozna: <ul style="list-style-type: none"> <li>• vpliv procesov tekstilne industrije in tekstilij na okolje,</li> <li>• okolju prijaznejše tekstilne surovine, sredstva in postopke izdelave tekstilij.</li> <li>• vpliv kemikalij in materialov na zdravje ljudi,</li> <li>• osnove okoljske analitike in tehnologije čiščenja tehnoloških odpadnih vod,</li> <li>• problematiko tekstilnih odpadkov,</li> </ul> okoljsko zakonodajo in ekološke standarde. | Learning about: <ul style="list-style-type: none"> <li>• influences of processes in textile industry on the environment,</li> <li>• environment-friendlier textile materials, chemicals and processes in production of textiles,</li> <li>• impact of chemicals and materials on human health,</li> <li>• basics of environmental analysis and technologies of cleaning water,</li> </ul> environmental legislation and standards. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predvideni študijski rezultati:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Intended learning outcomes:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Znanje in razumevanje: <ul style="list-style-type: none"> <li>• vplivov tekstilne industrije na okolje.</li> <li>• okolju prijaznejših tekstilnih materialov, postopkov in izdelkov.</li> <li>• vpliva tekstilij in kemikalij na zdravje ljudi.</li> <li>• kriterijev za pridobitev ekoloških oznak.</li> <li>• postopkov predelave, recikliranja in odlaganja tekstilnih odpadkov.</li> <li>• zakonodaje in standardov s področja varovanja okolja.</li> <li>• okoljske analitike.</li> </ul> Možnosti čiščenja odpadnih vod. | Knowledge and understanding of: <ul style="list-style-type: none"> <li>• influence of textile industry on the environment,</li> <li>• environment-friendlier textile materials, process and products,</li> <li>• influence of textiles and chemicals on human health,</li> <li>• eco-labelling and acquisition criteria,</li> <li>• treatment, recycling and disposal of textile waste,</li> <li>• legislation and standardisation on environmental protection,</li> <li>• environmental analysis,</li> </ul> treatment of effluents. |

|                                                                                                            |                                                                                                     |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Metode poučevanja in učenja:</b>                                                                        | <b>Learning and teaching methods:</b>                                                               |
| <ul style="list-style-type: none"> <li>• predavanja,</li> <li>• seminarji,</li> </ul> laboratorijske vaje. | <ul style="list-style-type: none"> <li>• lectures,</li> <li>• seminars,</li> </ul> laboratory work. |

|                            |                     |                         |
|----------------------------|---------------------|-------------------------|
| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b>      |
| Ustni/pisni izpit          | 50,00 %             | Oral/written exam       |
| Seminarska naloga          | 20,00 %             | Seminar work            |
| Izpit iz vaj               | 30,00 %             | Exam on laboratory work |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

|                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference nosilca/Lecturer's references:</b>                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• FORTE-TAVČER, Petra, BRENČIČ, Katja, FINK, Rok, TOMŠIČ, Brigita. Influence of hydrogen peroxide on disinfection and soil removal during low-temperature household laundry. <i>Molecules</i>. 2022, vol. 27, iss. 1, str. 1-11 .</li> </ul> |

- KOLBL REPINC, Sabina, FORTE-TAVČER, Petra, STRES, Blaž. Potential for valorization of dehydrated paper pulp sludge for biogas production : addition of selected hydrolytic enzymes in semi-continuous anaerobic digestion assays. *Energy*. 2017, vol. 126, str. 326-334.
- PRELOG, Karla, FORTE-TAVČER, Petra. Čiščenje odpadne vode v barvarni tekstilnega materiala s flokulacijo in ponovna uporaba očiščene vode = Wastewater treatment in dyehouse using flocculation method and water re-use. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2017, vol. 60, no. 2, str. 137-151.

# ESTETIKA TEKSTILIJ IN OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| <b>Predmet:</b>                   | Estetika tekstilij in oblačil       |
| <b>Course title:</b>              | Aesthetics of Textiles and Clothing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                              |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068388 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11115   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |             |
|-----------------------------------|-------------|
| <b>Nosilec predmeta/Lecturer:</b> | Karin Košak |
|-----------------------------------|-------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

Predavanja:

- izvor, funkcija in pomen oblačenja / noša / moda / kulturni vzorci/ psihologija in sociologija mode/ umetnost / znanost / sodobni modni fenomeni / nove tehnologije /ekonomija / trajnost / digitalna moda
- poznavanje oblačil in tekstilij od historicističnih stilov 19. stoletja in Art Nouveau-ja do 20. stoletja,
- detajlno poznavanje posameznih obdobj in vodilnih kreatorjev 20. in 21. stoletja
- subkulturni stili druge polovice 20. stoletja,
- razvoj lepotnega ideala in specifičnih področij oblačenja in okraševanja: perilo, obuvala, pokrivala, pričeske in ličenje

Seminar:

- prepoznavanje govornice oblačil/ analiza stila javne osebnosti,

### Content (Syllabus outline):

Lectures:

- origin, function and meaning of dress / costume / fashion / cultural patterns / psychology and sociology of fashion / art / science / modern fashion phenomena / new technologies / economy / sustainability / digital fashion
- knowledge of clothing and textiles from historicist styles of the 19th century and Art Nouveau to the 20th century,
- detailed knowledge of specific periods and leading fashion designers of the 20th and 21st century
- subcultural styles of the second half of the 20th century,
- development of ideal of beauty and specific areas of clothing and decoration: underwear, footwear, headgear, hairstyles and makeup

Seminar work:

|                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>- uporaba govornice oblačil/ oblačenje za različne priložnosti,</li> <li>- prepoznavanje in uporaba metode »barvnega tipa«,</li> <li>- historični in sodobni kroji, modni dodatki in detajli.</li> </ul> | <ul style="list-style-type: none"> <li>- identifying the language of clothing / analysis of style of public personalities,</li> <li>- using of the language of clothing for different occasions,</li> <li>- identifying and using the method of "colour type"</li> <li>- historical and contemporary patterns, fashion accessories and details.</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- KRAŠOVEC POGORELČNIK, M. Estetika oblačenja. Velenje : Pozoj, 1997.
- DITZ, M. Oblačilni videz skozi stoletja. Ljubljana : Zavod Republike Slovenije za šolstvo, 1998.
- SEELING, C. Fashion, 150 years : couturiers, designers, labels. Potsdam : Ullmann, 2010.
- Fashion : the ultimate book of costume and style. London : Dorling Kindersley, 2012.
- WORSLEY, H. 100 ideas that changed fashion. London : Laurence King, 2019.

### Cilji in kompetence:

#### Cilji:

Cilj predmeta je študenta pripraviti in usposobiti za sodelovanje z oblikovalcem in potrošnikom. S pomočjo poznavanja osnovnih oblik oblačil in tekstilij ter razumevanja povezanosti s političnimi, družbenimi in tehnološkimi dejavniki, ki so vplivali nanje, mora biti sposoben razumevanja teh odnosov in njihovega apliciranja v današnje razmere.

#### Kompetence:

- razumevanje povezanosti oblačil in tekstilij ter kulturnega razvoja in oblikovnih stilov slikarstva, kiparstva, arhitekture in dizajna,
- razumevanje osnovnih socioloških in psiholoških vidikov oblačenja,
- dobro poznavanje modnih stilov in kreatorjev 20. stoletja,
- poznavanje govornice oblačil, sposobnost analize oblačilnega stila in oblačenja za različne priložnosti,
- sposobnost prepoznavanja skladnosti med funkcijo in obliko, konstrukcijo in proporci človeškega telesa in oblačila,
- prepoznavanje »barvnih tipov«
- prepoznavanje tipov postav, oblačilnih silhuet in optičnih korekcij z linijami oblačil, detajli, vzorci in barvami.

### Objectives and competences:

#### Objectives:

The aim of course is to prepare and train the student for cooperation with designers, companies and consumers. With knowledge of the basic forms of garments and textiles, and understanding the relationship with the political, social and technological factors that affect them, they must be capable of understanding these relationships and their application in the present situation.

#### Competences:

- understanding the relationship of garments and textiles, cultural development and design styles of painting, sculpture, architecture and design,
- understanding of basic sociological and psychological aspects of clothing,
- good knowledge of fashion styles and designers of the 20th century,
- familiarity with the language of clothes, the ability to analyze clothing styles and clothing for different occasions,
- ability to recognize the consistency between function and form, structure and proportions of the human body and clothing,
- recognition of »colour types«
- identifying body types, clothing silhouettes and optical corrections with clothing lines, details, patterns and colors.

### Predvideni študijski rezultati:

#### Znanje in razumevanje:

- Poznavanje dinamike in dejavnikov spreminjanja oblačil in tekstilij skozi zgodovinska obdobja do 21. stoletja,
- razumevanje in uporaba govornice oblačil in njihove povezanosti s spremembami v družbi,
- sposobnost razvoja historičnih krojev in detajlov za današnjo uporabo.

### Intended learning outcomes:

#### Knowledge and understanding:

- Knowing the dynamics and factors changing the garments and textiles through historical periods to the 21st century,
- understanding and using the language of clothing and their relationship to changes in the society,
- the ability of transforming the historical patterns and details for today's use.

### Metode poučevanja in učenja:

### Learning and teaching methods:

|                                                                |                                                                                                 |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Predavanja, seminarji, raziskovalni seminarji, projektno delo. | Lectures, computational and experimental work in a mechanically technological laboratory of the |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b>   |
|----------------------------|---------------------|----------------------|
| Pisni izpit                | 50,00 %             | Written exam         |
| seminar                    | 50,00 %             | written seminar work |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

**Reference nosilca/Lecturer's references:**

- 41 Izvedenih kostumografij za gledališče/ opero/ balet/ film v Sloveniji, od tega 18 v Avstriji in Švici
- KOŠAK, Karin. Bühnenbilder und Kostüme : [samostojna razstava] : Wiener Festwochen, 18. Mai - 25. Juni 1999, Theater Akzent, Wien. 1999. [COBISS.SI-ID 3106672]; katalog [COBISS.SI-ID 624752]
- KOŠAK, K.. Razvoj oblikovanja. Ljubljana: Naravoslovno-tehniška fakulteta, Oddelek za tekstilstvo, 2009. 116 str. ISBN 978-961-6045-76-6. [COBISS.SI-ID 247472384] / Univerzitetni učbenik z recenzijo (knjiga in optični disk)
- KOŠAK, Karin. Hiša MV 41 : idejno preoblikovanje. 2023 [COBISS.SI-ID 168748547].
- KOŠAK, Karin, MUCK, Deja, ČUK, Marjeta, KOČEVAR, Tanja Nuša. 3D printed jewellery design process based on sculpture inspiration. 10th International Symposium on Graphic Engineering and Design GRID, 2020. ISBN 978-86-6022-303-8. ISSN 2620-1437. [COBISS.SI-ID 37791747]

# FIZIKALNO-MEHANSKE LASTNOSTI TEKSTILIJ IN OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                                         |
|-----------------------------------|---------------------------------------------------------|
| <b>Predmet:</b>                   | Fizikalno-mehanske lastnosti tekstilij in oblačil       |
| <b>Course title:</b>              | Physical-mechanical properties of textiles and clothing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                                  |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068389 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11119   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 30                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Matejka Bizjak |
|-----------------------------------|----------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                                |
|------------------------------------------------------------------------------|--------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>          |
| Vpis v letnik študija.                                                       | Enrolment into the study year. |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Spoznavanje osnovnih fizikalno mehanskih lastnosti, prepustnosti lastnosti in prevodnosti tekstilij. Spoznavanje fizikalno mehanskih lastnosti različnih tekstilnih struktur: linijskih, ploskih in prostorskih. Spoznavanje vplivov geometrijskih in konstrukcijskih značilnosti tekstilij na osnovne fizikalno-mehanske lastnosti ter medsebojni vplivi. Geometrija in fizikalno mehanske lastnosti končnih izdelkov (oblačil in drugih šivanih/spojenih tekstilnih izdelkov) ter njihov vpliv na uporabne lastnosti. Sistemi za objektivno vrednotenje fizikalno mehanskih lastnosti. | Learning about basic physical - mechanical properties, permeability characteristics and conductivity of textiles. Learning about the physical - mechanical properties of different textile structures: linear, flat and spacer. Understand the influences of geometric and constructional characteristics of textiles on the basic physical-mechanical properties and how they affect each other. Geometry and physical-mechanical properties of final products (garments and other sewn/joined textile products) and their influence on performance characteristics. Systems for objective evaluation of physical and mechanical properties. |

|                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                     |
| BIZJAK, M. Izročki predavanj Fizikalno mehanske lastnosti tekstilij in oblačil in drugo študijsko gradivo, dostopno v spletni učilnici predmeta. |

DREAN, J.-Y., CABEÇO SILVA, A., CABEÇO SILVA, M. Relationships between mechanical properties of fibres and mechanical properties of yarns. Guimarães : Comett Eurotex, 1991  
 MORTON, W. E. ; HEARLE, JOHN W. S. Physical properties of textile fibres. Manchester : The Textile institute, 1993  
 CARTY, P. Fibre Properties. Newcastle upon Tyne : Form Word Limited, 1994.  
 COLLIER, B. J., TORTORA, P.G. Understanding textiles - Upper Saddle River : Prentice Hall, 2001  
 DOBNIK-DUBROVSKI DOBNIK, P. Konstrukcija tekstilij : univerzitetni učbenik : Maribor : Fakulteta za strojništvo, Oddelek za tekstilne materiale in oblikovanje, 2007

#### **Cilji in kompetence:**

Študent spozna temeljne geometrijske, fizikalne in mehanske lastnosti linijskih, ploskih in prostorskih tekstilnih izdelkov (vlakn, prej, netkanih tekstilij, pletiv, tkanin, brezšivnih in šivanih gotovih izdelkov) ter njihovo povezanost z obnašanjem teh tekstilij pri predelavi in uporabi.

#### **Objectives and competences:**

The student knows the basic geometrical, physical and mechanical properties of the linear flat and spatial textile products (fiber, yarn, woven textiles, knitted fabrics, woven fabrics, seamless and welded finished products) and their connection with the behavior of these textiles during processing and use.

#### **Predvideni študijski rezultati:**

Poznavanje geometrijskih, fizikalnih in mehanskih lastnosti linijskih, ploskovnih in prostorskih tekstilij.  
 Poznavanje osnovnih fizikalnih pojmov.  
 Razumevanje vpliva geometrijskih, fizikalnih in mehanskih lastnosti tekstilij na obnašanje le-teh.

#### **Intended learning outcomes:**

Knowledge of geometrical, physical and mechanical properties of regular, flat and spatial textiles.  
 Knowledge of basic physical concepts.  
 Understanding the impact of the geometric, physical and mechanical properties of textiles on their behavior.

#### **Metode poučevanja in učenja:**

Predavanja  
 Seminar  
 Računske in praktične vaje

#### **Learning and teaching methods:**

Lectures  
 Seminar  
 Tutorial: Calculation and practical exercises

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                          |         |                                |
|--------------------------|---------|--------------------------------|
| • Izpit (pisni/ustni)    | 50,00 % | • Written examination          |
| • Predstavitev seminarja | 20,00 % | • Presentation of seminar work |
| • Kolokvij iz vaj        | 30,00 % | • colloquium from tutorial     |

#### **Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### **Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### **Reference nosilca/Lecturer's references:**

- KOSTAJNŠEK, Klara, BIZJAK, Matejka. Estimation of permeability properties of technologically developed jacquard fabrics = Ocena svojstva propustljivosti žakar tkanina dobijenih tehnološkim postupkom. Hemijska industrija. 2023, vol. 77, no. 3, str. 191-202. ISSN 2217-7426.
- STANKOVIĆ, Snežana, PAVLOVIĆ, Sanja, BIZJAK, Matejka, POPOVIĆ, Dušan M., POPARIĆ, Goran. Thermal design method for optimization of dry heat transfer through hemp-based knitted fabrics. Journal of natural fibers. 2022, vol. 19, iss. 15, str. 12155–12167. ISSN 1544-0478.
- KOSTAJNŠEK, Klara, DIMITROVSKI, Krste, KADOGLU, Hüseyin, ÇELİK, Pinar, BAŞAL BAYRAKTAR, Güldemet, ÜTE, Tuba Bedez, DURAN, Deniz, ERTEKIN, Mustafa, DEMŠAR, Andrej, BIZJAK, Matejka. Functionalization of woven fabrics with PBT yarns. *Polymers*. 2021, vol. 13, iss. 2, str. 1-19, ilustr. ISSN 2073-4360.
- ČUK, Marjeta, BIZJAK, Matejka, KOČEVAR, Tanja Nuša. Influence of simple and double-weave structures on the adhesive properties of 3D printed fabrics. *Polymers*. 2022, vol. 14, iss. 4, str. 1-18, ilustr. ISSN 2073-4360.

- BIZJAK, Matejka. Texprocess 2022 – Več kot napredek = Texprocess 2022 – More than progress. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2023, vol. 66, priloga 1, str. si 22-si 29, ilustr. ISSN 0351-3386. [COBISS.SI-ID [161366787](#)]
- BIZJAK, Matejka. ITMA 2019 - Tkanje = ITMA 2019 - Weaving. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2020, vol. 63, priloga 1, str. si100-sl111, ilustr. ISSN 0351-3386. [COBISS.SI-ID 21052931]

# INFORMACIJSKE KOMPETENCE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                          |
|-----------------------------------|--------------------------|
| <b>Predmet:</b>                   | Informacijske kompetence |
| <b>Course title:</b>              | Information competences  |
| <b>Članica nosilka/UL Member:</b> | UL NTF                   |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0644162

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 15                 |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Danica Dolničar

Vrsta predmeta/Course type: Izbirni/Elective

Jeziki/Languages:

|                      |             |
|----------------------|-------------|
| Predavanja/Lectures: | Slovenščina |
| Vaje/Tutorial:       | Slovenščina |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Prisotnost študentov pri pouku: predavanja 70 %, vaje 100 %, seminar 90 %, druge oblike dela 90 %.  
Pogoji za pristop k izpitu so opravljene vaje in seminarski izdelek.

**Prerequisites:**

Recommended attendance: lectures 70%, lab 100%, seminar 90%, other forms of work 90%.  
Conditions for the exam are completed practical work and the seminar product.

**Vsebina:**

Strokovni pojmi s področja virov informacij. Digitalni informacijski viri za strokovno/študijsko področje. Informacijska pismenost in elementi vizualne, podatkovne in digitalne pismenosti. Priprava referenc po uveljavljenih bibliografskih standardih, citiranje, programska oprema. Pridobivanje podatkov. Iskalni profili za osnovno in napredno iskanje v specializiranih podatkovnih zbirkah in na spletu. Združevalni iskalniki, bibliografske, faktografske in multimedijske zbirke za področje študija: struktura, lastnosti, primeri uporabe. Intelktualna lastnina: avtorske pravice, tržne znamke, modeli in vzorci, geografske označbe, patenti. Informacijska varnost. Interpretacija vizualizacij podatkov. Metode in tehnike analize podatkov, orodja. Informacijske metode in tehnike za strukturiranje in vizualizacijo

**Content (Syllabus outline):**

Professional concepts in the field of information sources. Digital information resources for professional/study areas. Information literacy and elements of visual, data and digital literacy. Preparation of references according to established bibliographic standards, citation, software. Data acquisition. Search profiles for basic and advanced searches in specialised databases and on the web. Federated search engines, bibliographic, factual and multimedia databases for the field of study: structure, properties, applications. Intellectual property: copyright, trademarks, designs, geographical indications, patents. Information security. Interpretation of data visualisations. Data analysis methods and techniques, tools. Information methods and techniques for data structuring and visualisation.

|                                                                                                                                                    |                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| podatkov. Sinteza informacij v znanje. Priprava strokovnih člankov, diplomskega dela in vizualnih predstavitev: metodologija in programska orodja. | Synthesis of information into knowledge. Preparation of professional journal articles, diploma thesis and visual presentations: methodology and software tools. |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- Informacijske kompetence - študijska gradiva v spletni učilnici (study materials in the online Moodle classroom)
- Merila in kazalci informacijske pismenosti v visokem šolstvu. 2010, Ljubljana: Zveza bibliotekarskih društev Slovenije. (prevedeno iz Information literacy competency standards for higher education. 2000, ACRL) Dostopno: [https://www.ala.org/acrl/sites/ala.org/acrl/files/content/standards/infolit\\_slovenian.pdf](https://www.ala.org/acrl/sites/ala.org/acrl/files/content/standards/infolit_slovenian.pdf)
- Visual Literacy Competency Standards for Higher Education. 2011, ACRL. Dostopno: <https://www.ala.org/acrl/standards/visualliteracy>
- Ridsdale, C., Rothwell, J., Smit, M., Ali-Hassan, H., Bliemel, M., Irvine, D., ... & Wuetherick, B. Strategies and best practices for data literacy education: Knowledge synthesis report. 2015, Dalhousie University, NS, Canada. Dostopno: <https://dalspace.library.dal.ca/bitstream/handle/10222/64578/Strategies%20and%20Best%20Practices%20for%20Data%20Literacy%20Education.pdf>
- DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes. Dostopno: [https://publications.jrc.ec.europa.eu/repository/bitstream/JRC128415/JRC128415\\_01.pdf](https://publications.jrc.ec.europa.eu/repository/bitstream/JRC128415/JRC128415_01.pdf)
- Chowdhury, G.G. Introduction to modern information retrieval. Third edition, London: Facet Publishing, 2010.

### Cilji in kompetence:

Cilji: Študent razume pomen informacijske, vizualne, podatkovne in digitalne pismenosti; zna pridobivati, urejati in obdelovati strokovne informacije za svoje študijsko področje; zna poiskati kvalitetne informacijske vire v splošnih in profesionalnih podatkovnih zbirkah; obvlada pravilno citiranje virov; pozna osnove pravic osebne in industrijske intelektualne lastnine ter vrste licenc za dostop do digitalnih informacijskih virov; pozna in upošteva vidike informacijske varnosti; raziskovalne in literaturne podatke zna urediti v logične strukture in iz njih pripraviti vsebinsko sintezo; zna razbrati sporočilo vizualnih prikazov za strokovno področje; zna izbrati ustrezne metode za obdelavo/analizo podatkov; zna izbrati ustrezne načine vizualizacije podatkov/rezultatov; usposobi se za pisanje strokovnih besedil in pripravo vizualnih predstavitev; pozna osnovne pravne in etične vidike pridobivanja in uporabe informacij in podatkov.

Predmetno specifične kompetence:

- obvladovanje informacijskih strategij in podatkovnih zbirk za samostojno iskanje, zajemanje in obdelavo znanstvenih in tehničnih informacij,
- poznavanje, razumevanje in pravilna uporaba kategorij intelektualne lastnine,
- upoštevanje vidikov informacijske varnosti,
- uporaba standardov in slogov za citiranje literature,
- sposobnost interpretacije grafičnih predstavitev podatkov,
- uporaba osnovnih orodij za analizo podatkov,

### Objectives and competences:

Objectives: The student understands the importance of information, visual, data and digital literacies; is able to acquire, structure and process professional information in the field of study; is able to find quality information sources in general and professional databases; masters the correct citation of literature sources; knows the basics of personal and industrial intellectual property rights and types of licences for access to digital information sources; knows and considers the aspects of information safety; is able to structure research and literature data into logical structures and prepare a synthesis of content; is able to decipher the message from visual representations in the professional field; is able to select appropriate methods for data processing/analysis; is able to select appropriate ways of visualising data/results; is capable of writing professional texts and preparing visual presentations; knows the basic legal and ethical aspects of acquisition and use of information and data.

Subject-specific competencies:

- mastering information strategies and databases to independently search, acquire and process scientific and technical information,
- knowledge, understanding and appropriate use of intellectual property categories,
- considering the aspects of information security
- using standards and styles for citing literature,
- ability to interpret graphical representations of data,
- using basic data analysis tools,

|                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• sposobnost izdelave učinkovitih grafičnih predstavitev podatkov,</li> <li>• uporaba informacijskih metod za urejanje in sintezo informacij v znanje,</li> <li>• sposobnost priprave strokovnih in tehničnih besedil ter predstavitev.</li> <li>• ustrezna raven informacijske, vizualne, podatkovne in digitalne pismenosti.</li> </ul> | <ul style="list-style-type: none"> <li>• ability to produce effective graphical representations of data,</li> <li>• using information methods for structuring and synthesis of information into knowledge,</li> <li>• ability to prepare professional and technical texts and presentations.</li> <li>• appropriate level of information, visual, data and digital literacies.</li> </ul> |
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#### **Predvideni študijski rezultati:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p>Znanje, razumevanje in uporaba:</p> <ul style="list-style-type: none"> <li>• meril in kazalcev informacijske pismenosti ter izbranih elementov vizualne, podatkovne in digitalne pismenosti,</li> <li>• citiranja različnih tipov primarnih dokumentov po bibliografskih standardih v različnih bibliografskih slogih,</li> <li>• bibliografskih, faktografskih in multimedijskih zbirk za področje študija,</li> <li>• profilov za enostavno in napredno iskanje informacij v podatkovnih zbirkah in/ali s pomočjo spletnih iskalnikov,</li> <li>• pravnih in etičnih vidikov intelektualne lastnine,</li> <li>• značilne zgradbe znanstvenega in strokovnega članka, patenta, diplomskega dela,</li> <li>• vidikov informacijske varnosti,</li> <li>• orodij za osnovno analizo podatkov,</li> <li>• interpretacije, načrtovanja in izdelave grafičnih predstavitev podatkov,</li> <li>• metod za združevanje podatkov v znanje,</li> <li>• metodoloških pristopov za izdelavo strokovnih besedil in vizualiziranih predstavitev za področje študija,</li> <li>• osnovnih orodij za predstavljanje znanstvenih in strokovnih informacij v digitalnih okoljih.</li> </ul> |
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#### **Intended learning outcomes:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>Knowledge, understanding and use of:</p> <ul style="list-style-type: none"> <li>• standards and outcomes of information literacy and selected elements of visual, data and digital literacies,</li> <li>• citing different types of primary documents according to bibliographic standards in a variety of bibliographic styles,</li> <li>• bibliographic, factual and multimedia databases in the field of study,</li> <li>• profiles for simple and advanced information searches in databases and/or web search engines,</li> <li>• legal and ethical aspects of intellectual property,</li> <li>• characteristic structure of the scientific and technical articles, patent, diploma thesis,</li> <li>• aspects of information safety,</li> <li>• tools for basic data analysis,</li> <li>• interpretation, planning and production of graphic representations of data,</li> <li>• methods for synthesizing data into knowledge,</li> <li>• methodological approaches for the production of professional texts and visual presentations in the field of study,</li> <li>• basic tools for presenting scientific and professional information in digital environments.</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### **Metode poučevanja in učenja:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Predavanje z demonstracijami primerov, vaje v računalniški učilnici oz. na daljavo, seminarsko projektno delo s predstavitvami izdelkov in razpravo. Pri delu se uporablja spletna učilnica Moodle na NTF platformi za nalaganje statičnih in interaktivnih študijskih gradiv, navodil za vaje in seminar, oddajo delovnih listov študentov, izdelkov vaj in seminarjev, ter za komunikacijo s študenti. Aktivnosti poučevanja in učenja potekajo na fakulteti in/ali prek spleta (online).</p> |
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#### **Learning and teaching methods:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Lectures with demonstrations of examples, practical work in a computer room or online, seminar project work with presentations and discussions. The Moodle online classroom on the NTF platform is used for uploading of static and interactive study materials, computer lab and seminar instructions, submission of student worksheets, computer lab assignments, seminar products, and for communication with students. Teaching and learning activities take place at the faculty and/or online.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                                                                                                                                                            |         |                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------|
| • Pisni ali ustni izpít                                                                                                                                    | 50,00 % | • Written or oral exam                                                                                                                     |
| • Ocena vaj                                                                                                                                                | 25,00 % | • Practical exercises                                                                                                                      |
| • Ocena seminarskega projektnega izdelka. Vse delne ocene morajo biti pozitivne. Aktivnosti ocenjevanja potekajo na fakulteti in/ali prek spleta (online). | 25,00 % | • Assessment of a seminar project work All partial grades must be positive. Assessment activities take place at the faculty and/or online. |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

**Reference nosilca/Lecturer's references:**

- DOLNIČAR, Danica, BOH PODGORNİK, Bojana, BARTOL, Tomaž, ŠORGO, Andrej. Added value of secondary school education toward development of information literacy of adolescents. *Library & Information Science Research : an international journal*. [Print ed.]. 2020, vol. 42, no. 2, str. 1-18. ISSN 0740-8188. DOI: 10.1016/j.lisr.2020.101016. [COBISS.SI-ID 16455171]
- DOLNIČAR, Danica, BOH PODGORNİK, Bojana, BARTOL, Tomaž, ŠPERNJAK, Andreja, ŠORGO, Andrej. Predlog meril in kazalcev informacijske pismenosti za srednje šole = Proposed information literacy standards and performance indicators for secondary education. *Knjižnica : revija za področje bibliotekarstva in informacijske znanosti*. [Tiskana izd.]. 2018, 62, [št.] 1/2, str. 69-91. ISSN 0023-2424. [COBISS.SI-ID 1412446]
- BARTOL, Tomaž, DOLNIČAR, Danica, BOH PODGORNİK, Bojana, RODIČ, Blaž, ZORANOVIĆ, Tihomir. A comparative study of information literacy skill performance of students in agricultural sciences. *Journal of academic librarianship*. [Print ed.]. 2018, iss. 3, vol. 44, str. 374-382. ISSN 0099-1333. DOI: 10.1016/j.acalib.2018.03.004. [COBISS.SI-ID 1397854]
- BOH PODGORNİK, Bojana, DOLNIČAR, Danica, GLAŽAR, Saša A. Does the information literacy of university students depend on their scientific literacy?. *Eurasia journal of mathematics, science and technology education*. 2017, vol. 13, iss. 7, str. 3869-3891. [COBISS.SI-ID 1340510]
- DOLNIČAR, Danica, BOH PODGORNİK, Bojana, BARTOL, Tomaž. A comparative study of three teaching methods on student information literacy in stand-alone credit-bearing university courses. *Journal of information science*. [Online ed.]. 2017, vol. 43, iss. 5, str. 601-614. ISSN 1741-6485. DOI: 10.1177/0165551516655084. [COBISS.SI-ID 127062]
- BOH PODGORNİK, Bojana, BARTOL, Tomaž, ŠORGO, Andrej, RODIČ, Blaž, DOLNIČAR, Danica. STIP - slovenski test informacijske pismenosti študentov = SILT - students' information literacy test in the Slovenian language. *Knjižnica : revija za področje bibliotekarstva in informacijske znanosti*. 2017, 61, [št.] 3, str. 87-111. [COBISS.SI-ID 1378910]

# INFORMACIJSKE TEHNOLOGIJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                           |
|-----------------------------------|---------------------------|
| <b>Predmet:</b>                   | Informacijske tehnologije |
| <b>Course title:</b>              | Information technologies  |
| <b>Članica nosilka/UL Member:</b> | UL NTF                    |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068390 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11114   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                    | 0                                             | 60                                          | 4    |

|                                   |                  |
|-----------------------------------|------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Stanislav Praček |
|-----------------------------------|------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                       |                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                       | <b>Content (Syllabus outline):</b>                                                                                                                                                    |
| Računalnik in računalniška oprema<br>Uporabniški programi – internet<br>Uporabniški programi – multimedija<br>Programski številski sistemi in barvni modeli<br>Microsoft Office<br>Informacijski viri | Computer and computer's hardware<br>User applications – web<br>User applications – multimedia<br>Computer number system and color models<br>Microsoft Office<br>Information resources |

### Temeljna literatura in viri/Readings:

NAHTIGAL F. Spoznajmo osebni računalnik : z osnovnimi temami iz računalništva in informatike, 2006  
 PRAČEK S. Informacijske tehnologije: predavanja. [Elektronski vir], študijsko gradivo 2011  
 PRAČEK S. Informacijske tehnologije: vaje. [Elektronski vir], študijsko gradivo 2011

|                                                                                          |                                                                                                  |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Cilji in kompetence:</b>                                                              | <b>Objectives and competences:</b>                                                               |
| Seznanitev študentov z računalnikom, njegovimi komponentami in računalniškimi uporabniki | Presentation of the computer and its hardware components and computer applications. Students get |

|                                                                                 |                                                                          |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| programi. Študenti obvladajo dela z računalnikom v spletnem in lokalnem okolju. | the competences for work with computer in the web and in the local area. |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------|

|                                                                                                                                                                                                  |                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predvideni študijski rezultati:</b>                                                                                                                                                           | <b>Intended learning outcomes:</b>                                                                                                                                                  |
| Znanje in razumevanje:<br>Samostojna uporaba računalnika kot pripomoček pri vsakdanjem delu in pri nadaljevanju študija.<br>Razumevanje principa delovanja računalnika in pripadajočih sistemov. | Knowledge and understanding:<br>Independent using of computer as tool at everyday work and continuous of study. understanding of principle of computer functioning and its systems. |

|                                                                                                   |                                                                                      |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Metode poučevanja in učenja:</b>                                                               | <b>Learning and teaching methods:</b>                                                |
| Predavanja, praktične vaje z računalnikom in izdelava lastne seminarske naloge v okviru predmeta. | Lectures, practical work with compouter and making seminar work on the subject area. |

|                                 |                     |                                             |
|---------------------------------|---------------------|---------------------------------------------|
| <b>Načini ocenjevanja:</b>      | <b>Delež/Weight</b> | <b>Assessment:</b>                          |
| Način (pisni interaktivni izpit | 80,00 %             | Type (Interactive or written examination, ) |
| seminarska naloga               | 20,00 %             | coursework                                  |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference nosilca/Lecturer's references:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• PRAČEK, Stanislav. Theory of string motion in the textile process of yarn unwinding. International journal of nonlinear sciences and numerical simulation, 2007, let. 8, št. 3, str. 451-460.</li> <li>• PRAČEK, Stanislav, MOŽINA, Klemen, SLUGA, Franci. Shock in the yarn during unwinding from packages. Abstr. appl. anal., 2013, vol. 2013, art. ID 972941, 6 str. <a href="http://dx.doi.org/10.1155/2013/972941">http://dx.doi.org/10.1155/2013/972941</a>, doi: 10.1155/2013/972941. [COBISS.SI-ID 2864240].</li> <li>• PRAČEK, Stanislav, MOŽINA, Klemen, SLUGA, Franci. Yarn motion during unwinding from packages. Math. comput. model. dyn. syst., 2012, vol. 18, no. 6, str. 553-569. <a href="http://www.tandfonline.com/doi/abs/10.1080/13873954.2012.674688">http://www.tandfonline.com/doi/abs/10.1080/13873954.2012.674688</a>, doi: 10.1080/13873954.2012.674688. [COBISS.SI-ID 2724976].</li> <li>• PRAČEK, Stanislav, SLUGA, Franci. Numerical simulations of yarn unwinding from packages. Mathematical and computational applications in science and engineering, 2010, vol. 15, no. 5, str. 846-852, ilustr. <a href="http://mcajournal.org/specialissuevolume15_5/14.pdf">http://mcajournal.org/specialissuevolume15_5/14.pdf</a>. [COBISS.SI-ID 2551664].</li> <li>• PRAČEK, Stanislav, SLUGA, Franci. Matematical model for yarn unwinding from packages. Mathematical and computational applications in science and engineering, 2010, vol. 15, no. 5, str. 853-858, ilustr. <a href="http://www.mcajournal.org/specialissuevolume15_5/15.pdf">http://www.mcajournal.org/specialissuevolume15_5/15.pdf</a>. [COBISS.SI-ID 2551920].</li> </ul> |

# IZBIRNI PREDMET 1

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Izbirni predmet 1  |
| <b>Course title:</b>              | Optional subject 1 |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0111837 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11110   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

|                      |                      |
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| Predavanja/Lectures: | <input type="text"/> |
| Vaje/Tutorial:       | <input type="text"/> |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b> |
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| <b>Vsebina:</b>      | <b>Content (Syllabus outline):</b> |
| <input type="text"/> | <input type="text"/>               |

**Temeljna literatura in viri/Readings:**

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| <b>Cilji in kompetence:</b> | <b>Objectives and competences:</b> |
| <input type="text"/>        | <input type="text"/>               |

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| <b>Predvideni študijski rezultati:</b> | <b>Intended learning outcomes:</b> |
| <input type="text"/>                   | <input type="text"/>               |

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| <b>Metode poučevanja in učenja:</b> | <b>Learning and teaching methods:</b> |
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| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b> |
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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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## IZBIRNI PREDMET 2

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                    |
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| <b>Predmet:</b>                   | Izbirni predmet 2  |
| <b>Course title:</b>              | Optional subject 2 |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0111839 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11111   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 15                  | 15                 | 0                                    | 0                                             | 60                                          | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

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|----------------------|--|
| Predavanja/Lectures: |  |
| Vaje/Tutorial:       |  |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b> |
| <input type="text"/>                                                         | <input type="text"/>  |

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| <b>Vsebina:</b>      | <b>Content (Syllabus outline):</b> |
| <input type="text"/> | <input type="text"/>               |

**Temeljna literatura in viri/Readings:**

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| <b>Cilji in kompetence:</b> | <b>Objectives and competences:</b> |
| <input type="text"/>        | <input type="text"/>               |

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| <b>Predvideni študijski rezultati:</b> | <b>Intended learning outcomes:</b> |
| <input type="text"/>                   | <input type="text"/>               |

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| <b>Metode poučevanja in učenja:</b> | <b>Learning and teaching methods:</b> |
| <input type="text"/>                | <input type="text"/>                  |

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| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b> |
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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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## IZBIRNI PREDMET 3

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

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|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Izbirni predmet 3  |
| <b>Course title:</b>              | Optional subject 3 |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

|                                                            |         |
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| <b>Univerzitetna koda predmeta/University course code:</b> | 0111840 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11111   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 45                      | 15                  | 0                  | 0                                    | 0                                             | 60                                          | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

|                      |  |
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| Predavanja/Lectures: |  |
| Vaje/Tutorial:       |  |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b> |
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| <b>Vsebina:</b>      | <b>Content (Syllabus outline):</b> |
| <input type="text"/> | <input type="text"/>               |

**Temeljna literatura in viri/Readings:**

|                             |                                    |
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| <b>Cilji in kompetence:</b> | <b>Objectives and competences:</b> |
| <input type="text"/>        | <input type="text"/>               |

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| <b>Predvideni študijski rezultati:</b> | <b>Intended learning outcomes:</b> |
| <input type="text"/>                   | <input type="text"/>               |

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| <b>Metode poučevanja in učenja:</b> | <b>Learning and teaching methods:</b> |
| <input type="text"/>                | <input type="text"/>                  |

**Načini ocenjevanja:** **Delež/Weight** **Assessment:**

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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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## IZBIRNI PREDMET 4

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

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| <b>Predmet:</b>                   | Izbirni predmet 4  |
| <b>Course title:</b>              | Optional subject 4 |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0111841 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11112   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 |                                         |                                                     | 60                                                | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

|                      |  |
|----------------------|--|
| Predavanja/Lectures: |  |
| Vaje/Tutorial:       |  |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

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**Prerequisites:**

**Vsebina:**

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**Content (Syllabus outline):**

**Temeljna literatura in viri/Readings:**

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**Cilji in kompetence:**

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**Objectives and competences:**

**Predvideni študijski rezultati:**

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**Intended learning outcomes:**

**Metode poučevanja in učenja:**

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**Learning and teaching methods:**

**Načini ocenjevanja:**

**Delež/Weight Assessment:**

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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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## IZBIRNI PREDMET 5

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

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|-----------------------------------|-------------------|
| <b>Predmet:</b>                   | Izbirni predmet 5 |
| <b>Course title:</b>              | Optional course 5 |
| <b>Članica nosilka/UL Member:</b> | UL NTF            |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

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| <b>Univerzitetna koda predmeta/University course code:</b> | 0111842 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11113   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 15                 |                                         |                                                     | 60                                                | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

|                      |  |
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| Predavanja/Lectures: |  |
| Vaje/Tutorial:       |  |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b> |
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| <b>Vsebina:</b>      | <b>Content (Syllabus outline):</b> |
| <input type="text"/> | <input type="text"/>               |

**Temeljna literatura in viri/Readings:**

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| <b>Cilji in kompetence:</b> | <b>Objectives and competences:</b> |
| <input type="text"/>        | <input type="text"/>               |

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| <b>Predvideni študijski rezultati:</b> | <b>Intended learning outcomes:</b> |
| <input type="text"/>                   | <input type="text"/>               |

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|-------------------------------------|---------------------------------------|
| <b>Metode poučevanja in učenja:</b> | <b>Learning and teaching methods:</b> |
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| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b> |
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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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## IZBIRNI PREDMET 6

### UČNI NAČRT PREDMETA/COURSE SYLLABUS

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|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Izbirni predmet 6  |
| <b>Course title:</b>              | Optional subject 6 |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

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| <b>Univerzitetna koda predmeta/University course code:</b> | 0111843 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11114   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 45                      | 15                  | 0                  |                                         |                                                     | 60                                                | 4    |

**Nosilec predmeta/Lecturer:**

**Vrsta predmeta/Course type:**

**Jeziki/Languages:**

|                      |  |
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| Predavanja/Lectures: |  |
| Vaje/Tutorial:       |  |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

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**Prerequisites:**

**Vsebina:**

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**Content (Syllabus outline):**

**Temeljna literatura in viri/Readings:**

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**Cilji in kompetence:**

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**Objectives and competences:**

**Predvideni študijski rezultati:**

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**Intended learning outcomes:**

**Metode poučevanja in učenja:**

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**Learning and teaching methods:**

**Načini ocenjevanja:**

**Delež/Weight Assessment:**

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**Ocenjevalna lestvica:**

**Grading system:**

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**Reference nosilca/Lecturer's references:**

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# KONFEKCIJA

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>Predmet:</b>                   | Konfekcija            |
| <b>Course title:</b>              | Apparel manufacturing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

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|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068402 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11134   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 45                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                |
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| <b>Nosilec predmeta/Lecturer:</b> | Matejka Bizjak |
|-----------------------------------|----------------|

|                                    |                      |
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| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
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| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

Priprava konfekcijske proizvodnje: tehnični razvoj izdelka in priprava proizvodnje podprta z uporaba CAD/CAM sistemov. Sodobni načini krojenja, spoznavanje medvlog in tehnološki proces stabiliziranja. Proces šivanja: tehnološke zahteve vbodov in šivov, spoznavanje sukancev, različne tehnike spajanja materialov, klasično spajanje materialov s šivanjem, sodobni brezšivni načini spajanja materialov, prednosti in slabosti brezšivnega spajanja (varjenja) materialov. Likanje in finišenje: pogoji likanja in sodobna industrijska strojna oprema. Kakovostne zahteve materialov in procesov. Trajnostni vidiki v sodobni konfekcijski industriji. Vaje: Praktično spoznavanje različnih šivalnih strojev, vbodov in šivov; priprava krojne slike, izdelava krojne slike na CAD sistemu; spoznavanje brezšivnega spajanja materialov in preizkušanje varjenja različnih

### Content (Syllabus outline):

Preparation in apparel production: technical design and preparation for production, supported by the use of CAD/DAM systems. Contemporary cutting, knowledge about interlinings and fusing technology. Sewing techniques: technological requirements for stitches and seams, introduction to threads, various techniques for joining materials, conventional joining of materials by sewing modern seamless joining of materials, advantages and disadvantages of seamless joining (welding) of materials. Ironing and finishing: ironing conditions and modern industrial machines. Quality requirements for materials and processes. Sustainability aspects in the modern ready-to-wear industry. Exercises: practical introduction to various sewing machines, stitches and seams; preparation of laying

|                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                      |
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| materialov; fiksiranje medvlog in preizkušanje lastnosti fiksirancev; praktična izdelava vajenic in šivanje enega izdelka.<br>Seminar: samostojna priprava tehnološkega plana proizvodnje za izbrani izdelek in izračun končne cene. | and cutting plan with CAD system, , introduction to seamless joining of materials and testing of welding of different materials; fixing of interlinings, practical sewing of apprenticeships and sewing of one product<br>Seminar: independent preparation of a technological production plan for the product and price calculation. |
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### **Temeljna literatura in viri/Readings:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIZJAK, M.: Izročki predavanj predmeta Konfekcija in drugo študijsko gradivo dostopno v spletni učilnici predmeta<br>TYLER, D.J., CARR, H., LATHAM, B. Carr & Latham's. Technology of clothing manufacture, Oxford : Blackwell Science, 2000<br>COOKLIN, G. Introduction to clothing manufacture, Blackwell, 2002<br>Subramanian Senthilkannan Muthu, Miguel Angel , Sustainability in the textile and apparel industries: production process sustainability Springer, 2020<br>KEISER, S. J., GARNER, M. B. Beyond design : the synergy of apparel product development. New York : Fairchild Publications, 2005<br>Advances in apparel production. Textile Institute ; Boca Raton [etc.] : CRC Press ; Cambridge : Woodhead Publishing, 2008 |
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### **Cilji in kompetence:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Poznavanje tehničnega razvoja in priprave proizvodnje, specifičnosti posameznih tehnoloških procesov, zahtev kakovostnih in predelovalnih lastnosti osnovnih in pomožnih tekstilnih materialov ter njihov vpliv na kakovost.</p> <p>Razumevanje koncepta sodobne priprave proizvodnje. Razumevanje tehnoloških postopkov izdelave oblačil in drugih izdelkov, izbor delovnih sredstev ter spremljanje proizvodnje. Razumevanje sodobnih tehnik brezšivnega spajanje in vpliv le-teh na trajnostno konfekcijsko proizvodnjo.</p> <p>Razumevanje kakovostnih zahtev procesov in razumevanje digitalizacije proizvodnje oblačil.</p> <p>Poznavanje strokovne terminologije.</p> | <p>Understand technical design and technical preparation for production, the specifics of technological processes, quality requirements and processing characteristics of basic and auxiliary textile materials and their influence on quality.</p> <p>Understand the concept of modern production preparation. Understand the technological processes of manufacturing garments and other products, selection of work equipment and production monitoring. Understanding modern seamless joining techniques and their impact on sustainable apparel production. Understanding of the quality requirements of processes and understanding of the digitalization of garment production. Knowledge of technical terminology.</p> |
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### **Predvideni študijski rezultati:**

|                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Poznavanje sistemov označevanja velikosti oblačil ter sodobne priprave proizvodnje, tehnološkega procesa krojenja, tehnološkega procesa fiksiranja, tehnološkega procesa šivanja in drugih brezšivnih tehnik, tehnološkega procesa likanja in trendov avtomatizacije in digitalizacije v konfekcijski industriji.</p> <p>Pomen trajnostnih principov v konfekcijski industriji.</p> | <p>Intended learning outcomes:</p> <p>Knowledge of size table formulation and modern production preparation, cutting technique, fusing technique, sewing technique and other seamless joining techniques, ironing technique and trends of automation and digitization in apparel production. The importance of sustainability principles in the apparel industry.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Metode poučevanja in učenja:**

|                                                                                                                  |                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>– predavanja</li> <li>– seminar</li> <li>– laboratorijske vaje</li> </ul> | <p><b>Learning and teaching methods:</b></p> <ul style="list-style-type: none"> <li>– lectures</li> <li>– seminars</li> <li>– laboratory work</li> </ul> |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Načini ocenjevanja:**

### **Delež/Weight Assessment:**

|                               |         |                                         |
|-------------------------------|---------|-----------------------------------------|
| – pisni/ustni izpit           | 60,00 % | – written/oral exam                     |
| – seminarska naloga           | 20,00 % | – seminar work                          |
| – pisni/ustni kolokvij iz vaj | 20,00 % | – written/oral colloquium from tutorial |

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- KOSTAJNŠEK, Klara, PEULIČ, Sijetlana, BIZJAK, Matejka. Design and development of a jacquard fabric for zero- waste garments. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 16th International İzmir Textile & Apparel Symposium, IITAS 2023, October 25 - 27, 2023, İzmir-Türkiye. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2023. Str. 440-443, ilustr. ISBN 978-605-338-430-4.
- KOSTAJNŠEK, Klara, DIMITROVSKI, Krste, KADOGLU, Hüseyin, ÇELİK, Pinar, BAŞAL BAYRAKTAR, Güldemet, ÜTE, Tuba Bedez, DURAN, Deniz, ERTEKIN, Mustafa, DEMŠAR, Andrej, BIZJAK, Matejka. Functionalization of woven fabrics with PBT yarns. *Polymers*. 2021, vol. 13, iss. 2, str. 1-19, ilustr.
- STANKOVIĆ, Snežana, NOVAKOVIĆ, Milada, POPOVIĆ, Dušan M., POPARIĆ, Goran, BIZJAK, Matejka. Novel engineering approach to optimization of thermal comfort properties of hemp containing textiles. *The journal of The Textile Institute*. 2019, vol. 110, no. 9, str. 1271-1279,
- STANKOVIĆ, Snežana, BIZJAK, Matejka, POPOVIĆ, Dušan M., POPARIĆ, Goran. Different approaches to clothing comfort improvement. V: UROŠEVIĆ, Snežana (ur.). Proceedings = Zbornik radova. II International Scientific Conference Contemporary Trends and Innovations in the Textile Industry, CT&ITI 2019, Belgrade, 16-17th May, 2019 Str. 21-27, ilustr. ISBN 978-86-900426-1-6.
- BIZJAK, Matejka. Texprocess 2019 - prostor za napredek = Texprocess 2019 - space for progress. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2019, vol. 62, priloga 2, str. si 116-sl 122, ilustr. ISSN 0351-3386.
- BIZJAK, Matejka. Texprocess 2022 – Več kot napredek = Texprocess 2022 – More than progress. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2023, vol. 66, priloga 1, str. si 22-si 29, ilustr. ISSN 0351-3386. [COBISS.SI-ID 161366787]

# MEDICINSKE TEKSTILJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>Predmet:</b>                   | Medicinske tekstilije |
| <b>Course title:</b>              | Medical textiles      |
| <b>Članica nosilka/UL Member:</b> | UL NTF                |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0642834

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Brigita Tomšič

Vrsta predmeta/Course type: Izbirni/Elective

|                   |                      |                         |
|-------------------|----------------------|-------------------------|
| Jeziki/Languages: | Predavanja/Lectures: | Angleščina, Slovenščina |
|                   | Vaje/Tutorial:       | Angleščina, Slovenščina |

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisites:

|                        |                              |
|------------------------|------------------------------|
| Vpis v letnik študija. | Enrolment in the study year. |
|------------------------|------------------------------|

Vsebina:

Content (Syllabus outline):

Aktualne razmere medicinskih tekstilij in njihova pomembnost; Klasifikacija in pregled lastnosti in postopkov izdelave vlaken in polimerov za medicinske tekstilije; Razvrstitev medicinskih tekstilij glede na področja uporabe; Bolnišnične tekstilije in sanitetni material ter vloga higiene pranja in protimikrobne apreture pri nadzoru infekcij; Povoji (razvrstitev, kompresijski povoji in nogavice: lastnosti in zahteve); "Hi-tech" tekstilije za hitro celjenje ran in tekstilije v regenerativni medicini s poudarkom na izdelavi biomimetičnih oblog/matric s tehniko elektropredenja; Vloga tekstilij pri izdelavi implantatov; Pametne tekstilije v medicini; Standardi in predpisi za testiranje in ravnanje z medicinskimi tekstilijami; Medicinske tekstilije kot odpadki in možnost recikliranja.

Trends in medical textiles and their importance; Classification and overview of properties and methods of production of fibres and polymers intended for the use as medical textiles; Classification of medical textiles based on the application area; Hospital textiles and medical supplies and the role of hospital laundry hygiene and antimicrobial finishing in infection control; Bandages and compression systems (properties and requirements); "Hi-tech" textiles for wound care and textiles for regenerative medicine with the emphasis to obtain biomimetic dressings/scaffolds with electrospinning technique; Role of textiles for implants; Smart textile in medicine; Standards and regulations for testing and handling medical textiles; Medical textiles as waste and recyclability.

Temeljna literatura in viri/Readings:

- R. A. Scott, Textiles for protection, Woodhead Publishing, 2005
- Medical textiles and biomaterials for healthcare. S.C. Anand, J.F. Kennedy, M. Mirafteb and S. Rajendran (Eds.). Woodhead Publishing Limited: Cambridge, 2006, 508 str.
- Smart textiles for medicine and healthcare. Materials, systems and applications. L. Van Langenhove (Ed.). Woodhead Publishing Limited: Cambridge, 2007, 312 str.
- N. Pan and G. Sun, *Functional textiles for improved performance, protection and health*, Woodhead Publishing, cop. 2011
- Antimicrobial textiles. G. Sun (Ed.). Elsevier: Cambridge, 2016, 351 str.

#### **Dodatna literatura / Supplementary readings**

- V.T. Bartels, *Handbook of medical textiles*, Woodhead Publishing, Ltd. 2011
- S. Rajendran and S.C. Anand, *Developments in Medical Textiles*, The Textile Institute, Textile Progress, Vol 32., No.4.
- Izbrani članki iz domačih in tujih strokovnih revij, dostopnih v knjižnici Oddelka za tekstilstvo, grafiko in oblikovanje NTF in v elektronskih revijah.

#### **Cilji in kompetence:**

Cilj predmeta je osvojiti temeljna znanja s področja medicinskih tekstilij. Študent pozna področja uporabe medicinskih tekstilij in njihov namen, pozna specialna vlakna in polimere, njihovo kemično zgradbo, lastnost in namembnost. Pozna osnove naprednih tehnoloških postopkov izdelav medicinskih tekstilij glede na namembnost uporabe. Pozna prednosti z elektropredenjem izdelanih biomimetičnih oblog/matric. Študent pridobi sposobnost povezovanja znanja s področja tekstilne tehnologije in medicine.

#### **Objectives and competences:**

The aim of the course is to acquire basic knowledge in the field of medical textiles. Student knows the scope of medical textiles and their purpose, knows special fibres and polymers, their chemical structure, properties and purpose. Student knows the basics of technological processes for the production of medical textiles according to their intended use. Knows the advantages electrospun biomimetic dressings/scaffolds. The student acquires the ability to link knowledge in the field of textile technology and medicine.

#### **Predvideni študijski rezultati:**

Znanje in razumevanje:

- povezovanje znanja s področij konstrukcijskih, mehanskih, fizikalnih in kemijskih lastnosti tekstilij ter njihove modifikacije in funkcionalizacije za medicinske namene.
- poznavanje najsodobnejše tehnike elektropredenja in razumevanje njene prednosti na področju izdelave medicinskih tekstilij
- sposobnost spremljanja novosti na področju tekstilstva in iskanja možnosti za implementacijo le-teh v medicini.
- poznavanje kriterijev pri izdelavi medicinskih tekstilij in sposobnost svetovanja pri pripravi razpisov, nabavi in uvajanju novosti pri uporabi tekstilij v medicini.
- sposobnost ekološkega razmišljanja na področju izdelave medicinskih tekstilij.

#### **Intended learning outcomes:**

Knowledge and Understanding:

- Integration of knowledge in the field of structural, mechanical, physical and chemical properties of textiles and their modification and functionalization for medical purposes.
- Knowledge of the contemporary electrospinning technique and understanding of its advantages in the production of medical textiles.
- The ability to follow innovations in textiles and find opportunities for their use in medicine.
- The knowledge of the criteria in the manufacture of medical textiles and the ability to advise on the preparation of tenders, procurement and the introduction of innovations in the use of textiles in medicine.
- The ability to think ecologically in the field of medical textiles.

#### **Metode poučevanja in učenja:**

Predavanja, seminar

#### **Learning and teaching methods:**

Lectures, seminar work

#### **Načini ocenjevanja:**

Izpit

#### **Delež/Weight**

60,00 %

#### **Assessment:**

Exam

|                 |         |              |
|-----------------|---------|--------------|
| Seminarsko delo | 40,00 % | Seminar work |
|-----------------|---------|--------------|

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- ŠTULAR, Danaja, SAVIO, Elisa, SIMONČIČ, Barbara, ŠOBAK, Matic, JERMAN, Ivan, POLJANŠEK, Ida, FERRI, Ada, TOMŠIČ, Brigita. Multifunctional antibacterial and ultraviolet protective cotton cellulose developed by in situ biosynthesis of silver nanoparticles into a polysiloxane matrix mediated by sumac leaf extract. *Applied Surface Science*, 2021, vol. 563, str. 1-12.
- VASILJEVIĆ, Jelena, ŠTULAR, Danaja, KALČIKOVÁ, Gabriela, ZAJC, Janja, ŠOBAK, Matic, DEMŠAR, Andrej, TOMŠIČ, Brigita, SIMONČIČ, Barbara, ČOLOVIČ, Marija, ŠELIH, Vid Simon, JERMAN, Ivan. New insights into antibacterial and antifungal properties, cytotoxicity and aquatic ecotoxicity of flame retardant PA6/DOPO-derivative nanocomposite textile fibers. *Polymers*. 2021, vol. 13, iss. 6, str. 1-18.
- ŠTULAR, Danaja, KRUSE, Magnus, ŽUPUNSKI, Vera, KREINEST, Laura, MEDVED, Jože, GRIES, Thomas, BLAESER, Andreas, JERMAN, Ivan, SIMONČIČ, Barbara, TOMŠIČ, Brigita. "Smart" stimuli-responsive polylactic acid-hydrogel fibers produced via electrospinning. *Fibers and polymers*, 2019, vol. 20, no. 9, str. 1857-1868.
- ŠTULAR, Danaja, JERMAN, Ivan, SIMONČIČ, Barbara, GRGIĆ, Katia, TOMŠIČ, Brigita. Influence of the structure of a bio-barrier forming agent on the stimuli-response and antimicrobial activity of a "smart" non-cytotoxic cotton fabric. *Cellulose*. 2018, vol. 25, no. 10, str. 6231-6245.
- SIMONČIČ, Barbara, TOMŠIČ, Brigita. Recent concepts of antimicrobial textile finishes. V: MITTAL, Kashmiri Lal (ur.), BAHNERS, Thomas. *Textile finishing : recent developments and future trends*. 1st. Hoboken: Wiley; Beverly: Scrivener Publishing, 2017, str. [3]-50.

# NAČRTOVANJE TEKSTILIJ IN UDOBNOST OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| <b>Predmet:</b>                   | Načrtovanje tekstilij in udobnost oblačil         |
| <b>Course title:</b>              | Planning textiles and comfortableness of clothing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                            |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0565032 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11154   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 15                      | 15                  | 30                 |                                         |                                                     | 60                                                | 4    |

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Tatjana Rijavec |
|-----------------------------------|-----------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

Medsebojni vplivi lastnosti vlaken, prej, konstrukcije ploskovnih tekstilij in plemenitilnih postopkov na končne lastnosti oblačila.  
Celovit tehnološki postopek načrtovanja tekstilij od izbire vlaken, prej, načrtovanja ploskovnega izdelka, plemenitilnih postopkov.  
Definicija toplotne udobnosti.  
Dejavniki, ki vplivajo na toplotno udobje človeka.  
Normalna telesna temperatura.  
Nastanek toplote pri presnovi.  
Čutila in čutno delovanje človeka  
Subjektivno zaznavanje tekstilij s čutili  
Metode določanja toplotne udobnosti tekstilij in oblačil ter otipa tekstilij

### Content (Syllabus outline):

Interaction properties of the textile fibres, yarns, fabrics and finishing processes on the final properties of garment.  
An integrated technological process of planning from the selection of fibres, yarns, fabrics and finishing processes.  
Definition of thermal comfort.  
Factors affecting the thermal comfort of humans.  
Normal body temperature.  
Metabolic heat.  
Senses and sensual man operation.  
Subjective perception through the senses textiles.  
Methods for determining fabrics' and clothing comfort and fabrics' properties perceived by human touch.

### Temeljna literatura in viri/Readings:

1. GERŠAK, J. *Mehanske in fizikalne lastnosti tekstilnih materialov*. Maribor: Fakulteta za strojništvo, Oddelek za tekstilstvo, 2006.
2. JAKŠIČ, D. in JAKŠIČ, N. *Projektiranje in konstrukcija tekstilij in oblačil*. Ljubljana : samozal. D. Jakšič, 2023.
3. *Engineering textiles. Integrating the design and manufacture of textile products*. Ur. Y. E. El Mogahzy. Cambridge: Woodhead Publishing, Boca Raton e tal: The Textile Institute, CRC Press. 2009.
4. *Improving comfort in clothing*. Uredil Guowen Song. Oxford, Cambridge, Philadelphia, New Delhi : Woodhead Publishing, 2011. ISBN 978-1-84569-539-2 (print), ISBN 978-0-85709-064-5.
5. RADOSTINA, A. *Textiles and human thermophysiological comfort in the indoor environment*. Boca Raton : CRC Press, 2016.

Članki v domačih in tujih strokovnih revijah, dosegljivih v knjižnici Oddelka za tekstilstvo, grafiko in oblikovanje, Univerze v Ljubljani.

#### Cilji in kompetence:

Predmet je zasnovan tako, da povezuje uporabna znanja strokovnih predmetov z namenom tehnološkega načrtovanja tekstilij in oblačil ter da poda temeljna znanja o udobnosti tekstilij oblačil. Specifične kompetence, ki jih študent pridobi so sledeče:

- poznavanje tehnološke verige od vlaken, preje, ploskovne tekstilije do konfencioniranega izdelka
- razumevanje vpliva lastnosti tekstilne surovine, konstrukcije preje in ploskovne tekstilije ter plemenitilnih postopkov na končne lastnosti konfencioniranega izdelka
- poznavanje postopka za analitično oceno kakovosti tekstilije
- poznavanje fiziologije človeškega telesa in klimatskih pogojev na Zemlji ter upoštevanje njenega vpliva pri konstrukciji udobnega oblačila
- razvoj novega izdelka od ideje do prototipa
- poznavanje strokovne terminologije
- sposobnost identificiranja praktičnih problemov, njihove teoretične analize, iskanja rešitev in ustrezno ukrepanje
- sposobnost aktivnega sodelovanja pri projektne delu.

#### Objectives and competences:

The course is designed to connect practical knowledge of professional subjects in order to planning textiles and garments, and to give basic knowledge about the comfort of textile garments. Specific competencies acquired by the student are as follows:

- knowledge of the technological chain from fibre, yarn, fabric to ready-made product
- understanding of the impact properties of textile raw materials, yarn's construction, and surface finishing processes, on the final product properties
- knowledge of the procedure of the analytical evaluation of quality of textiles
- knowledge of the physiology of the human body and climatic conditions on Earth and taking into account their impact in the construction of comfortable clothes
- development of a new product from an idea to the prototype
- knowledge of technical terminology
- ability to identify practical problems, their theoretical analysis, finding solutions and taking appropriate action
- ability to actively participate in the project work

#### Predvideni študijski rezultati:

Študent zna analizirati, načrtovati in vrednotiti tehnološki proces načrtovanja proizvodnje konfencioniranega izdelka. Študent zna uporabiti temeljna znanja s področja toplotne udobnosti in otipa tekstilij in oblačil.

#### Intended learning outcomes:

The student knows how to analyze, plan and evaluate planning of a technological process for production of ready-made product.  
The student knows how to use basic knowledge in the field of thermal comfort and the sensorial comfort of textiles and garments.

#### Metode poučevanja in učenja:

Metode poučevanja:

- predavanje
- demonstracija
- praktično

Metode učenja:

- individualno
- skupinsko.

#### Learning and teaching methods:

Teaching methods:

- lecture
- demonstration
- practically

Learning methods:

- individual
- in groups.

#### Načini ocenjevanja:

#### Delež/Weight Assessment:

|                                    |         |                                                   |
|------------------------------------|---------|---------------------------------------------------|
| Izpit                              | 60,00 % | Exam                                              |
| Predstavitev in priprava seminarja | 40,00 % | Preparation and presentation of the seminar work. |

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- RIJAVEC, Tatjana, LESKOVŠEK, Mirjam, SUKIČ, Neža, BRZIN, Barbara, PAVKO-ČUDEN, Alenka. Quality of fine yarns from modacrylic/polyacrylate/lyocell blends intended for affordable flame-resistant underwear. Materials. 2023, vol. 16, iss. 12, str. 1-23, ilustr. ISSN 1996-1944. <https://www.mdpi.com/1996-1944/16/12/4386>, DOI: 10.3390/ma16124386.
- CAFUTA, Danijela, ABU-ROUS, Mohammad, JARY, Susanne, SCHEFFELMEIER, Miriam, RIJAVEC, Tatjana. Suitability of lyocell fiber for pillow fillings. Textile research journal. 2019, vol. 89, no. 18, str. 3722-3743, ilustr. ISSN 0040-5175. <https://journals.sagepub.com/doi/full/10.1177/0040517518819844>, DOI: 10.1177/0040517518819844.
- KRANER ZRIM, Polona, MEKJAVIĆ, Igor B., RIJAVEC, Tatjana. Properties of laminated silica aerogel fibrous matting composites for footwear applications. Textile research journal. 2016, vol. 86, no. 10, str. 1063-1073. ISSN 0040-5175. DOI: 10.1177/0040517515591781.

# NEGA TEKSTILIJ 1

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                  |
|-----------------------------------|------------------|
| <b>Predmet:</b>                   | Nega tekstilij 1 |
| <b>Course title:</b>              | Textile care 1   |
| <b>Članica nosilka/UL Member:</b> | UL NTF           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0099737 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11153   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 15                  | 15                 |                                      |                                               | 60                                          | 4    |

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Barbara Simončič, Brigita Tomšič |
|-----------------------------------|----------------------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                                              |
|--------------------------|----------------------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Angleščina, Slovenščina |
|                          | Vaje/Tutorial: Angleščina, Slovenščina       |

|                                                                              |                                |
|------------------------------------------------------------------------------|--------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>          |
| Vpis v letnik študija.                                                       | Enrolment into the study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                            |
| Teoretične osnove močenja in pranja; Površinsko aktivne snovi (ionska narava, adsorpcija, micelizacija); Pralna sredstva; Umazanija; Voda kot pralni medij; Pranje; Dejavniki pranja pri odstranjevanju umazanije; Detaširanje; Sredstva za kemično čiščenje; Postopki profesionalne nege (kemično čiščenje, mokro čiščenje); Zaključna dela; Napake in poškodbe tekstilij pri pranju, kemičnem in mokrem čiščenju; Ekološki vidiki nege tekstilij; Standardi s področja nege tekstilij. | Theoretical basis of wetting and washing; Surfactants (ionic nature, adsorption, micellization); Detergents; Soils; Water as a washing medium; Washing process; Factors influencing soil removal; Spotting; Dry cleaning agents; Professional cleaning processes (dry cleaning, wet cleaning); Final work; Faults and damages on textiles after washing, dry and wet cleaning; Environmental aspects of textile care; Textile care standards. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Knjige/Books:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>SOLJACIĆ, I. in PUŠIĆ, T. <i>Njega tekstila Čiščenje u vodenim medijima</i>, Zagreb : Sveučilište u Zagrebu, Tekstilno-tehnološki fakultet, 2005;</li> <li>ROSEN, M. J. <i>Surfactants and Interfacial Phenomena</i>, 2nd ed. New York; Singapore : John Wiley &amp; Sons, 1989; DATYNER, A. <i>Surfactants in textile processing</i>. New York; Basel : Marcel Dekker, 1983;</li> <li>ŠOSTAR-TURK, S., in FIJAN, S. <i>Nega tekstilij in oblačil : skripta</i>. Maribor : Fakulteta za strojništvo, 2000;</li> <li>ŠOSTAR-TURK, S., FIJAN, S., in ARNUŠ, S. <i>Nega novih tekstilij</i>. Maribor : Fakulteta za strojništvo, 2001;</li> </ul> |

- Izbrani strokovni in znanstveni članki iz periodičnih publikacij, ki so na voljo v knjižnici Oddelka za tekstilstvo, grafiko in oblikovanje ter v elektronskih revijah. / Selected professional and original scientific articles from periodicals, available in the library of the Department of Textiles, Graphic Arts and Design and in electronic journals.

**Dodatna literatura in viri/Additional readings:**

- JOHANSSON, I., SOMASUNDARAN, P (Editors) *Handbook for Cleaning/Decontamination of Surfaces*, Elsevier, 2007;

**Cilji in kompetence:**

Cilji: Študent osvoji znanje s področja nege tekstilij (pranje in profesionalna nega - kemično in mokro čiščenje), ki so pomembna za kakovostno izvedbo postopka nege.

Kompetence: uporaba osnovnih znanj s področja fizikalne kemije površin in površinsko aktivnih snovi; povezovanje znanj s področja vlaken, tkanja, pletenja in plemenitenja pri načrtovanju postopka nege; poznavanje strukture in vloge pralnih in čistilnih sredstev pri postopku nege; sposobnost načrtovanja postopka nege ter kritična presoja o kakovosti izvedbi le-tega; sposobnost hitrega odziva na nove zakonske predpise glede okoljskih zahtev procesov nege; sposobnost hitrega odziva na nove postopke in tehnologije nege in njihov prenos v prakso; ekološki vidiki nege z vidika trajnosti; sposobnost kritičnega presojanja pri preoblikovanju ali vpeljavi novih postopkov nege z vidika zagotavljanja kakovosti postopka nege in higieničnosti tekstilije; sposobnost strokovnega svetovanja pri izvajanju sodobnih postopkov nege tekstilij.

**Objectives and competences:**

Objectives: Student acquires knowledge from textile care field (laundering and professional care-dry and wet cleaning), that are important for qualitative performance of care process.

Competences: The ability of using basic skills in the field of physical chemistry of surfaces and surfactants; Joining of different knowledge, i.e. fibres, weaving, knitting and finishing when planning the care process; Understanding the structure and role of detergents and cleaning agents at care process; The ability to plan the care process and the critical assessment of the quality implementation of it; The ability to quick response to new legal regulations according to environmental requirements of care processes; The ability to quick response to new processes and technologies of textile care and theirs quickly transfer into the practice; The ability of critical estimation in transformation or introduction of a new care processes in terms of providing the quality of care process and hygienic textiles; The ability to give an expert advice when performing state of the art textile care processes.

**Predvideni študijski rezultati:**

Študent pozna klasične in sodobne postopke nege tekstilij ter možnosti njihove uporabe v praksi. Podrobno pozna in razume vlogo sredstev za pranje in profesionalno nego, različne tehnologije strojnega pranja in profesionalne nege z vidika trajnostnega razvoja, ekonomike, ekologije in standardizacije.

**Intended learning outcomes:**

Student is familiar with conventional and modern processes of textile care and their possibilities of use in practice. He knows and understands the role of washing, dry cleaning and wet cleaning agents, various technologies of laundering and professional care in terms of sustainable development, economics, ecology and standardization.

**Metode poučevanja in učenja:**

Predavanje, seminarsko delo, laboratorijske vaje, ekskurzija.

**Learning and teaching methods:**

Lectures, coursework, laboratory practices and excursion.

**Načini ocenjevanja:**

**Delež/Weight**

**Assessment:**

|                                 |         |                                   |
|---------------------------------|---------|-----------------------------------|
| Izpit                           | 50,00 % | Exam                              |
| kolokvij iz laboratorijskih vaj | 25,00 % | Colloquium of laboratory practice |
| seminarsko delo                 | 25,00 % | Coursework                        |

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### Reference nosilca/Lecturer's references:

- ŠTULAR, Danaja, SAVIO, Elisa, SIMONČIČ, Barbara, ŠOBAK, Matic, JERMAN, Ivan, POLJANŠEK, Ida, FERRI, Ada, TOMŠIČ, Brigita. Multifunctional antibacterial and ultraviolet protective cotton cellulose developed by in situ biosynthesis of silver nanoparticles into a polysiloxane matrix mediated by sumac leaf extract. *Applied Surface Science*, 2021, vol. 563, str. 1-12. DOI: [10.1016/j.apsusc.2021.150361](https://doi.org/10.1016/j.apsusc.2021.150361). [COBISS.SI-ID [67347971](#)].
- VASILJEVIĆ, Jelena, SIMONČIČ, Barbara, KERT, Mateja. The influence of a surfactant's structure and the mode of its action during reactive wool dyeing. *Tekstilec*, 2015, vol. 58, no. 4, str. 301-313. [COBISS.SI-ID 3212144]
- DROL, Petra, KERT, Mateja, SIMONČIČ, Barbara, HLADNIK, Aleš. Vrednotenje vpliva različnih dejavnikov pri odstranjevanju standardnih umazanij z bombažnih tkanin z večfaktorsko analizo variance. *Tekstilec*, 2012, letn. 55, št. 3, str. 194-205. ISSN 0351-3386. [COBISS.SI-ID 2785648].
- ILEC, Eva, SIMONČIČ, Barbara. Vpliv tenzidov na lastnosti tekstilij iz naravnih vlaken. *Argo : časopis slovenskih muzejev*. 2010, 53, [št.] 2, str. 38-48. ISSN 0570-8869. [COBISS.SI-ID 2569072].

Brigita Tomšič

- TOMŠIČ, Brigita, OFENTAVŠEK, Lara, FINK, Rok. Toward sustainable household laundry. Washing quality vs. environmental impacts. *International journal of environmental health research*. 2023, vol. [sprejeto v objavo], iss. [sprejeto v objavo]. DOI: 10.1080/09603123.2023.2194615.
- LUNDER, Manca, TOMŠIČ, Brigita, FINK, Rok. Biobased natural *Sapindus mukorossi*-Carvacrol emulsion for sustainable laundry washing. *Sustainability*, 2023, vol. 15, iss. 14 [article no.] 11029, 14 str. DOI: 10.3390/su151411029.
- FORTE-TAVČER, Petra, BRENČIČ, Katja, FINK, Rok, TOMŠIČ, Brigita. Influence of hydrogen peroxide on disinfection and soil removal during low-temperature household laundry. *Molecules*, 2022, vol. 27, iss. 1, str. 1-11. DOI: 10.3390/molecules27010195
- FINK, Rok, OFENTAVŠEK, Lara, TOMŠIČ, Brigita. Nizko temperaturno pranje perila. Ravnotežje med kakovostjo in vplivom na okolje. V: KRULEC, Aleš (ur.), TAJNIKAR, Sara (ur.). *Slovenski dnevi sanitarnega inženirstva 2023 : Globalni teden zdravja 2023 : zbornik povzetkov = Slovenian Days of Public and Environmental Health Profession 2023 : Global Public Health Week 2023 : book of abstracts*. Ljubljana: Inštitut za sanitarno inženirstvo, 2023. Str. 6-7. ISBN 978-961-94556-9-2.
- FINK, Rok, OFENTAVŠEK, Lara, LUNDER, Manca, TOMŠIČ, Brigita. Trajnostno gospodinjsko pranje perila = Sustainable household laundry. V: KERT, Mateja (ur.), TOMŠIČ, Brigita (ur.). *Trajnost in krožno gospodarstvo v tekstilstvu : zbornik izvečkov : 49. simpozij o novostih v tekstilstvu : 5. oktober 2023, Ljubljana, Slovenija. 49. simpozij o novostih v tekstilstvu, 5. oktober 2023, Ljubljana. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2023. Str. 22. ISBN 978-961-7189-08-7*

# NETKANE TEKSTILJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Netkane tekstilije |
| <b>Course title:</b>              | Nonwovens          |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068391 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11124   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                    | 0                                             | 60                                          | 4    |

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Dunja Šajn Gorjanc |
|-----------------------------------|--------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                                              |
|--------------------------|----------------------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Angleščina, Slovenščina |
|                          | Vaje/Tutorial: Angleščina, Slovenščina       |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>– Trendi razvoja proizvodnje in porabe netkanih tekstilij.</li> <li>– Klasifikacije netkanih tekstilij. Postopki izdelave koprenskih tekstilij.</li> <li>– Suho položene koprenske tekstilije.</li> <li>– Mokro položene – naplavljen koprenske tekstilije.</li> <li>– Ekstrudirane koprenske tekstilije.</li> <li>– Postopki utrjevanja koprenskih tekstilij.</li> <li>– Dodelava netkanih tekstilij.</li> </ul> | <ul style="list-style-type: none"> <li>- Development trends of production and consumption of nonwovens.</li> <li>– Classification of non-woven textiles.</li> <li>– Production processes of nonwovens.</li> <li>– Dry-laid nonwoven fabrics.</li> <li>– Wet-laid nonwoven fabrics.</li> <li>– Extruded nonwoven fabrics.</li> <li>– Processes of bonding techniques of nonwoven textiles.</li> <li>– Finishing of nonwovens.</li> </ul> |

### Temeljna literatura in viri/Readings:

- ŠAJN GORJANC, Dunja. *Netkane tekstilije : študijsko gradivo*. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, Katedra za tekstilno in oblačilno inženirstvo, [2019]. <https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/netkane-tekstilije-in-kompoziti-2/>.
- ŠAJN GORJANC, Dunja. *Novosti na sejnih ITMA in Techtextil : netkane tekstilije na Techtextilu 2019 = nonwoven textiles on Techtextil 2019*. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo,

grafiko in oblikovanje, Katedra za tekstilno in oblačilno inženirstvo, 2019. Ilustr. [https://www.ntf.uni-lj.si/toi/wp-content/uploads/sites/7/2020/06/Novosti-na-sejmu\\_Techtextil-2019.pdf](https://www.ntf.uni-lj.si/toi/wp-content/uploads/sites/7/2020/06/Novosti-na-sejmu_Techtextil-2019.pdf).

- ŠAJN GORJANC, D. *Procesne linije za izdelavo kopenskih tekstilij : študijsko gradivo*. . Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2014.
- NIKOLIĆ, M., in NIKOLIĆ, Z. *Netkane tekstilije*. Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2004.
- RUSSEL, S.J. *Handbook of Nonwovens*, Elsevier Science, 2022.

#### Cilji in kompetence:

##### Cilji:

Študenti spoznajo različne tehnologije izdelave temeljnega sloja za tvorbo enoplastnih in večplastnih kopenskih tekstilij. Spozna različne postopke utrjevanja in dodelave kopenskih tekstilij. Spozna področja uporabe enoplastnih netkanih tekstilij.

##### Kompetence:

- poznavanje vpliva različnih surovinskih in tehnoloških parametrov na strukturne in uporabne lastnosti netkanih tekstilij,
- razumevanje vpliva različnih tehnoloških faz, postopkov utrjevanja in stopnje dodelave na lastnosti polizdelkov in končnih izdelkov,
- načrtovanje procesnih linij z opredelitvijo produktivnosti, porabe energentov in cene netkanih tekstilij.

#### Objectives and competences:

##### Objectives:

Students learn about different manufacturing technologies of web forming of single- and multilayer nonwoven textiles. They learn about various processes of web bonding and finishing of nonwoven textiles. They get familiar with the wide field of nonwovens and applications of nonwovens as single layer.

##### Competences:

- knowledge of the impact of different raw materials and technological parameters on the structural and useful properties of nonwovens,
- understanding the impact of different technological stages, processes of web bonding and stage of finishing of semi-products and finished products,
- planning process lines with the definition of productivity, energy consumption and prices of nonwovens.

#### Predvideni študijski rezultati:

##### Znanje in razumevanje:

- Pozna strukturne in kakovostne lastnosti ter področja uporabe različnih vrst netkanih tekstilij,
- pridobi potrebno znanje za strokovno načrtovanje in izbiro optimalne procesne linije za izdelavo različnih vrst in struktur netkanih tekstilij,
- razume vplive različnih tehnoloških faz na kakovost polizdelkov in izdelkov,
- zna strokovno in argumentirano izbrati optimalne postopke utrjevanja kopenskih tekstilij glede na namembnost le-teh.

#### Intended learning outcomes:

##### Knowledge and understanding:

- Students know the structural and qualitative characteristics and the scope of various types of nonwovens.
- They acquire the necessary skills for a professional design and selection of the optimum process lines for the manufacture of various types of nonwoven structures.
- They understand the impacts of various technological stages on the quality of materials and products.
- Students know how to professionally and argumentatively choose the optimal processes of web bonding of nonwoven textiles depending on their intended use.

#### Metode poučevanja in učenja:

Predavanja in vaje.

#### Learning and teaching methods:

Predavanja in vaje.

#### Načini ocenjevanja:

#### Delež/Weight

#### Assessment:

Pisni/ustni izpit in

50,00 %

Written/oral exam and

pisni/ustni izpit iz vaj

50,00 %

written/oral exam from laboratory work

#### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- ŠAJN GORJANC, Dunja. Functional properties of nonwovens as an insulating layer for protective gloves. *Polymers*. 2023, vol. 15, iss. 3, str. 1-15.
- ČEPIČ, Gracija, ŠAJN GORJANC, Dunja. Influence of the web formation of a basic layer of medical textiles on their functionality. *Polymers*. 2022, vol. 14, iss. 11, str. 1-23.
- BATIČ, Eva, ŠAJN GORJANC, Dunja. Characteristics of laminates for car seats. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], 29 Sep 2020, vol. , no. , 14 str.  
<https://content.sciendo.com/view/journals/aut/ahead-of-print/article-10.2478-aut-2020-0032/article-10.2478-aut-2020-0032.xml>,
- BEZGOVŠEK, Špela, ŠAJN GORJANC, Dunja, PULKO, Boštjan, LENART, Stanislav. Influence of structural parameters of nonwoven geotextiles on separation and filtration in road construction. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], Dec. 2020, vol. 20, no. 4, str. 449 - 460.  
<https://www.degruyter.com/view/j/aut.ahead-of-print/aut-2019-0038/aut-2019-0038.xml?format=INT>
- ŠAJN GORJANC, Dunja, BRAS, Ana, NOVAK, Boštjan. Influence of technology process on responsiveness of footwear nonwovens. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], 19. Sep. 2019, vol. , no. , 13 str. <https://content.sciendo.com/view/journals/aut/ahead-of-print/article-10.2478-aut-2019-0053.xml>
- ŠAJN GORJANC, Dunja. Netkane tekstilije na Techtextilu 2019 = Nonwoven textiles at Techtextil 2019. *Tekstilec : glasilo slovenskih tekstilcev*, ISSN 0351-3386. [Tiskana izd.], 2020, vol. 63, priloga 1, str. SI 54-SI 66.

# OSNOVE BARVNE METRIKE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                              |
|-----------------------------------|------------------------------|
| <b>Predmet:</b>                   | Osnove barvne metrike        |
| <b>Course title:</b>              | Basics of colour measurement |
| <b>Članica nosilka/UL Member:</b> | UL NTF                       |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643014

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 15                 |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Sabina Bračko

Vrsta predmeta/Course type: Izbirni/Elective

|                   |                      |             |
|-------------------|----------------------|-------------|
| Jeziki/Languages: | Predavanja/Lectures: | Slovenščina |
|                   | Vaje/Tutorial:       | Slovenščina |

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Vpis v letnik študija. Za pristop k izpitu je pogoj opravljen seminar in kolokvij iz laboratorijskih vaj.

Prerequisites:

Enrolment into the study year. Student can attend the exam after passing Tutorial and Seminar

Vsebina:

Svetloba in snov. Vzroki za nastanek barve snovi in teles. Osnove zaznavanja barve pri človeku. Osnovna izhodišča CIE sistema za vrednotenje barve. Razvrščanje barv v barvnih prostorih in barvnih sistemih. Uporaba instrumentov za merjenje barve. Enačbe za vrednotenje barvnih razlik. Numerično vrednotenje beline tekstilnih materialov. Standardi na področju barvne metrike v tekstilstvu.

Content (Syllabus outline):

Light and matter. Causes of colour formation. Fundamentals of human colour vision. Basic principles of CIE colorimetry. Classification of colours according to the colour spaces and colour systems. Application of spectrophotometer for colour measurement. Equations for colour difference evaluation. Numerical assessment of whiteness. Standards regarding colour measurement of textile materials.

Temeljna literatura in viri/Readings:

GOLOB, V. in GOLOB, D. Teorija barvne metrike. V Interdisciplinarnost barve. Del 1, V znanosti. Maribor : DKS, 2001;  
OHTA, N. in ROBERTSON, A. R. Colorimetry : Fundamentals and Applications. Chichester : John Wiley & Sons, 2006;

MCDONALD, R.: Colour Physics for Industry. Bradford : SDC, 1997;  
 R.W. G. HUNT in M. R. POINTER: Measuring Colour. 4th Edition. Chichester : John Wiley & Sons, 2011.  
 Strokovni in znanstveni članki, na razpolago v knjižnici NTF OTGO in na spletu./Professional and scientific papers, available in the NTF OTGO library and on the web.

#### Cilji in kompetence:

Študent se seznani s fizikalno-kemijskimi osnovami nastanka barve, s teorijo barvne metrike ter z instrumenti in standardi na področju merjenja barv. V okviru seminarja spozna možnosti praktične uporabe barvne metrike na področju tekstilstva.

##### Kompetence:

Sposobnost razumevanja temeljnih zakonitosti na področju nastanka, zaznavanja in merjenja barve; poznavanje izhodišč CIE kolorimetrije; poznavanje instrumentov in standardov za merjenje barve; sposobnost kritičnega vrednotenja barve in beline materiala.

#### Objectives and competences:

Student is instructed with basic principles of colour formation, with the theory of colour measurement and with application of instruments and standards in the field of colour measurement. Seminar work includes application of colorimetry in textiles.

##### Competences:

Understanding basic principles of colour formation, perception and measurement; knowledge about fundamentals of CIE colorimetry; expertise for using instruments and standards regarding colour measurement; capability of objective assessment of colour and whiteness.

#### Predvideni študijski rezultati:

##### Znanje in razumevanje:

Študent pozna vlogo in pomen barvne metrike na širšem strokovnem področju. Sposoben je izmeriti barvo ali belino materiala z uporabo refleksijskega spektrofotometra. Zna izračunati barvne razlike in instrumentalno ovrednotiti obstojnost obarvanj v skladu z ustreznimi standardi. Sposoben je razložiti in ovrednotiti rezultate meritev obarvanja ali beline.

#### Intended learning outcomes:

##### Knowledge and understanding:

Student understands the role and significance of colorimetry. He is capable of measuring colour or whiteness by using reflection spectrophotometer. He knows how to calculate colour differences and how to evaluate the resistance of dyeing instrumentally, according to appropriate standard. He is capable of explaining and evaluating the results of measurements.

#### Metode poučevanja in učenja:

Predavanja, seminar, laboratorijske vaje.

#### Learning and teaching methods:

Lectures, seminar, laboratory work.

#### Načini ocenjevanja:

#### Delež/Weight

#### Assessment:

|                                |         |                   |
|--------------------------------|---------|-------------------|
| Pisni/ustni izpit              | 50,00 % | Written/oral exam |
| Seminar                        | 25,00 % | Seminar           |
| Opravljene laboratorijske vaje | 25,00 % | Tutorial          |

#### Ocenjevalna lestvica:

#### Grading system:

|  |  |
|--|--|
|  |  |
|--|--|

#### Reference nosilca/Lecturer's references:

MOŽINA, Klementina, PODLESEK, Anja, BRAČKO, Sabina. Preserving typographic cultural heritage using contemporary digital technology. *Journal of cultural heritage*, ISSN 1296-2074, 2019, vol. 36, [No.] mar.-apr., str. 166-173, ilustr. <https://www.sciencedirect.com/science/article/pii/S1296207418303613>, doi: [10.1016/j.culher.2018.07.010](https://doi.org/10.1016/j.culher.2018.07.010). [COBISS.SI-ID 3517808];  
 KAVČIČ, Urška, MRAOVIĆ, Matija, BRAČKO, Sabina, MUCK, Deja. Printed thermochromic displays. *Coloration technology : the journal of the Society of Dyers and Colourists*, ISSN 1472-3581, Feb. 2019, vol. 135, no. 1, str. 60-66. <https://onlinelibrary.wiley.com/doi/10.1111/cote.12372>, doi: [10.1111/cote.12372](https://doi.org/10.1111/cote.12372). [COBISS.SI-ID 3516272];  
 CAR, Ajda, BRAČKO, Sabina. Influence of basic colour parameters on colour memory = Vpliv osnovnih parametrov barve na barvni spomin opazovalca. *Tekstilec : glasilo slovenskih tekstilcev*, ISSN 0351-3386. [Tiskana izd.], 2019, vol. 62, [no.] 4, str. 232-241, ilustr. <http://www.tekstilec.si/?p=2640&lang=en>. [COBISS.SI-ID 3679344];

BLAZNIK, Barbara, GREGOR-SVETEC, Diana, BRAČKO, Sabina. Influence of light and temperature on optical properties of papers. *Cellulose chemistry and technology*, ISSN 0576-9787, 2017, vol. 51, no. 7/8, str. 755-764, ilustr. <http://www.cellulosechemtechnol.ro/onlinearticles.php>. [COBISS.SI-ID [3449200](#)];

JAVORŠEK, Dejana, JEVNIKAR, Elizabeta, BRAČKO, Sabina. Determination of human skin color - possibilities and limitations. V: BERHARDT, Leon V. (ur.). *Advances in medicine and biology. Vol. 111*, (Advances in medicine and biology, ISSN 2157-5398). New York: NOVA Science. 2017, str. 109-128. [COBISS.SI-ID [3365744](#)].

# OSNOVE PLEMITENJA

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                     |
|-----------------------------------|---------------------|
| <b>Predmet:</b>                   | Osnove plemenitenja |
| <b>Course title:</b>              | Basics of finishing |
| <b>Članica nosilka/UL Member:</b> | UL NTF              |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068393 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11120   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 45                      | 45                  | 0                  | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                  |
|-----------------------------------|------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Barbara Simončič |
|-----------------------------------|------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                              |
|------------------------------------------------------------------------------|------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>        |
| Vpis v letnik študija.                                                       | Enrolment in the study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Barva in struktura barvil: vpliv strukturnih elementov barvila na barvo, fluorescenca.<br>Razlika med barvili in pigmenti. Topnost barvil v vodnih raztopinah.<br>Koncentracija barvila v raztopini in na tekstilnem substratu: praktični pomen Beer-Lambertovega zakona, Kubelka-Munkove teorije in barvne razlike.<br>Sorpcija barvila na tekstilna vlakna: substantivnost, afiniteta barvila in stopnja izčrpanja barvila, vpliv dejavnikov.<br>Hitrost barvanja: razpolovni čas barvanja, vpliv različnih dejavnikov.<br>Barvalni sistemi: klasifikacija tekstilnih vlaken in barvil glede na ionsko aktivnost, medmolekulske sile, mehanizmi barvanja.<br>Pomen tenzidov kot tekstilnih pomožnih sredstev.<br>Seminarsko delo: obravnava določenega barvalnega | Colour and structure of dyes: the influence of structural elements of the dye on colour, fluorescence.<br>Differences between dyes and pigments. Solubility of dyes in aqueous solutions.<br>Concentration of dyes in solution and on the textile substrate: practical significance of the Beer-Lambert Law, the Kubelka-Munkove theory and the colour difference.<br>Sorption of dyes to the textile fibres: substantivity, affinity and the degree of exhaustion of dyes, the influence of different factors.<br>Velocity of dyeing: half-time of dyeing, the influence of different factors.<br>Dyeing systems: classification of textile fibres and dyes according to the ion activity, intermolecular forces, the dyeing mechanisms.<br>The importance of surfactants as auxiliaries. |

|                                                                                                               |                                                                                                                                                                                         |
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| sistema (priprava umeritvene krivulje in določitev vpliva različnih dejavnikov na kakovost procesa barvanja). | Seminar work: a study of the specific dyeing systems (preparation of the calibration curve and determination of the influence of various factors on the quality of the dyeing process). |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

Simončič, B. Teoretične osnove barvanja. 1. izd. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2009. 120 str.  
The theory of coloration of textiles. 2nd edition. Edited by A. Jonson. Bradford : Society of Dyers and Colorists, 1989, 552 str.  
Zollinger, H. Color chemistry : Syntheses, properties and applications of organic dyes and pigments. 2nd edition. Weinheim ; New York ; Basel ; Cambridge : VCH, 1991, str. 107-186.  
Atkins, P W. Physical chemistry. 6th edition. Oxford; Melbourne; Tokyo : Oxford University Press, 1998, 997 str.  
Izbrani strokovni članki iz periodičnih publikacij.

### Cilji in kompetence:

Študent osvoji osnovna znanja s področja teorije plemenitilnih procesov, ki so potrebna za razumevanje kemijskih tekstilnih procesov.  
Predmetno specifične kompetence:  
- poznavanje teoretičnih osnov plemenitenja, ki so podlaga za strokovno delo na področjih tehnologije barvanja, tiskanja, apretiranja in nege tekstilij,  
- sposobnost razumevanja vpliva interakcij barvilo-vlakno, barvilo-tekstilno pomožno sredstvo in tekstilno pomožno sredstvo-vlakno na kakovost izvedbe postopka plemenitenja,  
- razumevanje vpliva različnih dejavnikov na kakovost izvedbe plemenitilnega postopka,  
- sposobnost komuniciranja in sodelovanja s strokovnjaki s področja plemenitenja tekstilij.

### Objectives and competences:

Students acquire basic knowledge of the theory of finishing processes which are necessary for the understanding of chemical textile processes.  
Subject-specific competencies:  
- knowledge of the theoretical basics of finishing, which are the basis for the professional work in the fields of technology of dyeing, printing, finishing and textile care,  
- understanding of the influence of the dye-fiber, dye-auxiliary and auxiliary- fibre on the quality of the finishing process,  
- understanding of the influence of various factors on the quality of the performance of finishing process,  
- the ability of communication and cooperation with experts in the field of textile finishing.

### Predvideni študijski rezultati:

Znanje in razumevanje:  
- poznavanje povezave med strukturo in barvo barvil ter razlike med barvili in pigmenti,  
- razumevanje teoretičnih osnov za določitev koncentracije barvila v raztopini in na vlaknih,  
- poznavanje strukturnih elementov barvil in vlaken, ki so pomembni za razlago sistemov na področju plemenitenja tekstilij,  
- razumevanje različnih mehanizmov barvanja, njihove zakonitosti ter razlike med njimi,  
- poznavanje medmolekulskih interakcij, ki so prisotne pri procesih plemenitenja tekstilij,  
- poznavanje pojmov in strokovne terminologije s področja teorije plemenitenja ter razumevanje njihovega praktičnega pomena.

### Intended learning outcomes:

Knowledge and understanding:  
- understanding of the relationship between structure and colour of the dyes as well as differences between the dyes and pigments,  
- understanding of the theory for determining the concentration of dyes in solution and on the fibres,  
- knowledge of the structural elements of the dyes and fibres, which are important for the interpretation of the systems in the field of textile finishing,  
- understanding of different mechanisms of dyeing, their legality and differences between them,  
- knowledge of intermolecular interactions, which are present in textile finishing processes,  
- knowledge of the concepts and technical terminology from the theory of finishing as well as understanding of their practical meaning.

### Metode poučevanja in učenja:

Predavanja, seminar.

### Learning and teaching methods:

Lectures and seminars.

| Načini ocenjevanja:            | Delež/Weight | Assessment:                      |
|--------------------------------|--------------|----------------------------------|
| Pisni izpit                    | 70,00 %      | Written exam                     |
| predstavitev seminarskega dela | 30,00 %      | presentation of the seminar work |

| Ocenjevalna lestvica:                                    | Grading system:                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

- KERT, Mateja, SIMONČIČ, Barbara. The influence of nonionic surfactant structure on the thermodynamics of anionic dye-cationic surfactant interactions in ternary mixtures. *Dyes and pigments*, ISSN 0143-7208. [Print ed.], 2008, vol. 79, no. 1, str. 59-68. <http://dx.doi.org/10.1016/j.dyepig.2008.01.005>. [COBISS.SI-ID 1978736]
- SIMONČIČ, Barbara, ROZMAN, Veronika. Wettability of cotton fabric by aqueous solutions of surfactants with different structures. *Colloids and surfaces. A, Physicochemical and Engineering Aspects*, ISSN 0927-7757. [Print ed.], 15 Jan. 2007, vol. 292, iss. 2/3, str. 236-245. [COBISS.SI-ID 1746544]
- GORJANC, Marija, KERT, Mateja, MUJADŽIĆ, Amra, SIMONČIČ, Barbara, FORTE-TAVČER, Petra, TOMŠIČ, Brigita, KOSTAJNŠEK, Klara. Cationic pretreatment of cotton and dyeing with *Fallopia japonica* leaves. *Tekstilec*, 2019, vol. 62, [no.] 3, str. 181-186. DOI: 10.14502/Tekstilec2019.62.181-186. [COBISS.SI-ID 3642480].
- GLAŽAR, Dominika, SIMONČIČ, Barbara. TiO<sub>2</sub> and ZnO as advanced photocatalysts for effective dye degradation in textile wastewater. *Tekstilec*, 2023, vol. 66, [no.] 3, 178–198. DOI: 10.14502/tekstilec.66.2023045. [COBISS.SI-ID 163462403].

# PLANIRANJE IN VODENJE PROIZVODNJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>Predmet:</b>                   | Planiranje in vodenje proizvodnje  |
| <b>Course title:</b>              | Production planning and management |
| <b>Članica nosilka/UL Member:</b> | UL NTF                             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

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|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068404 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11129   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

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| <b>Nosilec predmeta/Lecturer:</b> | Andrej Demšar |
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| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

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|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PROIZVODNJA - Industrijska struktura, pojmovanje proizvodnje ter organizacija, značilnosti in delitev proizvodnje.<br>PLANIRANJE - Proces planiranja, priprava procesa, izbor tehnologije, določanje opreme, proizvodni interval, tehnološka priprava dela, časovna norma, operativna priprava proizvodnje, planiranje proizvodnega procesa, planiranje kapacitet, naloge materialnega poslovanja, naloge nabavnega oddelka, izdelava in lansiranje delovne dokumentacije.<br>VODENJE - Vodenje podjetja in oddelka, organizacija podjetja, kontrola proizvodnje, določanje rokov, zajemanje podatkov, nadzor in analiza dosežkov, optimalizacija zalog, ABC analiza, nabava, študij in analiza časa, krmiljenje delovnega procesa, projektni management, alternativne metode planiranja in vodenja, vodenje in odločanje, stili in modeli vodenja. | PRODUCTION - Industry structure, conception and organization of production, characteristics and division of production.<br>PLANNING - The process of planning, preparation of the process, the selection of technology, determining equipment, manufacturing interval, technological preparation of production, work time norm, operational preparation of production, planning of the production process, capacity planning, material management, purchasing department, production and launching of operational documentation.<br>MANAGEMENT - Management of companies and department, company organization, production control, scheduling, data collection, monitoring and analysis of performance, optimization of stock, ABC analysis, acquisition, study and analysis of time, control of the working process, project management, |

|                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>ČLOVEK V PROIZVODNEM PROCESU - Delavčeva funkcija, humanizacija dela, strukturiranje dela, zahtevnost dela, metode ugotavljanja zahtevnosti opravil.</p> <p>V okviru seminarja se izdelajo skupinske seminarske naloge, ki se razlikujejo po tematikah in področjih.</p> | <p>alternative methods of planning and management, leadership and decision-making styles and models of leadership.</p> <p>MAN IN THE PRODUCTION PROCESS - Workers function, humanization of work, structuring work, the complexity of the work, the method of assessment of work.</p> <p>In the frame of the seminar group seminars shall be prepared which vary in topics and areas.</p> |
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### Temeljna literatura in viri/Readings:

- REBERNIK Miroslav: Ekonomika podjetja, Gospodarski vestnik, Ljubljana 1997
- KALTNEKAR, Z. Organizacija delovnih procesov. Moderna organizacija, Kranj 1996

### Dodatna literatura/ Additional textbook:

- POLAJNAR, A. Upravljanje proizvodnje. Maribor: Ekonomsko – poslovna fakulteta, 1994
- HILL, T. Operations Management. Strategic context and managerial analysis. MacMillan Business, 2000

### Cilji in kompetence:

Temeljni cilj: Cilji predmeta so spoznati študenta z osnovami vodenja poslovnih procesov ter spoznavanje novih trendov v proizvodnem sistemu.

Kompetence:

- razumevanje stanja in trendov proizvodne in storitvene dejavnosti;
- sposobnost nadzorovanja, analiziranja, vodenja, načrtovanja, planiranja in vrednotenja delovnih procesov;
- razumevanje in sposobnost reševanje konkretnih delovnih problemov z uporabo strokovnih metod kot so npr. SWOT analiza, vrednostna analiza, sistemizacija in vrednotenje zahtevnosti dela itd.;
- sposobnost uporabe temeljnega znanja pri vodenju delovnega procesa;
- vodenje projektnega tima.

### Objectives and competences:

The basic aim: aim of the subject is to get to know the student with the basics of business process management, and learning about new trends in the production system.

Competencies:

- Understanding of the status and trends of production and service activities;
- The ability to monitor, analyze, management, design, planning and evaluation of work processes;
- Understanding of and ability to solve real business problems using scientific methods like eg. SWOT analysis, value analysis, systematization and evaluation of the complexity of work, etc.;
- The ability to use basic knowledge in managing workflow;
- Management of the project team.

### Predvideni študijski rezultati:

Znanje in razumevanje:

Pozna vrste in načine organiziranja proizvodnih sistemov; pridobi znanje s področja vodenja in planiranja proizvodnih sistemov; pozna metode za spremljanje proizvodnega procesa; pozna pomen posameznih proizvodnih podfunkcij ter njih vpliv na lastno ceno izdelka; zna organizirati skupinsko delo. Razume pomen in vlogo posameznih podfunkcij proizvodne funkcije; razume pomen vodenja in sledljivosti proizvodnega procesa; razume pomen ustrezno vodene dokumentacije; razume pomen skupinskega dela; razume pomen standardizacije, tipizacije ter sistematizacije v proizvodnem procesu.

### Intended learning outcomes:

Knowledge and understanding:

Student knows the types and ways of organizing production systems; acquires knowledge of the management and planning of production systems; knows the methods for monitoring the manufacturing process; knows the importance of individual production objective functions and their impact on the cost price of the product; knows how to organize team; understands the importance and role of production function and its sub functions; understands the importance of managing and traceability of the manufacturing process; understands the importance of properly controlled documentation; understands the importance of teamwork; understands the importance of standardization, typing and systematization in manufacturing process.

### Metode poučevanja in učenja:

### Learning and teaching methods:

|                                |                            |
|--------------------------------|----------------------------|
| Predavanja in seminarsko delo. | Lectures and seminar work. |
|--------------------------------|----------------------------|

| <b>Načini ocenjevanja:</b>       | <b>Delež/Weight</b> | <b>Assessment:</b>              |
|----------------------------------|---------------------|---------------------------------|
| - pisni izpit                    | 50,00 %             | - written exam                  |
| - seminarska naloga              | 30,00 %             | - seminar paper                 |
| - predstavitev seminarske naloge | 20,00 %             | - presentation of seminar paper |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

**Reference nosilca/Lecturer's references:**

- KAVKLER, Katja, DEMŠAR, Andrej. Application of FTIR and Raman spectroscopy to qualitative analysis of structural changes in cellulosic fibres = Uporaba FTIR in ramanske spektroskopije pri kvalitativni analizi strukturnih sprememb celuloznih vlaken. Tekstilec, ISSN 0351-3386, 2012, letn. 55, št. 1, str. 19-44, ilustr. [COBISS.SI-ID 2727792]
- DEMŠAR, Andrej, ŽNIDARČIČ, Dragan, GREGOR-SVETEC, Diana. Impact of UV radiation on the physical properties of polypropylene floating row covers. African journal of biotechnology, ISSN 1684-5315, 2011, vol. 10, no. 41, str. 7998-8006. [COBISS.SI-ID 6760057]
- DEMŠAR, Andrej, BUKOŠEK, Vili, KLJUN, Alenka. Dynamic mechanical analysis of nylon 66 cord yarns. Fibres & textiles in Eastern Europe, ISSN 1230-3666, 2010, vol. 18, no. 4 (81), str. 29-34, ilustr. [COBISS.SI-ID 2426480]

# PLETIVA IN PLETENINE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                              |
|-----------------------------------|------------------------------|
| <b>Predmet:</b>                   | Pletiva in pletenine         |
| <b>Course title:</b>              | Knitted fabrics and knitwear |
| <b>Članica nosilka/UL Member:</b> | UL NTF                       |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

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|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068394 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11123   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 30                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Živa Zupin |
|-----------------------------------|------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

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|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Predavanja in seminar:</p> <ul style="list-style-type: none"> <li>– uporaba pletiv in pletenin v tekstilstvu in na ostalih področjih</li> <li>– vrste in lastnosti pletiv in pletenin glede na izdelavno tehnologijo; vrste pletilnikov, njihove posebnosti in sestavni deli</li> <li>– vrste in lastnosti pletiv in pletenin glede na uporabnost izdelkov</li> <li>– temeljni parametri, lastnosti in projektiranje pletiv/pletenin</li> <li>– vzorčenje pletiv in pletenin</li> <li>– simbolni zapis in simulacija pletilskih vezav s CAD programi</li> </ul> <p>vaje:</p> <ul style="list-style-type: none"> <li>– eksperimentalno in računsko določanje temeljnih parametrov zanke in pletiva</li> <li>– pletenje temeljnih votkovnih vezav.</li> </ul> | <p>Lectures and seminars:</p> <ul style="list-style-type: none"> <li>– the use of knitted fabrics and knitwear in textile and other fields</li> <li>– types and properties of knitted fabrics and knitwear according to a manufacturing technology; types of knitting machines, their features and components</li> <li>– types and properties of knitted fabrics and knitwear according to the use of products</li> <li>– basic parameters, characteristics and planning of fabrics and knitwear</li> <li>– design and patterning of knitted fabrics and knitwear</li> <li>– notation and simulation of knitted structures using CAD programs</li> </ul> <p>exercises:</p> <ul style="list-style-type: none"> <li>– experimental determination and calculation of the main parameters of the knitted loop and structure</li> </ul> |

- knitting basic weft structures.

### Temeljna literatura in viri/Readings:

- Spencer, D.J., Knitting Technology: A Comprehensive Handbook and Practical Guide, Woodhead Publishing Series in Textiles, 3rd Edition, Cambridge, 2001
- Raz, S., Warp knitting production, Melliand, Heidelberg 1987
- Raz, S., Flat knitting technology, Universal Maschinenfabrik, Westhausen 1993
- Raz, S., Flat knitting : The new generation, Meisenbach, Bamberg 1991
- Iyer, Mammel, Scahech, W., Circular knitting, Meisenbach, Bamberg 1995
- PAVKO-ČUDEN, Alenka. Pletiva in pletenine : gradivo za izpit : delovni zvezek za vaje in seminar. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2007

### Cilji in kompetence:

#### Cilji:

Cilj je študente seznani s temeljnimi vrstami pletiv in pletenin, proizvedenih po različnih pletilskih tehnologijah in tehnikah; hkrati je cilj predstaviti lastnosti teh pletiv in pletenin v odvisnosti od izdelavne tehnologije in vstopnih surovin.

#### Kompetence:

- sposobnost optimiranja postopkov izdelave pletiv in pletenin (zagotovitev ekonomske porabe materiala, časa in energije)
- sposobnost optimiranja projektiranih lastnosti pletiv in pletenin
- sposobnost uporabe standardiziranih in drugih preskuševalnih metod za ugotavljanje lastnosti ter zagotavljanje kakovosti pletiv in pletenin
- poznavanje strokovne terminologije s področja pletilstva v slovenskem in tujih jezikih
- sposobnost celovitega pogleda na področje pletenja v okviru tekstilstva in oblačilstva

### Objectives and competences:

#### Objectives:

The aim is to acquaint students with basic types of knitted fabrics and knitwear produced by different knitting technologies and techniques; at the same time the aim is to present the properties of these fabrics and knitwear, depending on the fabrication technology and the raw materials input.

#### Competencies:

- ability to optimize the manufacturing processes of knitted fabrics and knitwear (ensuring economical use of materials, time and energy)
- capacity to optimize the properties of the designed knitted fabrics and knitwear
- ability to use standardized testing and other methods to identify the characteristics and assure quality of knitted fabrics and knitwear
- knowledge of technical knitting terminology in Slovenian and foreign languages
- the ability to obtain a comprehensive overview of the field of knitting in the context of textiles and clothing

### Predvideni študijski rezultati:

#### Znanje in razumevanje:

- Študent pozna specifične lastnosti pletiv in pletenin. Obvlada oblikovne, konstrukcijske, tehnološke in ekonomske dejavnike pri izdelavi in trženju pletiv in pletenin. Zna organizirati in voditi pletilske procese ter optimirati izdelavo pletiv in pletenin. Zna povezati znanje s področja pletenja z drugimi področji tekstilstva, oblačilstva in oblikovanja.

### Intended learning outcomes:

#### Knowledge and understanding:

- Students know the specific properties of knitted fabrics and knitwear. Students master the design, construction, technological and economic factors in the manufacture and marketing of knitted fabrics and knitwear. They know how to organize and lead the knitting processes and to optimize the production of knitted fabrics and knitwear. They know how to combine knowledge in the field of knitting with other areas of textiles, clothing and design.

### Metode poučevanja in učenja:

- predavanja
- računske in eksperimentalne vaje
- seminarsko delo

### Learning and teaching methods:

- lectures
- calculation and experimental exercises
- seminar work

|                                           |                                            |
|-------------------------------------------|--------------------------------------------|
| – medpredmetno povezovanje<br>– delavnice | – cross curricular learning<br>– workshops |
|-------------------------------------------|--------------------------------------------|

| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b>                |
|----------------------------|---------------------|-----------------------------------|
| – pisni/ustni izpit        | 60,00 %             | – written/oral exam               |
| – seminarsko delo          | 30,00 %             | – seminar work                    |
| –izpit iz računskih vaj    | 10,00 %             | – exam in computational exercises |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### **Reference nosilca/Lecturer's references:**

- ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>.
- ZUPIN, Živa, KOVAČIČ, Sara. Performance properties of double bed jacquard knitted fabrics for upholstery. V: KARDAŞLAR, Ahmet (ur.), MIKE, Faruk (ur.). Full text book : II. International Korkut Ata Scientific Researches Conference : October 7-8, 2023, Ankara, Turkey. II. International Korkut Ata Scientific Researches Conference, October 7-8, 2023, Ankara, Turkey. Ankara: IKSAD Publishing House, 2023. Str. 555-562, ilustr. ISBN 978-625-367-347-5.  
[https://www.korkutataconference.org/\\_files/ugd/614b1f\\_16c34c13a6234f2782cbdf104c7aa9a.pdf](https://www.korkutataconference.org/_files/ugd/614b1f_16c34c13a6234f2782cbdf104c7aa9a.pdf).
- ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 - 27, 2021, İzmir-Turkey. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 429-435, ilustr. ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>. [COBISS.SI-ID 85826307]
- ZUPIN, Živa, MOTNIKAR, Ana, ZOREC, Petja, GAJŠEK, Gašper, HRASTAR, Zala, MAVRIĆ, Zala, MIKLAVČIČ, Anita, PETROVČIČ, Elizabeta, REŠETIČ, Klara, SCHWARZBARTEL, Petra, TURK, Maruša, VIDMAR, Lara, VRHOVSKI, Iris. Exploring the history of hosiery and design of modern socks-socks. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 -27, 2021, İzmir-Turkey. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 549-553, ilustr. ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>.
- ZUPIN, Živa. Novosti na področju računalniškega oblikovanja tkanin, pletiv in pletenin na sejmi ITMA in Techtextil 2019 = Novelties in computer-aided design of woven and knitted fabrics and knittwear at Techtextil and ITMA 2019. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2019, vol. 62, priloga 2, str. si 123-sl 133, ilustr. ISSN 0351-3386.

# PODJETNIŠTVO

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                  |
|-----------------------------------|------------------|
| <b>Predmet:</b>                   | Podjetništvo     |
| <b>Course title:</b>              | Entrepreneurship |
| <b>Članica nosilka/UL Member:</b> | UL NTF           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Grafična in medijska tehnika, prva stopnja, visokošolski strokovni       | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068061 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 10246   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Blaž Zupan |
|-----------------------------------|------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                                  |
|--------------------------|----------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Slovenščina |
|                          | Vaje/Tutorial: Slovenščina       |

### Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Študent oz. kandidat mora imeti predmet opredeljen kot študijsko obveznost.  
Pogoj za pristop k pisnemu in/ali ustnemu izpitu predmeta so 70 % prisotnost pri predavanjih, 100 % prisotnost pri vajah in 90 % prisotnost pri seminarjih in drugih oblikah dela. K pisnemu in/ali ustnemu izpitu predmeta lahko pristopijo študentje šele ko imajo pozitivno ocenjene vaje in seminar in izpolnjeno predpisano prisotnost pri vseh sklopih predmeta.

### Prerequisites:

The course must be assigned to the student.  
The condition for taking the written and/or oral exam of the course is 70% attendance at lectures, 100% attendance at exercises and 90% attendance at seminars and other forms of work. Students can take the written and/or oral exam of the course only after they have received a positive assessment of the exercises and the seminar and have met the required attendance for all sections of the course.

### Vsebina:

Študenti bodo v okviru predmeta spoznali: Pomen podjetništva v gospodarstvu in temeljne pojme podjetništva; Prepoznavanje poslovnih priložnosti; Pet korakov razvoja novih izdelkov in storitev – opazovanje, brainstorming, hitro prototipiranje, izboljšanje prototipov in implementacija rešitve; Dizajnerski način razmišljanja – tehnični, poslovni,

### Content (Syllabus outline):

Students will learn: - entrepreneurship and its role in socio-economic development; - recognition of business opportunities; - five steps of the product/service development process: observation, brainstorming, rapid prototyping, testing and refinement and implementation; - design thinking: desirability, feasibility and viability of new solutions; -

|                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| človeški vidik; Praktična aplikacija metode razvoja novih izdelkov in dizajnerskega procesa; Osnove računovodstva in financiranja; Poslovno načrtovanje; - pomen in vsebino marketinške/prodajne funkcije v podjetju - metode raziskovanja trga, porabnikov, konkurence - poslovno komunikacijo | practical application of new product development methodologies and design thinking; - basics of accounting and financing; - business planning, governmental policies to promote entrepreneurship; - importance and definition of the marketing/ sales at a company; - market, customer and competition research methods; - business communication. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

Maurya, Ash (2014): Delaj vitko – Od načrta A do načrta, ki deluje. Pasadena.

Dostopno na: <https://www.leanslovenia.com/delajvitko>

Dodatna neobvezna gradiva (Additional optional readings):

Antončič in ostali (2022): Podjetništvo – glavi dejavnik razvoja. Ekonomska fakulteta.

Dostopno na: <http://www.ef.uni-lj.si/zaloznistvoslike/499/Podjetni%C5%A1tvo.pdf>

Dodatna aktualna gradiva, objavljena na spletni strani predmeta./Additional current materials are published on the course website.

### Cilji in kompetence:

Cilj predmeta je študentom razviti sposobnost timskega dela, prevzemanja odgovornosti in samoiniciativnega delovanja pri reševanju človeških, tehničnih in ekonomskih problemov povezanih z razvojem novih produktov in storitev. Študentje z uporabo dizajnerskega pristopa in hitrega prototipiranja izdelajo delujoč prototip rešitve podj. problema; Študentje si pri predmetu pridobijo naslednje specifične kompetence: Prepoznati in oceniti priložnosti; uravnavati tveganje; učinkovito komunicirati; vztrajati; ustvarjalno rešiti problem; učinkovito rabiti vire; delovati gverilsko; ustvarjati vrednost; ohranjati fokus; prilagajati se; biti samoučinkovit; se mrežiti; sprejemati odločitve; sklepati posle in se pogajati.

### Objectives and competences:

The objective of the course is to develop skills such as teamwork, responsibility, self-initiative, and the ability to solve any societal, technical or business problem associated with the development of new products and services. Student will use design thinking and rapid prototyping to produce a working prototype as a solution to a given entrepreneurial problem. Student acquires the following specific competencies: Opportunity recognition and assessment; risk management; effective communication; perseverance; innovative thinking, creative problem solving; efficient use of resources; guerrilla skills; creating value; maintaining focus; resilience; self-efficacy; networking; decision making; deal making and negotiation.

### Predvideni študijski rezultati:

Znanje in razumevanje: Študent bo spoznal in razumel: Pojme s področja podjetništva in gospodarstva, organizacije dela, vodenja projektov, marketinga; Osnovne zakonitosti kreativnega razvoja novih izdelkov in storitev ter podjetniške dejavnosti s poudarkom na primerih iz prakse kakor tudi iz študentovih življenjskih potreb ter izkušenj; Skozi dizajnerski način razmišljanja in s pomočjo d.school metodologije študent reši konkreten poslovni ali življenjski problem in osvoji znanje, ki ga lahko replicira v profesionalnem in osebem življenju; Pepoznavanje podjetniških priložnosti, analiza podatkov in informacij za sprejemanje poslovnih odločitev, izdelava prototipov, antropološke in etnografske metode spremljanja potrošnikov, izpeljava rešitve problema. Dokumentacija procesa z multimedijskimi metodami, samostojna priprava finančnih in poslovnih analiz

### Intended learning outcomes:

Knowledge and comprehension Student will recognise and understand: - concepts in the field of entrepreneurship and the economy as a whole, management, project management, marketing; and - the basic principles of the creative development of new products and services, and entrepreneurial activities, with an emphasis on cases from practical experience, and from the student's needs and life experiences. Through a design thinking methodology, student solves a specific business or social problem, and acquires knowledge that can be replicated in their professional and personal life. Identification of business opportunities, analysis of data and information for business decision-making, prototyping, anthropological and ethnographic methods of customer analysis, and the implementation of a solution to a specific problem. Documentation of the process using multimedia and

|  |                                                                                          |
|--|------------------------------------------------------------------------------------------|
|  | the independent preparation of financial and business analyses (marketing, sales, etc.). |
|--|------------------------------------------------------------------------------------------|

#### Metode poučevanja in učenja:

Predavanja s pomočjo različnih AV sredstev; Delo na konkretnem projektu, aktualnem problemu; Predstavitve sprotnega dela, poročilo in komentarji s strani mentorjev in študentov; Uporaba multimedijske tehnologije za spremljanje napredka, Internet, video; Aktivno mentorstvo s strani pedagogov, asistentov, praktikov - podjetnikov; Terensko delo – analiza trga, testiranje prototipov, uporaba rešitve problema, praktične vaje d.school metodologije. Vaje se izvajajo v učilnici ali preko spleta s pomočjo ustrezne programske opreme (ZOOM; Teams, ipd).

#### Learning and teaching methods:

Lectures using audio-visual technology. Work on a specific project in the form of a real business or social problem. Ongoing work will be presented regularly, with feedback given by mentors and students. The use of multimedia (Internet, video, etc.) to monitor progress. Active mentoring will be provided by teachers, assistants, practitioners-entrepreneurs. Fieldwork: market analysis, prototype testing, application of a solution to a problem, and practical exercises using the design thinking methodology.

Tutorials are conducted in classroom or via ZOOM, Teams, etc.

#### Načini ocenjevanja:

#### Delež/Weight

#### Assessment:

|                                                          |         |                                                      |
|----------------------------------------------------------|---------|------------------------------------------------------|
| Projektna naloga in vmesna poročila, končna predstavitev | 60,00 % | Project work, interim reports and final presentation |
| Domače naloge, sodelovanje                               | 20,00 % | Homework and active participation                    |
| Izpit pisni in/ali ustni                                 | 20,00 % | Written and/or oral examination                      |

#### Ocenjevalna lestvica:

#### Grading system:

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |
|----------------------------------------------------------|----------------------------------------------------------------|

#### Reference nosilca/Lecturer's references:

1. DEBARILEV, Stojan, JANEŠKA-ILIEV, Aleksandra, STRIPEIKIS, Osvaldas, ZUPAN, Blaž. What can education bring to entrepreneurship? : formal versus non-formal education. Journal of small business management. 2022, vol. 60, iss. 1, str. 219-252.
2. PUSTOVRH, Aleš, JAKLIČ, Marko, BOLE, Domen, ZUPAN, Blaž. How to create a successful regional startup ecosystem : a policy-making analysis. Lex localis : revija za lokalno samoupravo. [Tiskana izd.]. Jul. 2019, vol. 17, iss. 3, str. 749-770, ilustr.
3. ZUPAN, Blaž, CANKAR, Franc, SETNIKAR-CANKAR, Stanka. The development of an entrepreneurial mindset in primary education. European journal of education. [Print ed.]. Sep. 2018, vol. 53, iss. 3, str. 427-439.
4. ZUPAN, Blaž, STRITAR, Rok, SLAVEC GOMEZEL, Alenka. Unlocking latent creativity with rapid prototyping = Spodbujanje latentne ustvarjalnosti s hitrim prototipiranjem. Traditiones : zbornik Inštituta za slovensko narodopisje, ISSN 0352-0447, 2017, vol. 46, no. 1/2, str. 183-187, doi: 10.3986/Traditio201746020
5. LIKAR, Borut, CANKAR, Franc, ZUPAN, Blaž. Educational model for promoting creativity and innovation in primary schools. Systems research and behavioral science : the official journal of the International Federation for Systems Research, ISSN 1092-7026, Mar./Apr. 2015, vol. 32, iss. 2, str. 205-213, doi: 10.1002/sres.2261.
6. ZUPAN, Blaž, SVETINA NABERGOJ, Anja. Razvoj podjetniških kompetenc s pomočjo dizajnerskega pristopa. Economic and business review, ISSN 1580-046 [Tiskana izd.], 2014, vol. 16, posebna št., str. 49-74, ilustr.
7. CANKAR, Franc, DEUTSCH, Tomi, ZUPAN, Blaž, SETNIKAR-CANKAR, Stanka. Schools and promotion of innovation = Škole i promicanje inovacije. Hrvatski časopis za odgoj i obrazovanje : [CJE], ISSN 1848-5189. [Tiskana izd.], 2013, vol. 15, sp. ed. no. 2, str. 179-211. [COBISS.SI-ID 4164782],

8. VADNJAL, Jaka, ZUPAN, Blaž. Family business as a career opportunity for women. South East European journal of economics and business, ISSN 1840-118X, Nov. 2011, vol. 6, no. 2, str. 27-36, tabele. [COBISS.SI-ID 513010818],
9. VADNJAL, Jaka, ZUPAN, Blaž. The role of women in family businesses. Economic and business review, ISSN 1580-0466. [Tiskana izd.], June 2009, vol. 11, no. 2, str. 159-177, tabele. [COBISS.SI-ID 18637798]

# POSLOVNO KOMUNICIRANJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                        |
|-----------------------------------|------------------------|
| <b>Predmet:</b>                   | POSLOVNO KOMUNICIRANJE |
| <b>Course title:</b>              | BUSINESS COMMUNICATION |
| <b>Članica nosilka/UL Member:</b> | UL NTF                 |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643494

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Andreja Jaklič

Vrsta predmeta/Course type: Izbirni/Elective

Jeziki/Languages:

|                      |                         |
|----------------------|-------------------------|
| Predavanja/Lectures: | Angleščina, Slovenščina |
| Vaje/Tutorial:       |                         |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Ni posebnih pogojev.  
Zaželeno osnovno predznanje (predmeti kot npr. Temelji ekonomije, Osnove ekonomske poslovanja).

**Prerequisites:**

There are no special conditions. Basic prior knowledge is desirable (subjects such as The principles of economics, or Elementary business economics).

**Vsebina:**

Pomen poslovnega komuniciranja  
Poslovno komuniciranje in uspešnost poslovanja  
Proces komuniciranja in vpliv tehnologije Prepričljivo komuniciranje  
Načini komuniciranja (ustno in pisno komuniciranje, sestanki, komuniciranje v skupini, komuniciranje s sodelavci, učinkovite predstavitve)  
Poslovni bonton  
Medkulturno komuniciranje  
Poslovna pogajanja

**Content (Syllabus outline):**

The importance of business communication  
Business communication and business performance  
The process of communication  
Persuasive communication  
Communication methods  
(written communication, meetings, communication in a group, communication with colleagues, effective presentations)  
Business etiquette  
Intercultural communication  
Business negotiations

**Temeljna literatura in viri/Readings:**

Zbirka gradiv in Odprti viri (Open Education Resources), ki jih posreduje učitelj  
MNCwhispering. Zbirka video študijskih primerov (2021) <https://www.mncwhispering.com>

#### Cilji in kompetence:

- Podati temeljna znanja in ugotovitve s področja poslovnih odnosov in komuniciranja,
- Razvijati komunikacijske spretnosti za različne načine komuniciranja (sestanki, predstavitve, pogajanja).
- Razviti spretnosti poslovnega komuniciranja s sodelavci pri reševanju problemov in v različnih težkih situacijah
- Podati razumevanje povezanosti poslovnega komuniciranja z reševanjem poslovnih problemov in uspešnostjo poslovanja.

#### Objectives and competences:

- Providing basic knowledge and understanding in the field of business relations and communication, -
- Developing communication skills for different types of communication (meetings, presentations, negotiations).
- Develop business communication skills with colleagues in solving problems and in various difficult situations
- Providing an understanding of the relationship between business communication and solving business problems and business success.

#### Predvideni študijski rezultati:

- Poznavanje pomena učinkovitega komuniciranja in osnov poslovnega komuniciranja
- Navajati študente na uporabo spoznanj o komuniciranju pri reševanju poslovnih problemov
- razumevanje povezanosti poslovnega komuniciranja in uspešnosti poslovanja

#### Intended learning outcomes:

- Understanding the role of effective communicator and the basics of business communication skills
- Stimulate students to use the business communication skills when solving business problems
- Understanding the role of business communication for business performance

#### Metode poučevanja in učenja:

Predavanja, seminarji, študijski primeri, delo v skupini, individualno delo.

#### Learning and teaching methods:

Lectures, seminars, case studies, group work, individual work.

#### Načini ocenjevanja:

pisni izpit, Individualne naloge, študijski primeri, skupinski projekt ali drugo

#### Delež/Weight

100,00 %

#### Assessment:

written exam, Individual assignments, case studies, group project or other assignments

#### Ocenjevalna lestvica:

|  |
|--|
|  |
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#### Grading system:

|  |
|--|
|  |
|--|

#### Reference nosilca/Lecturer's references:

DE BEULE, Filip, JAKLIČ, Andreja, et al. Proximity at a distance : the relationship between foreign subsidiary co-location and MNC headquarters board interlock formation. *International business review*. [Print ed.]. Aug. 2022, vol. 31, no. 4, str. 1-13, ilustr. ISSN 0969-5931. DOI: 10.1016/j.ibusrev.2021.101971.

STARE, Metka, JAKLIČ, Andreja. Sources of value creation in service global value chains. *Amfiteatru economic*. Aug. 2020, vol. 22, no. 55, str. 846-866, ilustr. ISSN 1582-9146. DOI: 10.24818/EA/2020/55/846.

JAKLIČ, Andreja, OBŁÓJ, Krzysztof, SVETLIČIČ, Marjan, KRONEGGER, Luka. Evolution of Central and Eastern Europe related international business research. *Journal of business research*. [Print ed.]. Jan. 2020, vol. 108, str. 421-434, ilustr. ISSN 0148-2963. DOI: 10.1016/j.jbusres.2019.06.046.

JAKLIČ, Andreja, BURGER, Anže. Complex internationalisation strategies during crises : the case of Slovenian exporters during the Great Recession and Covid-19 pandemic. *Teorija in praksa : revija za družbena vprašanja*. okt.-dec. 2020, letn. 57, št. 4, str. 1018-1041.

JAKLIČ, Andreja, SVETLIČIČ, Marjan. *Enhanced transition through outward internationalization : outward FDI by Slovenian firms*. Abingdon; New York: Routledge, 2018. Routledge revivals. ISBN 978-1-315-19095-2, ISBN 978-1-138-72720-5. <https://www.taylorfrancis.com/books/9781351750653>.

Raziskovalna delo:

Razvoj zbirke video študijskih primerov MNCwhispering (2021) <https://www.mncwhispering.com>

Periodično anketno raziskovanje med podjetij s tujim kapitalom (2008-2023).

Sodelovanje v CRP »*Strateška razvojno inovacijska partnerstva kot orodje krepite inovacijske sposobnosti slovenskega gospodarstva*«.

# PRAKTIČNO USPOSABLJANJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Predmet:</b>                   | Praktično usposabljanje |
| <b>Course title:</b>              | Practical training      |
| <b>Članica nosilka/UL Member:</b> | UL NTF                  |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0099786 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11156   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
|                         |                     |                    |                                      |                                               | 600                                         | 20   |

|                                   |                  |
|-----------------------------------|------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Mirjam Leskovšek |
|-----------------------------------|------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

- izvajanje v gospodarskih družbah s področja primarne tekstilne proizvodnje ali konfekcije
  - konkretna vsebina se prilagodi proizvodnemu procesu gospodarske družbe
  - usposabljanje diplomantov za samostojno vodenje proizvodnih procesov in predvsem za načrtovanje novih izdelkov ter storitev
- Osnovno vsebino programa sestavljajo 3 segmenti:
- Segment 1:** Informativno spoznavanje delovanja gospodarske družbe vključuje seznanitev z: organizacijo družbe, tokom informacij, organizacijo proizvodnega procesa, načinom zbiranja in obdelave podatkov, povezanostjo med oddelki in službami, organizacijo zagotavljanja kakovosti in podobno.
- Segment 2:** Delno aktivno spoznavanje delovanja proizvodnega procesa ob sprejemanju manjših delovnih zadolžitvev na relaciji: razvoj - planiranje in

### Content (Syllabus outline):

- performed as a working practices in the textile and clothing industry (companies)
  - the concrete programme of the practical training is based on the working proces of the companies
  - it should train the graduates students for independent control of production processes, planning new products and services
- The basic programme of the practical training is divided into 3 parts:
- Part 1:** Get the basic information and knowledge about the companies: society organization of the company, the flow of the information, organization of the manufacturing process, method of collecting and processing data, relationship between departments and services, organization of quality assurance etc.
- Part 2:** Get to know the working process and be partially active in the production process, performing

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>načrtovanje proizvodnje - proizvodni proces – obvladovanje kakovosti.</p> <p><b>Segment 3:</b> Aktivno vključevanje v delovni proces: razvoj, planiranje in načrtovanje izdelkov in proizvodnih procesov ter storitev, vodenje zaključenih proizvodnih procesov, obvladovanje kakovosti.</p> <p>Stopnja aktivnega vključevanja je odvisna od velikosti in vrste proizvodnega programa družbe in je rezultat sodelovanja med organizatorjem in mentorjem praktičnega usposabljanja na šoli in mentorjem, ki je v gospodarski družbi zadolžen za izvajanje praktičnega usposabljanja.</p> | <p>smaller working tasks in the field of: development - production planning - production process - quality control.</p> <p><b>Part 3:</b> The student should get the active participation in the working process. This is the most important stage, and a student should be actively involved in one of the following fields: development, planning and product planning and production processes and services, leadership of the completed production, quality management.</p> <p>The activation rate of the student's integration is dependent on the size and the nature of the production of the company and is the result of the cooperation between the coordinator and the mentor of the practical training at school and mentor from the company.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

Glede na izbrano temo praktičnega usposabljanja se nahaja v obliki monografij, člankov, prispevkov v zbornikih konferenc, posvetovanj in seminarjev, raziskovalnih nalog (seminarske, diplomske, magistrske, doktorske), standardov, zakonov, kot tudi komercialnih predstavitev dejavnosti podjetij itd. Lahko je internega značaja in predstavlja dokumentacijo v podjetjih ali ustanovah ali/in pa je dostopna preko knjižnic Oddelka za tekstilstvo, NTF, in ostalih knjižnic ter spleta. /

Depending on the chosen topic of practical training the literature sources exists in the form of monographs, articles, papers in conference proceedings, consultations and seminars, research papers ( seminar , bachelor , master , doctoral ), standards, laws , as well as the commercial presentation of the activities of businesses etc. It can be internal and represents the documentation of enterprises or institutions and/or can be accessible through libraries of the Department of Textiles , NTF , and other libraries and online.

### Cilji in kompetence:

Cilji:

**Osnovni cilj** praktičnega usposabljanja je omogočiti študentom preverjanje posredovanih teoretičnih znanj v okolju v katerem bodo delovali po zaključenim izobraževanju in jih nadgraditi z znanji, ki so značilni za proizvodno delovno okolje in jih ni mogoče pridobiti pri teoretičnem delu v šoli. Praksa poteka v povezavi študent, mentor v podjetju in mentor na šoli.

#### **Predmetno specifične kompetence:**

Študenti naj bi se pri praktičnem usposabljanju seznanili s funkcijami načrtovanja in izvajanja poslovne politike gospodarske družbe, vodenja, planiranja proizvodnje, načrtovanja novih izdelkov, strojno opremo, tehnološkimi postopki in zagotavljanjem kakovosti. Načrtovano je, da bi se študent pri praktičnem usposabljanju čimbolj aktivno vključeval v izvajanje primernih delovnih nalog.

### Objectives and competences:

Objectives:

**The basic aim** of practical training is to enable students to verify the given theoretical knowledge in the environment in which they operate after completion of education and upgrade them with the skills that are characteristic for the production working environment and can not be obtained in the theoretical studies at school. The practice takes place in conjunction with student, company mentor and school mentor.

#### **Subject-specific competencies :**

Students should be acquainted with the functions of planning and implementation of the business policy of the company, management, production planning, design of new products, hardware, technological processes and quality assurance. It is planned that the student should be actively involved in the implementation of appropriate working tasks.

### Predvideni študijski rezultati:

Znanje in razumevanje:

Poznavanje funkcije načrtovanja in izvajanja poslovne politike gospodarske družbe, poznavanje vodenja proizvodnje, poznavanje planiranja proizvodnje, poznavanje načrtovanja novih izdelkov/storitev, poznavanje strojne opreme, poznavanje tehnoloških

### Intended learning outcomes:

Knowledge and understanding:

Knowing the functions of planning and implementation of the business policy, knowledge of production management, knowledge of production planning, knowledge of the planning of new products / services, knowledge of hardware, knowledge of

|                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>postopkov, poznavanje obdelave in prenosa podatkov, poznavanje zagotavljanje kakovosti, poznavanje logistike, poznavanje ekonomike in poslovanja.</p> <p>Študent razume kako teoretična spoznanja prenesti, preveriti in nadgraditi na praktičnih primerih, pri čemer v celoti razume delovanje procesov, ki se odvijajo v gospodarski družbi.</p> | <p>technological processes, knowledge of processing and transmission of data, knowledge of quality assurance, knowledge of logistics, knowledge of economics and business.</p> <p>The student understands the implementation and can transfer, check and upgrade of the theoretical knowledge practical situations, while fully understands the operation of the processes, taking place in the company.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                         |                                                                                                    |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Metode poučevanja in učenja:</b>                                                     | <b>Learning and teaching methods:</b>                                                              |
| Delovna praksa. Možno je tudi delo na terenu in projektno delo v okviru delovne prakse. | Practical training. Also possible as work at fieldwork and project work within practical training. |

|                                                                                           |                     |                                                                              |
|-------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------|
| <b>Načini ocenjevanja:</b>                                                                | <b>Delež/Weight</b> | <b>Assessment:</b>                                                           |
| Metoda ocenjevanja: seminarska naloga.<br>Ocenjevalna lestvica: opravljen / ni opravljen. | 100,00 %            | The method of assessment : seminar.<br>Grading scale : passed / not passed . |

|                              |                        |
|------------------------------|------------------------|
| <b>Ocenjevalna lestvica:</b> | <b>Grading system:</b> |
|                              |                        |

**Reference nosilca/Lecturer's references:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• ADOMAVIČIUTE, Erika, MILAŠIUS, Rimvydas, ŽEMAITAITIS, Algirdas, BENDORAITIENE, Joana, LESKOVŠEK, Mirjam, DEMŠAR, Andrej. Methods of forming nanofibres from bicomponent PVA/cationic starch solution. <i>Fibres &amp; textiles in Eastern Europe</i>, ISSN 1230-3666, 2009, vol. 17, no. 3 (74), str. 29-33, ilustr. [COBISS.SI-ID <a href="#">2247792</a>]</li> <li>• GREGOR-SVETEC, Diana, TIŠLER KORLIJAN, Barbara, LESKOVŠEK, Mirjam, SLUGA, Franci. Monofilaments produced by blending virgin with recycled polypropylene = Ham ve geri dönüşüm polipropilen polimerlerinin karışımından elde edilen monofilamentler. <i>Tekstil ve konfeksiyon dergisi</i>, ISSN 1300-3356, 2009, vol. 19, no. 3, str. 181-188. [COBISS.SI-ID <a href="#">2250096</a>]</li> <li>• LESKOVŠEK, Mirjam, JEDRINOVIĆ, Gordana, STANKOVIĆ ELESINI, Urška. Properties of polypropylene fibres with incorporated microcapsules. <i>Acta chimica slovenica</i>, ISSN 1318-0207. [Tiskana izd.], december 2004, letn. 51, št. 4, str. 699-715, graf. prikazi. <a href="http://acta.chem-soc.si/51/51-4-699.pdf">http://acta.chem-soc.si/51/51-4-699.pdf</a>. [COBISS.SI-ID <a href="#">26426373</a>]</li> <li>• STANKOVIĆ ELESINI, Urška, JEDRINOVIĆ, Gordana, LESKOVŠEK, Mirjam. Razdioba i oštećenja mikrokapsula ugrađenih u polipropilenska vlakna = Distribution and damages of microcapsules incorporated into polypropylene fibres = Verteilung und Beschädigung von in Polypropylen fasern eingearbeiteten Mikrokapseln. <i>Tekstil</i>, ISSN 0492-5882. [Print ed.], 2004, vol. 53, no. 6, str. 285-291. [COBISS.SI-ID <a href="#">1405296</a>]</li> </ul> |
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# PREJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |        |
|-----------------------------------|--------|
| <b>Predmet:</b>                   | Preje  |
| <b>Course title:</b>              | Yarns  |
| <b>Članica nosilka/UL Member:</b> | UL NTF |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0089530 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11118   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 30                  | 30                 | 0                                    | 0                                             | 90                                          | 6    |

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Dunja Šajn Gorjanc |
|-----------------------------------|--------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

- Predilne lastnosti različnih vrst prediv.
- Vrste in lastnosti enojnih, združenih, sukanih, oplaščenih in obsukanih predivnih prej.
- Tehnološki postopki izdelave predivnih prej v odvisnosti od vrste predelovalnega prediva.
- Analiza vplivnih dejavnikov na konstrukcijo in lastnosti predivne preje.
- Vrste in lastnosti predivnih prej glede na predilnik na katerem so spredene.
- Pomen tehnoloških faz priprave prediva, mikanja, združevanja in raztezanja, priprave za česanje, česanja, predpredenja in predenja na lastnosti, produktivnost in ceno predivne preje.

### Content (Syllabus outline):

- Spinning properties of different types of yarns.
- Types and characteristics of single, doubled, twisted and cored yarns.
- Technological processes of yarn production in dependence of the yarn properties and construction.
- Analysis of factors influencing the structure and properties of spinning yarn spun on different spinning machines.
- The importance of technological phases of preparing fibres before spinning, carding, doubling and drawing, preparation for combing, combing, spinning and pre-spinning on the properties, productivity and the cost of spinning yarn.

### Temeljna literatura in viri/Readings:

- ŠAJN GORJANC, Dunja. *Preje : študijsko gradivo*. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, Katedra za tekstilno in oblačilno inženirstvo, [2019]. <https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/preje/>.

- ŠAJN GORJANC, D. Preje in načrtovanje prej [Elektronski vir] : navodila za vaje, 2013.
- NIKOLIĆ, M., in PERIĆ, P. Teorija in tehnologija predenja. Del 1. Ljubljana : FNT VTOZD Tekstilna tehnologija, 1990.
- NIKOLIĆ, M. Teorija in tehnologija predenja : izdelava stenja – predpreje. Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 1997.
- LORD, P.R. Handbook of yarn production : technology, science and economics. Boca Raton: CRC Press, 2003

#### **Cilji in kompetence:**

##### **Cilji:**

Študenti spoznajo temeljne principe izdelave predivne preje iz različnih vrst prediv. Spoznajo se s potekom tehnološkega procesa izdelave predivne preje.

##### **Kompetence:**

- poznavanje in posledično povezovanje vpliva različnih surovin in tehnoloških dejavnikov na strukturo in mehansko-fizikalne lastnosti predivne preje,
- razumevanje vpliva različnih tehnoloških faz na lastnosti polizdelkov po fazah in na lastnosti predivne preje,
- sposobnost izbire optimalnega tehnološkega procesa za izdelavo predivne preje glede na njeno končno uporabnost.

#### **Objectives and competences:**

##### **Objectives:**

Students get to know the basic principles of the spun yarn production from different types of fibres and are acquainted with the technological process of producing spinning yarn.

##### **Competences:**

- Knowledge and consequent integration of the impact of different raw materials and technological factors on the structure and mechanical and physical properties of spinning yarn.
- Understanding the impact of various technological stages on the properties of semi-manufactured products in stages and characteristics of spinning yarn.
- The ability to choose the optimal technological process for the manufacture of spinning yarn depending on its final usefulness.

#### **Predvideni študijski rezultati:**

##### **Znanje in razumevanje:**

- Študent pozna konstrukcijske, mehansko – fizikalne in uporabne lastnosti različnih vrst in zgradb predivnih prej.
- Znanje in razumevanje vpliva različnih tehnoloških faz na kakovost polizdelkov in na kakovost predivne preje.
- Pozna dejavnike, ki vplivajo na kakovost, produktivnost in ceno predivne preje izdelane po različnih postopkih predenja.

#### **Intended learning outcomes:**

##### **Knowledge and understanding:**

- Students are familiar with the structural, mechanical-physical and useful features of different yarn constructions.
- Knowledge and understanding of the impact of different technological stages on the quality of intermediate products and the quality of spinning yarn.
- Knowing the factors that affect the quality, productivity and the cost of spinning yarns produced in different spinning processes.

#### **Metode poučevanja in učenja:**

Predavanja, računske in eksperimentalne vaje v mehansko tehnološkem laboratoriju na oddelku ter ekskurzije v slovenskih predilnicah.

#### **Learning and teaching methods:**

Lectures, computational and experimental work in a mechanically technology laboratory at the Department and excursions to Slovenian spinning mills.

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                          |         |                                        |
|--------------------------|---------|----------------------------------------|
| Pisni/ustni izpit,       | 50,00 % | Written/oral exam,                     |
| pisni/ustni izpit iz vaj | 25,00 % | written/oral exam from laboratory work |
| seminar                  | 25,00 % | seminar                                |

#### **Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### **Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### Reference nosilca/Lecturer's references:

- ŠAJN GORJANC, Dunja, SUKIČ, Neža. Determination of optimum twist equation for the long Staple combed cotton ring-spun yarn. *Fibers*, ISSN 2079-6439, 21 Sep. 2020, vol. 8, iss. 9, article 59, str. 1-18, ilustr. <https://www.mdpi.com/2079-6439/8/9/59>.
- ŠAJN GORJANC, Dunja. The functionality of woven fabric from air-jet yarn from the mixture of CO/PA and CO/PES fibres in the weft direction. *The journal of The Textile Institute*, ISSN 0040-5000, 2019, vol. 110, no. 5, str. 680-689, ilustr. <https://www.tandfonline.com/doi/full/10.1080/00405000.2018.1511228>.
- ŠAJN GORJANC, Dunja, GLAŽAR, Dominika. The influence of air-jet and vortex yarn on functionality of woven fabric = Influența firelor filate cu jet de aer și vortex asupra funcționalității țesăturii. *Industria textilăa*, ISSN 1222-5347, 2018, vol. 69, no. 2, str. 87-95. <http://www.revistaindustriatextila.ro/index.php/ro/2018/2018-2>.
- ŠAJN GORJANC, Dunja, ZUPIN, Živa. Responses of fabric from lyocell/natural bamboo yarn to loading. *The journal of The Textile Institute*, ISSN 0040-5000, 2017, vol. 108, no. 10, str. 1707-1714, ilustr. <http://www.tandfonline.com/doi/full/10.1080/00405000.2017.1281708>
- POZDEREC, Miha, ŠAJN GORJANC, Dunja. Permeability properties of woven fabrics containing two-ply fancy yarns = Permeabilitatea țesăturilor ce conțin fire fantezie dublu răsucite. *Industria textilăa*. 2021, vol. 72, no. 2, str. 156-167.

# PROJEKTNO DELO

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                |
|-----------------------------------|----------------|
| <b>Predmet:</b>                   | Projektno delo |
| <b>Course title:</b>              | Project work   |
| <b>Članica nosilka/UL Member:</b> | UL NTF         |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | obvezni   |

Univerzitetna koda predmeta/University course code: 0643011

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
|                         | 30                  | 45                 |                                         | 15                                                  | 90                                                | 6    |

Nosilec predmeta/Lecturer:

Vrsta predmeta/Course type: Obvezni strokovni/Obligatory-professional

Jeziki/Languages:

|                      |             |
|----------------------|-------------|
| Predavanja/Lectures: | Slovenščina |
| Vaje/Tutorial:       | Slovenščina |

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| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                            | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                          |
| Interdisciplinarni projekt na UL Naravoslovnotehniški fakulteti, Oddelku za tekstilstvo, grafiko in oblikovanje pod mentorstvom učiteljev KTOI pri predmetih, katere vsebine bodo zajete v projektno delo v povezavi s tekstilno in oblačilno industrijo<br>Ekskurzije v tekstilno in oblačilno industrijo | Interdisciplinary project at UL Faculty of Science and Engineering, Department of Textiles, Graphics and Design under the supervision of KTOI teachers in subjects whose content will be incorporated into the project work related to the textile and apparel industry.<br>Excursions to the textile and clothing industry |

### Temeljna literatura in viri/Readings:

Monografije, članki, prispevki v zbornikih konferenc, posvetovanj in seminarjev, raziskovalne naloge (seminarske, diplomske, magistrske, doktorske), standardi, zakoni, komercialne predstavitve dejavnosti podjetij, spletne strani, blogi, podkasti, itd.

Monographs, articles, proceedings of conferences and seminars, research papers (seminar, diploma, master, doctoral theses), standards, laws, commercial presentations of business activities, websites, blogs, podcasts, etc

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Cilji in kompetence:</b></p> <p><b>Cilj</b> projektnega dela je omogočiti študentom preverjanje posredovanih teoretičnih znanj v gospodarskem ali raziskovalnem okolju, v katerem bodo delovali po zaključenim izobraževanju in jih nadgraditi z znanji, ki jih ni mogoče pridobiti pri predavanjih/seminarjih/vajah.</p> <p>Spoznati različna slovenska tekstilna in oblačilna podjetja, njihove izdelke/storitve in njihovo delovanje na tržišču.</p> <p><b>Predmetno specifične kompetence:</b></p> <p>Študenti se pri projektnem delu seznanijo z vodenjem in planiranjem konkretnih projektov ter načrtovanjem novih izdelkov/storitev z visoko dodano vrednostjo za izbrano ciljno skupino na slovenskem tržišču.</p> | <p><b>Objectives and competences:</b></p> <p><b>The aim</b> of the project work is to give students the opportunity to verify the theoretical knowledge they have acquired in the business or research environment in which they will work after graduation, and to expand it with knowledge that cannot be acquired in lectures/seminars/exercises.</p> <p>They get acquainted with different Slovenian textile and clothing companies, their products / services and their activity on the market.</p> <p><b>Subject-specific competences:</b></p> <p>During the project work, students learn about the management and planning of specific projects, as well as the planning of new products / services with high added value for a selected target group on the Slovenian market.</p> |
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| <p><b>Predvideni študijski rezultati:</b></p> <p>Spoznavanje konkretnega procesa planiranja in vodenja projekta v praksi.</p> <p>Prepoznavanje priložnosti in kariernih izzivov na področju tekstilstva in inženirstva.</p> <p>Povezovanje obstoječega znanja s konkretnimi situacijami na trgu.</p> | <p><b>Intended learning outcomes:</b></p> <p>Become familiar with the concrete process of project planning and management in practice.</p> <p>Recognizing opportunities and professional challenges in the field of textiles and engineering.</p> <p>Linking existing knowledge to concrete market situations</p> |
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|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <p><b>Metode poučevanja in učenja:</b></p> <p>Projektno delo, seminarsko delo, ekskurzije.</p> | <p><b>Learning and teaching methods:</b></p> <p>Project work, seminar work, excursions.</p> |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|

| <b>Načini ocenjevanja:</b>           | <b>Delež/Weight</b> | <b>Assessment:</b>                       |
|--------------------------------------|---------------------|------------------------------------------|
| Pisna predstavitev seminarske naloge | 50,00 %             | Written presentation of the seminar work |
| Ustna predstavitev seminarske naloge | 50,00 %             | Oral presentation of the seminar work    |

|                                     |                               |
|-------------------------------------|-------------------------------|
| <p><b>Ocenjevalna lestvica:</b></p> | <p><b>Grading system:</b></p> |
|-------------------------------------|-------------------------------|

|                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reference nosilca/Lecturer's references:</b></p> <p>Reference nosilcev oz. predavateljev predmetov, katere vsebine bodo zajete v projektno delo glede na izbrano temo/ References from holders or lecturers of subjects whose contents will be included in the project work according to the chosen topic.</p> |
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# PROJEKTNO DELO

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                |
|-----------------------------------|----------------|
| <b>Predmet:</b>                   | Projektno delo |
| <b>Course title:</b>              | Project work   |
| <b>Članica nosilka/UL Member:</b> | UL NTF         |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643495

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 15                      | 30                  |                    |                                         | 15                                                  | 60                                                | 4    |

Nosilec predmeta/Lecturer:

Vrsta predmeta/Course type: Izbirni/Elective

Jeziki/Languages:

|                      |             |
|----------------------|-------------|
| Predavanja/Lectures: | Slovenščina |
| Vaje/Tutorial:       | Slovenščina |

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisites:

Vpis v letnik študija.

Enrolment into study year.

Vsebina:

Content (Syllabus outline):

Interdisciplinarni projekt na UL Naravoslovnotehniški fakulteti, Oddelku za tekstilstvo, grafiko in oblikovanje pod mentorstvom učiteljev KTOI pri predmetih, katere vsebine bodo zajete v projektno delo v povezavi s tekstilno in oblačilno industrijo s poudarkom na trajnosti. Ekskurzije v tekstilno in oblačilno industrijo.

Interdisciplinary project at UL Faculty of Science and Engineering, Department of Textiles, Graphics and Design under the supervision of KTOI teachers in subjects whose content will be incorporated into the project work related to the textile and apparel industry.  
  
Excursions to the textile and clothing industry.

Temeljna literatura in viri/Readings:

Monografije, članki, prispevki v zbornikih konferenc, posvetovanj in seminarjev, raziskovalne naloge (seminarske, diplomske, magistrske, doktorske), standardi, zakoni, komercialne predstavitve dejavnosti podjetij, spletne strani, blogi, podcasti, itd.  
Monographs, articles, proceedings of conferences and seminars, research papers (seminar, diploma, master, doctoral theses), standards, laws, commercial presentations of business activities, websites, blogs, podcasts, etc.

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| <p><b>Cilji in kompetence:</b></p> <p><b>Cilj</b> projektnega dela je omogočiti študentom preverjanje posredovanih teoretičnih znanj v gospodarskem ali raziskovalnem okolju, v katerem bodo delovali po zaključenim izobraževanju in jih nadgraditi z znanji, ki jih ni mogoče pridobiti pri predavanjih/seminarjih/vajah.</p> <p>Spoznati različna slovenska tekstilna in oblačilna podjetja, njihove izdelke/storitve in njihovo delovanje na trga.</p> <p><b>Predmetno specifične kompetence:</b></p> <p>Študenti se pri projektnem delu seznanijo z vodenjem in planiranjem konkretnih projektov ter načrtovanjem novih, trajnostnih izdelkov/storitev z visoko dodano vrednostjo in upoštevanjem trajnostnih principov za izbrano ciljno skupino na slovenskem trgu.</p> | <p><b>Objectives and competences:</b></p> <p>The aim of the project work is to give students the opportunity to verify the theoretical knowledge they have acquired in the business or research environment in which they will work after graduation, and to expand it with knowledge that cannot be acquired in lectures/seminars/exercises.</p> <p>They get acquainted with different Slovenian textile and clothing companies, their products / services and their activity on the market.</p> <p>Subject-specific competences:</p> <p>During the project work, students learn about the management and planning of specific projects, as well as the planning of new products / services with high added value for a selected target group on the Slovenian market.</p> |
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| <p><b>Predvideni študijski rezultati:</b></p> <p>Spoznavanje konkretnega procesa planiranja in vodenja projekta v praksi.</p> <p>Prepoznavanje priložnosti in kariernih izzivov na področju tekstilstva in inženirstva.</p> <p>Povezovanje obstoječega znanja s konkretnimi situacijami na trgu.</p> | <p><b>Intended learning outcomes:</b></p> <p>Become familiar with the concrete process of project planning and management in practice.</p> <p>Recognizing opportunities and professional challenges in the field of textiles and engineering.</p> <p>Linking existing knowledge to concrete market situations.</p> |
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| <p><b>Metode poučevanja in učenja:</b></p> <p>Projektno delo, seminarsko delo, ekskurzije.</p> | <p><b>Learning and teaching methods:</b></p> <p>Project work, seminar work, excursions.</p> |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|

| <b>Načini ocenjevanja:</b>           | <b>Delež/Weight</b> | <b>Assessment:</b>                       |
|--------------------------------------|---------------------|------------------------------------------|
| Pisna predstavitev seminarske naloge | 50,00 %             | Written presentation of the seminar work |
| Ustna predstavitev seminarske naloge | 50,00 %             | Oral presentation of the seminar work    |

|                                     |                               |
|-------------------------------------|-------------------------------|
| <p><b>Ocenjevalna lestvica:</b></p> | <p><b>Grading system:</b></p> |
|-------------------------------------|-------------------------------|

|                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Reference nosilca/Lecturer's references:</b></p> <p>Reference nosilcev oz. predavateljev predmetov, katere vsebine bodo zajete v projektno delo glede na izbrano temo/ References from holders or lecturers of subjects whose contents will be included in the project work according to the chosen topic.</p> |
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# RAČUNALNIŠKA PRIPRAVA V KONFEKCIJI

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                           |
|-----------------------------------|-------------------------------------------|
| <b>Predmet:</b>                   | Računalniška priprava v konfekciji        |
| <b>Course title:</b>              | Computer systems in apparel manufacturing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                    |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068092 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 10252   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Živa Zupin |
|-----------------------------------|------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

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|------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                           |
| Vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and course selection. |

### Vsebina:

Razvoj na področju računalniško vodenih sistemov namenjenih proizvodnji in trženju oblačil, pomen uporabe, področja uporabe. CAD/CAM sistemi, računalniško integrirana proizvodnja v konf. industriji. Programski paketi za razvoj krojev oblačil, izdelavo krojnih slik, izdelavo podporne tehnološke dokumentacije. Povezovanje CAD sistemov za razvoj krojev in tehnološko pripravo s CAM sistemi v proizvodnji oblačil. Uporaba računalniškega sistema za konfekcijsko proizvodnjo (razvoj osnovnih krojev, modeliranje krojev in izdelava krojne slike).

### Content (Syllabus outline):

Development in computerized systems for production and marketing in apparel manufacturing, importance and objectives of application. CAD / CAM systems, computer integrated manufacturing in apparel industry. Software packages for pattern development, pattern cutting, lay planning, technical support documentation. Integration of CAD systems for pattern development and technological preparation with CAM systems in the manufacturing process. Use of the CAD system in apparel production (pattern development, pattern modelling and lay-out planning).

### Temeljna literatura in viri/Readings:

BEAZLEY, A., in BOND, T. Computer-Aided Pattern Design and Product Development. Malden : Blackwell Publishing, 2003. ISBN - 1-4051-0283-7, COBISS.SI-ID - 1199216  
GRAY, S. CAD/CAM in Clothing and Textiles. London : Gower Publishing, 1998. ISBN - 0-566-07673-X, COBISS.SI-ID – 7798806.  
COLUSSY, M. K., Fashion design on

computers. Upper Saddle River, N.J. : Prentice Hall, cop. 2001. ISBN - 0-13-083838-1, COBISS.SI-ID – 1193072.

Navodila za uporabo CAD programa Gemini in drugo

gradivo dostopno v spletni učilnici predmeta

#### Cilji in kompetence:

Spoznati CAD/CAM sisteme v konfekcijski industriji, za pripravo in vodenje proizvodnje, za razvoj osnovnih krojev in modeliranje krojev oblačil in izdelavo krojnih slik. Poznavanje osnovnih zmožnosti programskih paketov za razvoj krojev in tehnološko pripravo proizvodnje, ter specialnih paketov namenjenih individualnim naročilom, poznavanje programskih paketov za 3D vizualizacijo. Uporaba CAD sistema.

#### Objectives and competences:

Learning about CAD / CAM systems for the apparel industry, production preparation, production control, basic pattern block development, pattern modelling and lay-out planning. Knowing the basic possibilities of software packages pattern developing, planning and technological preparation of production, as well as special packages used for custom-made products, knowing software packages for 3D visualization. Use of the CAD system.

#### Predvideni študijski rezultati:

Sposobnost pravilne izbire programske opreme za konfekcijsko industrijo ter vključevanje le-te v rač. integrirano proizvodnjo, sposobnost uporabe CAD sistema za razvoj krojev, modeliranje, simulacije in tehnično pripravo proizvodnje. Razume pomen uporabe 3D simulacij za prikaz izdelkov namenjen prodaji ter komunikaciji med oblikovalcem, tehnologom in kupcem. Pozna strokovno terminologijo.

#### Intended learning outcomes:

Ability to select the right software for the apparel industry and integrate it with the computer integrated production, ability to use the CAD system for pattern development, modeling, simulations and technical preparation of production. Understands the importance of using 3D simulations for sales and communication between designer, technologist and customer. Knows the technical terminology.

#### Metode poučevanja in učenja:

Predavanja, vaje na CAD sistemu.

#### Learning and teaching methods:

Lectures, tutorial on CAD system.

#### Načini ocenjevanja:

#### Delež/Weight

#### Assessment:

|                           |         |                                    |
|---------------------------|---------|------------------------------------|
| Pisni/ustni izpit         | 50,00 % | Written/oral exam                  |
| Praktični kolokvij iz vaj | 50,00 % | Practical colloquium from tutorial |

#### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

#### Reference nosilca/Lecturer's references:

1. ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.
2. ZUPIN, Živa, DIMITROVSKI, Krste, HLADNIK, Aleš, KOSTAJNŠEK, Klara. Elongation properties of woven fabrics with incorporated PBT yarns. The journal of The Textile Institute. <https://www.tandfonline.com/doi/full/10.1080/00405000.2021.1907971>, ISSN 0040-5000.
3. ZUPIN, Živa. Computer aided fabrics patterning. Tekstil, oblačilna kultura in moda = Textile, the culture of clothing and fashion : Museoeurope : the collected volume of the symposium 18.-19. 10. 2019. Maribor: Pokrajinski muzej, 2019. Str. 23-33, ilustr. Zbirka Museoeurope, 6. ISBN 978-961-94532-3-0.
4. ŠAJN GORJANC, Dunja, ZUPIN, Živa. Responses of fabric from lyocell/natural bamboo yarn to loading. The journal of The Textile Institute. 2017, vol. 108, no. 10, str. 1707-1714, ilustr. ISSN 0040-5000.
5. ZUPIN, Živa, CERAR, Urša, PODBEVŠEK, Tanja. Garment design according to zero waste design principle. V: ÜN, Çağrı (ur.), KIDIRYUZ, Merve (ur.). Full texts book : Cukurova 9th International Scientific Researches Conference : October 9-11, 2022, Adana, Turkey. Cukurova 9th International

Scientific Researches Conference, October 9-11, 2022, Adana, Turkey. Ankara: IKSAD Publishing House, 2022. Str. 1721-1729. ISBN 978-625-8246-28-5.  
[https://en.iksadkongre.net/\\_files/ugd/262ebf\\_712087d19a0843b786e9a55dd73c035e.pdf](https://en.iksadkongre.net/_files/ugd/262ebf_712087d19a0843b786e9a55dd73c035e.pdf).

# RAČUNALNIŠKO OBLIKOVANJE PLETIV IN PLETENIN

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                                          |
|-----------------------------------|----------------------------------------------------------|
| <b>Predmet:</b>                   | Računalniško oblikovanje pletiv in pletenin              |
| <b>Course title:</b>              | Computer-assisted design of knitted fabrics and knitwear |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                                   |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068093 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 10253   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Živa Zupin |
|-----------------------------------|------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                                                 |
|------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                           |
| Vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and course selection. |

### Vsebina:

- Spoznavanje koncepta CAD programov za računalniško podprto načrtovanje pletiv in pletenin;
- Grafični prikaz, simbolni zapis, načrtovanje in simulacija osnovnih in zahtevnih pletiv in pletenin;
- Računalniška priprava in obdelava vzorcev za žakarska pletiva;
- Principi upravljanja barv pri računalniški pripravi kolekcije pletiv/pletenin;
- Študij vpliva konstrukcijskih parametrov pletiv na vzorčenje pletiv in pletenin;
- Barvno in strukturno vzorčenje pletiv in pletenin;
- CAD sistemi v votkovem in snutkovnem pletilstvu;
- Spoznavanje in uporaba računalniškega programa za oblikovanje votkovnega in snutkovnega pletiva;

### Content (Syllabus outline):

- Getting to know the concept of CAD programs for computer-aided design of knitted fabrics and knitwear;
- Graphic representation, symbolic notation, design and simulation of basic and complex knitted fabrics and knitwear;
- Computer-aided preparation and processing of patterns for jacquard knitted fabrics and knitwear;
- Principles of color management in computerized preparation of a collection of knitted fabrics and knitwear;
- Study of the influence of knitting construction parameters on patterning of knitted fabrics and knitwear;
- Color and texture patterning of knitted fabrics and knitwear;
- CAD systems in weft and warp knitting;

|  |                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>Getting to know and using the software program for designing weft and warp knit constructions.</li> </ul> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- ZUPIN, Ž. Novosti na področju računalniškega oblikovanja tkanin, pletiv in pletenin na sejmi ITMA in Techtextil 2019. Tekstilec : glasilo slovenskih tekstilcev, 2019, vol. 62, priloga 2, str. si 123-si 133.
- PAVKO-ČUDEN, A. Kompozicija pletenin 1 (skripta). Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2008.
- PAVKO-ČUDEN, A. Kompozicija pletenin 2 (skripta). Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2008.
- PAVKO-ČUDEN, A. Računalniško oblikovanje pletiv in pletenin (skripta). Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2013.
- Promocijsko gradivo proizvajalcev CAD pletilskih sistemov / Promotional materials for CAD knitting systems producers.
- Gradivo dostopno v spletni učilnici predmeta.

### Cilji in kompetence:

- Študent razume konstrukcijo pletiv ter brezšivnih pletenin ter njen vpliv na lastnosti in videz pletiv;
- Pozna uporabo osnovnih in zahtevnejših vezav pri računalniškem načrtovanju pletiv in pletenin;
- Pozna vpliv konstrukcijskih parametrov na videz in simulacijo pletiv in pletenin;
- Pozna delo s CAD sistemom za vzorčenje votkovnih in snutkovnih pletiv in pletenin.

### Objectives and competences:

- The student understands the construction of knitted fabrics and seamless knitwear and its influence on the properties and appearance of knitted fabrics;
- Knows the use of basic and more complex structures in computer design of knitted fabrics and knitwear;
- Knows the influence of construction parameters on the appearance and simulation of knitted fabrics and knitwear;
- Knows how to work with the CAD software for sampling warp and weft knitted fabrics and knitwear.

### Predvideni študijski rezultati:

- Samostojna uporaba CAD sistema za načrtovanje in oblikovanje osnovnih in bolj zahtevnih pletiv in pletenin ter njihove simulacije z različnimi konstrukcijskimi parametri;
- Sposobnost uporabe strokovne pletilske terminologije.

### Intended learning outcomes:

- Independent use of the system CAD for the planning and design of basic and more complex knitted fabrics and knitwear and their simulation with different construction parameters;
- Ability to use technical knitting terminology.

### Metode poučevanja in učenja:

Predavanja, računalniško oblikovanje simulacij pletenih struktur.

### Learning and teaching methods:

Lectures, computer-assisted design (simulation) of knitted structures.

### Načini ocenjevanja:

Pisni/ustni izpit  
Poročilo o vajah

### Delež/Weight

60,00 %  
40,00 %

### Assessment:

Written/oral exam  
Exercise report

### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

1. ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. *Tekstil ve konfeksiyon dergisi : journal of textile and apparel*. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.
2. ZUPIN, Živa. Novosti na področju računalniškega oblikovanja tkanin, pletiv in pletenin na sejnih ITMA in Techtextil 2019 = Novelties in computer-aided design of woven and knitted fabrics and knittwear at Techtextil and ITMA 2019. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2019, vol. 62, priloga 2, str. si 123-sl 133, ISSN 0351-3386. [COBISS.SI-ID 3694448]
3. ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). *Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 - 27, 2021, İzmir-Turkey*. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 429-435, ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>. [COBISS.SI-ID 85826307]
4. ZUPIN, Živa, KOVAČIČ, Sara. Performance properties of double bed jacquard knitted fabrics for upholstery. V: KARDAŞLAR, Ahmet (ur.), MIKE, Faruk (ur.). *Full text book : II. International Korkut Ata Scientific Researches Conference : October 7-8, 2023, Ankara, Turkey. II. International Korkut Ata Scientific Researches Conference, October 7-8, 2023, Ankara, Turkey*. Ankara: IKSAD Publishing House, 2023. Str. 555-562, ilustr. ISBN 978-625-367-347-5. [https://www.korkutataconference.org/\\_files/ugd/614b1f\\_16c34c13a6234f2782cbdf104c7aa9a.pdf](https://www.korkutataconference.org/_files/ugd/614b1f_16c34c13a6234f2782cbdf104c7aa9a.pdf).
5. ZUPIN, Živa, MOTNIKAR, Ana, ZOREC, Petja, GAJŠEK, Gašper, HRASTAR, Zala, MAVRIČ, Zala, MIKLAVČIČ, Anita, PETROVČIČ, Elizabeta, REŠETIČ, Klara, SCHWARZBARTEL, Petra, TURK, Maruša, VIDMAR, Lara, VRHOVSKI, Iris. Exploring the history of hosiery and design of modern socks-socks. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). *Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 -27, 2021, İzmir-Turkey*. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 549-553, ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>. [COBISS.SI-ID 85731587]
6. ZUPIN, Živa. Computer aided fabrics patterning . V: CVIKL, Nives (ur.), HREN BRVAR, Maja (ur.). *Tekstil, oblačilna kultura in moda = Textile, the culture of clothing and fashion : Museoeurope : the collected volume of the symposium 18.-19. 10. 2019*. Maribor: Pokrajinski muzej: = Regional Museum, 2019. Str. 23-33, Zbirka Museoeurope, 6. ISBN 978-961-94532-3-0. [COBISS.SI-ID 3677296]

# RAČUNALNIŠKO OBLIKOVANJE PREJ IN TKANIN

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                                     |
|-----------------------------------|-----------------------------------------------------|
| <b>Predmet:</b>                   | Računalniško oblikovanje prej in tkanin             |
| <b>Course title:</b>              | Computer-assisted design of yarns and woven fabrics |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                              |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068094 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 10254   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |                   |
|-----------------------------------|-------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Klara Kostajnshek |
|-----------------------------------|-------------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                                                 |
|------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                           |
| Vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and course selection. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Spoznavanje CAD programa za računalniško podprto načrtovanje tkanin. Enostavne in zahtevnejše konstrukcije prej in njihova simulacija. Načrtovanje in simulacija osnovnih in zahtevnih tkanin (večosnovne, večvotkovne, dvojne, votle). Računalniška priprava in obdelava vzorcev za žakarske tkanine. Konstrukcijske izvedbe različnih žakarskih vzorcev in simulacije z različnimi konstrukcijskimi parametri (vpliv na vzorčenje). Različne možnosti barvnega in strukturnega vzorčenja tkanin. 3D simulacija tkanin na objektih. | Learning about the CAD for computer-aided design of woven fabrics. Basic and complex structure of threads and their simulation. Planning and simulation of basic and complex woven structures (warp/weft backed, double, hollow). Computer aided planning and editing of images and patterns for jacquard fabrics. Different implementations of Jacquard patterns and simulation with different construction parameters (influence on sampling). Different possibilities of color and structure design of woven fabrics. 3D simulation of woven fabrics on the object. |

|                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                           |
| BIZJAK, M., KOSTAJNŠEK, K. <i>Enostavne vezave tkanin</i> . 1. izd. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2017. 103 str., ilustr. |

BIZJAK, M., KOSTAJNŠEK, K. Zahtevne vezave tkanin. 1. izd. Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2024. 104 str., ilustr.  
 CAD/CAM Arahne, Navodila in podpora,( <https://www.arahne.si/sl/navodila-podpora/>)  
 DIMITROVSKI, K. Barvno oblikovanje pestrih tkanin. V Interdisciplinarnost barve. Del 2. Ur. S. Jeler in M. Kumar. Maribor : Društvo koloristov Slovenije, 2003, str. 455–475.  
 Horne CE. Geometric symmetry in patterns and tilings. [Manchester]; Boca Raton ... [etc.]; Cambridge: The Textile Institute; CRC Press; Woodhead Publishing; 2000. VIII, 238  
 HALLETT, C., JOHNSTON, A., Fabric for fashion : the swatch book : over 100 sample fabrics. London : Laurence King, 2010, ISBN - 978-1-85669-669-2, COBISS.SI-ID – 2949232  
 Izbrani članki in gradivo v spletni učilnici predmeta.

#### **Cilji in kompetence:**

Študent razume konstrukcijo prej in njen vpliv na lastnosti ter videz tkanin, pozna uporabo osnovnih in zahtevnejših vezav pri računalniškem načrtovanju tkanin, pozna vpliv konstrukcijskih parametrov na videz in simulacijo tkanin, pozna delo s CAD sistemom za vzorčenje tkanin.

#### **Objectives and competences:**

The student understands the construction of threads and their influence on the properties and appearance of fabrics, knows the use of basic and more complex weaves in computer-aided fabric design, knows the influence of construction parameters on the appearance and simulation of fabrics, knows how to use the CAD system for woven fabrics.

#### **Predvideni študijski rezultati:**

Samostojna uporaba CAD sistema za načrtovanje in oblikovanje prej, osnovnih in bolj zahtevnih tkanin ter simulacije tkanin z različnimi konstrukcijskimi parametri. Sposobnost uporabe strokovne terminologije.

#### **Intended learning outcomes:**

Skilful use of CAD system for planning and designing threads, basic and more complex woven fabrics and fabrics simulation with various design parameters. Ability to use professional terminology.

#### **Metode poučevanja in učenja:**

Predavanje in vaje na CAD sistemu za tkanje

#### **Learning and teaching methods:**

Lectures and exercises with CAD system for weaving

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                                |         |                                       |
|--------------------------------|---------|---------------------------------------|
| Pisni/ustni izpit              | 50,00 % | Written/oral exam                     |
| Kolokvij iz vaj na CAD sistemu | 50,00 % | Exercises with CAD system for weaving |

#### **Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### **Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### **Reference nosilca/Lecturer's references:**

KOSTAJNŠEK, Klara, BIZJAK, Matejka. Estimation of permeability properties of technologically developed jacquard fabrics = Ocena svojstva propustljivosti žakar tkanina dobijenih tehnološkim postupkom. *Hemijska industrija*. 2023, vol. 77, no. 3, str. 191-202. ISSN 2217-7426 [COBISS.SI-ID [147161859](#)]  
 KOSTAJNŠEK, Klara, BIZJAK, Matejka, ERTEKIN, Gözde, ERTEKIN, Mustafa. Evaluation of the UV protection properties of para-aramid woven fabrics with various specialty core yarns. *Polymers*. 2024, vol. 16, iss. 21, [article no.] 3090, str. 1-17, ilustr. ISSN 2073-4360.  
 KOSTAJNŠEK, Klara, PEULIĆ, Svjetlana, BIZJAK, Matejka. Design and development of a jacquard fabric for zero- waste garments. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 16th International İzmir Textile & Apparel Symposium, IITAS 2023, October 25 - 27, 2023, İzmir-Türkiye. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2023. Str. 440-443, ilustr. [COBISS.SI-ID 173478915]  
 KOSTAJNŠEK, Klara, DIMITROVSKI, Krste. Use of extended cover factor theory in UV protection of woven fabric. *Polymers*. 2021, vol. 13, iss. 8, str. 1-13, ilustr. ISSN 2073-4360. <https://www.mdpi.com/2073-4360/13/8/1188>.

BIZJAK, Matejka, KOSTAJNŠEK, Klara. ITMA 2023 - Tkanje = ITMA 2023 – Weaving. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2023, vol. 66, priloga 2, str. si 106-si 117, ilustr. ISSN 0351-3386.

Digitalna knjižnica Slovenije - dLib.si. [COBISS.SI-ID 191357955]

KOSTAJNŠEK, Klara, DIMITROVSKI, Krste, KADOGLU, Hüseyin, ÇELİK, Pinar, BAŞAL BAYRAKTAR, Güldemet, ÜTE, Tuba Bedez, DURAN, Deniz, ERTEKIN, Mustafa, DEMŠAR, Andrej, BIZJAK, Matejka. Functionalization of woven fabrics with PBT yarns. Polymers. 2021, vol. 13, iss. 2, str. 1-19.

DIMITROVSKI, Krste, GRUM, Urška, KOSTAJNŠEK, Klara. Influence of weave and densities on visual appearance of woven fabrics made from two colored yarns. Textile & leather review. 2018, vol. 1, no. 1, str. 8-17.

DIMITROVSKI, Krste, BIZJAK, Matejka, KOSTAJNŠEK, Klara. Računalniško podprt pouk vzorčenja tkanin, Computer added education of woven fabrics design. V: AŠKERC ZADRAVEC, Katarina (ur.).

Izboljševanje procesov učenja in poučevanja v visokošolskem izobraževanju : zbornik konference = Improving teaching and learning processes in higher education : conference proceedings. Ljubljana: Center RS za mobilnost in evropske programe izobraževanja in usposabljanja, 2016. Str. 177-183.

# RAČUNALNIŠKO OBLIKOVANJE ZA TISK

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| <b>Predmet:</b>                   | Računalniško oblikovanje za tisk      |
| <b>Course title:</b>              | Computer-assisted design for printing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068095 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 10255   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 15                      | 30                  | 15                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Marija Gorjanc |
|-----------------------------------|----------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                                                    |
|------------------------------------------------------------------------------|----------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                              |
| Vpis v letnik študija in izbira predmeta.                                    | Enrollment in the study year and course selection. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Razlika med vektorsko in rastrsko grafiko;<br>Barvni prostor RGB in CMYK;<br>Uvoz, izvoz in pretvorba grafike iz rastrske v vektorsko in obratno.<br>Priprava vzorcev glede na specifičnosti posamezne tiskarske tehnike, kot je filmski, transferni in digitalni tisk;<br>Postopki izdelave tiskovnih form za filmski tisk;<br>Postopki reprodukcije vzorcev za filmski in digitalni tisk;<br>Shranjevanje grafičnih datotek v različnih formatih;<br>Raportiranje;<br>Izdelava barvnih izvlečkov;<br>Strokovna terminologija. | The difference between vector and raster graphics;<br>Colour spaces RGB and CMYK;<br>Import, export of graphics from bitmap to vector and vice versa.<br>Preparation of the samples with respect to the specificities of each printing technique, such as flat screen, digital and transfer printing;<br>Production processes of printing forms for the flat screen printing;<br>Reproduction processes of patterns for flat screen and digital printing;<br>Saving files in graphics in different file forms;<br>Repeat sketch;<br>Creating colour separations;<br>Technical terminology. |

**Temeljna literatura in viri/Readings:**

COLUSSY, M. K., in GREENBERG, S. Rendering Fashion, Fabric & Prints. New Jersey : Pearson Education, 2005;  
 DALY, T. Enciklopedija digitalne fotografije. Ljubljana : Tehniška založba Slovenije, 2004.  
 KIMBERLY, K. A field guide to fabric design : design, print & sell your own fabric : traditional & digital techniques for quilting, home dec & apparel : Stash Books, C&T Publishing, Inc. CA, 2011.  
 BRIGGS-GOODE, A. Printed textile design. Laurence King Publishing Ltd 2013

**Dodatna literatura / Additional textbook:**

ALEXANDER, K., RAYNER, H. Pattern and Pallete Sourcebook, Rockport Publishers Inc. 2011

**Cilji in kompetence:**

Študenti spoznajo računalniško grafiko za oblikovanje vzorcev in pripravo na tiskanje tekstilij s tehnikami filmskega, transfernega in digitalnega tiska;  
 Poznavanje programskega orodja za pripravo vzorcev za tisk glede na tehniko tiska;  
 Znanje prilagajanja zahtevam povpraševanja trga;  
 Povečana inženirska produktivnost.

**Objectives and competences:**

Students learn to use computer graphics for designing patterns in textile flat screen, digital and transfer printing;  
 Understanding of software tools for preparation of printing patterns according to the printing technique;  
 Ability of adapt to the market demand;  
 Increased engineering productivity.

**Predvideni študijski rezultati:**

Znanje in razumevanje:  
 Zna uporabljati grafične programe za oblikovanje in pripravo vzorcev za tekstilni tisk

**Intended learning outcomes:**

Knowledge and understanding:  
 Able to use graphical software for designing and preparation of patterns for textile printing

**Metode poučevanja in učenja:**

Predavanja, seminarji, individualne naloge, računalniške vaje.

**Learning and teaching methods:**

Lectures, seminar (individual or group project work), computer exercises and guided individual work.

**Načini ocenjevanja:**

**Delež/Weight**

**Assessment:**

|         |         |           |
|---------|---------|-----------|
| Izpit   | 40,00 % | Exam      |
| Seminar | 30,00 % | Seminar   |
| Vaje    | 30,00 % | Tutorials |

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- TOMŠIČ, Brigita (urednik), GORJANC, Marija (urednik, grafični oblikovalec), 16th World Textile Conference AUTEX 2016, 8 - 10 June 2016, Ljubljana, Slovenia. Book of abstracts. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, 2016. 236 str., ilustr. ISBN 978-961-6900-16-4. [COBISS.SI-ID 284756736];
- SIMONČIČ, Barbara (urednik), TOMŠIČ, Brigita (urednik), GORJANC, Marija (urednik, grafični oblikovalec), 16th World Textile Conference AUTEX 2016, 8-10 June 2016, Ljubljana, Slovenia. Proceedings. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, 2016. 1 USB ključ, ilustr. ISBN 978-961-6900-17-1. [COBISS.SI-ID 284803840];
- BIZJAK, Matejka (urednik, recenzent), GORJANC, Marija (urednik, tehnični urednik, recenzent, grafični oblikovalec), 46. simpozij o novostih v tekstilstvu, Ljubljana, 4. junij 2015. Prepletanje znanja za tekstilno in modno industrijo : zbornik izvlečkov. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2015. 86 str. ISBN 978-961-6900-13-3. [COBISS.SI-ID 279670784];
- ROBIČ, Marija. Digitalizacija motivov slovenskih pisanic za tekstilni tisk : magistrsko delo = Digitalisation of Slovenian Easter egg motifs for textile printing : master's thesis. Ljubljana: [M. Robič], 2016. XI, 63 f., ilustr. <https://repozitorij.uni-lj.si/IzpisGradiva.php?id=87706&lang=slv>. [COBISS.SI-ID 3288432];
- AVDIJA, Škurta, JAN, Ana, JERMANČIČ, Anja, KREBELJ, Sandra, LOGAR, Nina, MILOŠEVIČ, Petra, RAJEVEC, Katarina, STIPIČ, Sabina, STIPIČ, Sara, SUKIČ, Neža, ŽUPAN, Nika, FAJFAR,

Laura. "Ljubljanski cek'r" : razstava študentov tekstilstva, Naravoslovnotehniške fakultete, (2. in 3. letnik Načrtovanje tekstilij in oblačil ter 3. letnik Proizvodnja tekstilij) Mestna hiša, Ljubljana, od 23. 6. - 1. 7. 2014. 2014. [COBISS.SI-ID 3026800].

- GORJANC, Marija (avtor, mentor), SADAR, Almira. culT-SHIRT : motifs of Slovenian cultural heritage printed on T-shirt. V: SIMONČIČ, Barbara (ur.), TOMŠIČ, Brigita (ur.), GORJANC, Marija (ur.). *Book of abstracts*. 16th World Textile Conference AUTEX 2016, 8 - 10 June 2016, Ljubljana, Slovenia. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design, 2016. Str. 197. ISBN 978-961-6900-16-4. [COBISS.SI-ID [3257200](#)]

# RAZVOJ KROJEV OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Predmet:</b>                   | Razvoj krojev oblačil            |
| <b>Course title:</b>              | Development of clothing patterns |
| <b>Članica nosilka/UL Member:</b> | UL NTF                           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068396 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11121   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Živa Zupin |
|-----------------------------------|------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• oblačilna antropometrija, standardi s področja oblačilne antropometrije</li> <li>• konstrukcijski sistemi in razlike med njimi</li> <li>• konstrukcija osnovnih krojev oblačil</li> <li>• lastnosti tekstilij in njihov vpliv na konstrukcijo oblačil</li> <li>• osnove modeliranja osnovnih krojev oblačil</li> <li>• tehnična skica ter prenos na v proces razvoja kroja oblačila</li> <li>• osnove gradiranja krojev oblačil</li> </ul> | <ul style="list-style-type: none"> <li>• clothing anthropometry, standards in the field of clothing anthropometry,</li> <li>• body measurement charts and their differences</li> <li>• construction of basic clothing pattern</li> <li>• influence of textile properties on construction of clothing pattern</li> <li>• principles of modelling of clothing pattern</li> <li>• technical sketching and transfer to clothing patterns</li> <li>• pattern grading</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Abram-Zver, Marta: Vrhnja ženska oblačila : osnove konstruiranja, Velenje : Modart, 2004</li> <li>• Abram-Zver, Marta: Ženska obleka : osnove konstruiranja, 1. izd. - Velenje : ModART, 2004</li> <li>• Kregar, Marija Mojca: Ženske hlače : osnove konstruiranja, 1. izd. - Velenje : Modart, 2007</li> <li>• Malalan, Ana: Superkrojenje : naučite se izdelati oblačila po svoji meri in okusu, priročnik, 2. natis. - Ljubljana : Superanselma, 2014</li> </ul> |

- Aldrich, Winifred: Metric pattern cutting for women's wear. 5th edition, Oxford ; Malden ; Carlton : Blackwell Publishing, 2008
- System M. Müller&Sohn; Schnittkonstruktionen für RÖCKE und HOSEN, Rundschau-Verlag Otto G. Königer GmbH&Co., München, 1996.
- System M. Müller&Sohn; Schnittkonstruktionen für KLEIDER und BLUSEN, Rundschau-Verlag Otto G.
- Annegret Brinkmann-Stieler; DOB-Gradierung Schnitt-Know-how für Industrie und Handwerk, Rundschau-Verlag Otto G. Königer GmbH&Co., München, 2001.
- Revije **Rundschau** (mesečna izdaja) moška + ženska

#### Cilji in kompetence:

- razumevanje pomena oblačilne antropometrije v procesu razvoja krojev oblačil in poznavanje standardov s tega področja
- poznavanje prenosa telesnih mer v postopek konstrukcije osnovnih krojev oblačil
- sposobnost upoštevanja lastnosti tekstilij na konstrukcijo in modelacijo krojev oblačil
- poznavanje in izris tehnične modne skice
- samostojna konstrukcija in modelacija osnovnih krojev oblačil
- poznavanje gradiranja krojev oblačil
- poznavanje strokovne terminologije

#### Objectives and competences:

- understanding of the importance of garment anthropometry in the process of developing clothing patterns and knowledge of standards in this area.
- understanding of the transfer of physical dimensions of the body in the process of basic clothing pattern construction.
- ability to consider textile material properties in the process of clothing pattern construction and modelling.
- knowledge and ability to draw technical sketches
- to enable independent construction and modelling of selected garment patterns.
- understanding of the principle of pattern grading
- knowledge of technical terminology

#### Predvideni študijski rezultati:

Znanje in razumevanje:

- poznavanje področja antropometrije in standardov s tega področja
- poznavanje prenosa telesnih mer v postopek konstrukcije in modelacije krojev oblačil
- izdelava tehnične modne skice in upoštevanje lastnosti materiala pri razvoju krojev oblačil
- samostojna konstrukcija izbranih krojev

#### Intended learning outcomes:

Knowledge and understanding:

- knowledge of anthropometry and standards from this area
- knowledge of the transfer of physical measurements in the process of pattern construction and modelling.
- elaboration of technical sketches and consideration of textile material properties in pattern construction and modelling
- independent pattern construction

#### Metode poučevanja in učenja:

- Predavanja
- Laboratorijske vaje

#### Learning and teaching methods:

- lectures
- laboratory work

#### Načini ocenjevanja:

- pisni/ustni izpit
- laboratorijske vaje

#### Delež/Weight

70,00 %  
30,00 %

#### Assessment:

- written/oral exam
- laboratory work

#### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

#### Reference nosilca/Lecturer's references:

1. ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel.

- 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.
2. ZUPIN, Živa, DIMITROVSKI, Krste, HLADNIK, Aleš, KOSTAJNŠEK, Klara. Elongation properties of woven fabrics with incorporated PBT yarns. *The journal of The Textile Institute*. 2022, vol. 113, no. 5, str. 846-856, ilustr. ISSN 0040-5000.  
<https://www.tandfonline.com/doi/full/10.1080/00405000.2021.1907971>, <https://repozitorij.uni-lj.si/IzpisGradiva.php?id=141246>, DOI: 10.1080/00405000.2021.1907971
  3. ZUPIN, Živa, HLADNIK, Aleš, DIMITROVSKI, Krste. Prediction of one-layer woven fabrics air permeability using porosity parameters. *Textile research journal*. 2012, vol. 82, no. 2, str. 117-128, ilustr. ISSN 0040-5175.
  4. ZUPIN, Živa, CERAR, Urša, PODBEVŠEK, Tanja. Garment design according to zero waste design principle. V: ÜN, Çağrı (ur.), KIDIRYUZ, Merve (ur.). Full texts book : Cukurova 9th International Scientific Researches Conference : October 9-11, 2022, Adana, Turkey. Cukurova 9th International Scientific Researches Conference, October 9-11, 2022, Adana, Turkey. Ankara: IKSAD Publishing House, 2022. Str. 1721-1729. ISBN 978-625-8246-28-5.  
[https://en.iksadkongre.net/files/ugd/262ebf\\_712087d19a0843b786e9a55dd73c035e.pdf](https://en.iksadkongre.net/files/ugd/262ebf_712087d19a0843b786e9a55dd73c035e.pdf).
  5. ZUPIN, Živa. Computer aided fabrics patterning = [Računalniško podprto vzorčenje tkanin]. V: CVIKL, Nives (ur.), HREN BRVAR, Maja (ur.). Tekstil, oblačilna kultura in moda = Textile, the culture of clothing and fashion : Museoeurope : the collected volume of the symposium 18.-19. 10. 2019, (Zbirka Museoeurope, 6). Maribor: Pokrajinski muzej; = Regional Museum. 2019, str. 23-33, ilustr.

# SPECIALNI KROJI OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                           |
|-----------------------------------|---------------------------|
| <b>Predmet:</b>                   | Specialni kroji oblačil   |
| <b>Course title:</b>              | Special clothing patterns |
| <b>Članica nosilka/UL Member:</b> | UL NTF                    |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

Univerzitetna koda predmeta/University course code: 0643012

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 45                      | 15                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Živa Zupin

Vrsta predmeta/Course type: Izbirni

Jeziki/Languages:

|                      |             |
|----------------------|-------------|
| Predavanja/Lectures: | Slovenščina |
| Vaje/Tutorial:       |             |

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Vpis v letnik študija in izbira predmeta. Končni izpit pomeni opravljen izpit in oddaja seminarske naloge in njena predstavitev.

**Prerequisites:**

Enrollment in the academic year and choice of subject. The final examination consists of passing the exam and submitting a seminar paper and its presentation.

**Vsebina:**

Študenti pridobijo temeljno teoretično in praktično znanje s področja razvoja specialnih krojev oblačil, ki ga praktično uporabijo v seminarski nalogi.

**Content (Syllabus outline):**

Students acquire the basic theoretical and practical knowledge in the field of development of special clothing patterns, which they apply practically in a seminar work.

**Temeljna literatura in viri/Readings:**

- STIEGLER, M. and KROLOPP, L. *Schnittkonstruktionen für Rocke und Hosen*. 23. Aufl. Munich: Rundschau-Verlag Otto G. Königer, 1996.
- STIEGLER, M. *Schnittkonstruktionen für Kleider und Blusen*. 22. Aufl. Munich: Rundschau-Verlag Otto G. Königer, 1997.
- STIEGLER, M. and KROLOPP, L. *Schnittkonstruktionen für Jacken und Mantel*. 24. Aufl. Munich: Rundschau-Verlag Otto G. Königer, 1994.
- HAKA *Schnittkonstruktionen nach M. Müller & Sohn*. Munich: Rundschau-Verlag Otto G. Königer, 2000.
- ALDRICH, V. *Metric Pattern Cutting*. 3rd edition. Oxford [etc.]: Blackwell Science, 2003.
- SATO, H. *Drape Drape*. London: Laurence King Publishing, 2012.
- SATO, H. *Drape Drape 2*. London: Laurence King Publishing, 2012.

- SATO, H. Drape Drape 3. London: Laurence King Publishing, 2013.
- NAKAMICHI, T. Pattern Magic. London: Laurence King Publishing, 2005.
- NAKAMICHI, T. Pattern Magic volume 2. London: Laurence King Publishing, 2007.
- NAKAMICHI, T. Pattern Magic: Stretch Fabrics. London: Laurence King Publishing, 2010.
- HIRAIWA, N. Shape Shape 2. United States: Interweave Press, 2013.
- LIECHTY, E., RASBAND, J. and POTTBERG-STEINECKERT, D. Fitting Pattern Alteration, 2nd edition. New York: Fairchild Books, 2010.

#### **Cilji in kompetence:**

Študent nadgradi teoretično in praktično znanje s področja razvoja krojev oblačil glede na izbiro vsebine predmeta Projektno delo; vsebine diplomskega dela ali vsebine, jih bo študent potreboval pri zaposlitvi v izbranem oblačilnem podjetju.

#### **Objectives and competences:**

The student expands theoretical and practical knowledge in the area of apparel pattern development in light of the student's choice of course project work content; thesis content; or content that the student will need upon employment in the selected apparel company.

#### **Predvideni študijski rezultati:**

Nadgradnja vsebin razvoja osnovnih krojev oblačil z nadgradnjo modelacij in gradacij krojev oblačil. Samostojna izvedba seminarske naloge s področja razvoja osnovnih krojev, modelacij ali gradacij krojev oblačil.

#### **Intended learning outcomes:**

Upgrading the development of basic garment pattern blocks; upgrading modeling and grading of garment patterns. Independently conducted seminar work in the field of basic garment pattern block development, modeling or grading of garment patterns.

#### **Metode poučevanja in učenja:**

Predavanja, seminar, projektno delo

#### **Learning and teaching methods:**

Lectures, Seminar work, Project work

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                                                     |         |                                                       |
|-----------------------------------------------------|---------|-------------------------------------------------------|
| Pisna predstavitev seminarske naloge/projektne dela | 50,00 % | Written presentation of the seminar work/project work |
| Ustna predstavitev seminarske naloge/projektne dela | 50,00 % | Oral presentation of the seminar work/project work    |

#### **Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### **Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### **Reference nosilca/Lecturer's references:**

1. ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.
2. ZUPIN, Živa, DIMITROVSKI, Krste, HLADNIK, Aleš, KOSTAJNŠEK, Klara. Elongation properties of woven fabrics with incorporated PBT yarns. The journal of The Textile Institute. 2022, vol. 113, no. 5, str. 846-856, ilustr. ISSN 0040-5000. <https://www.tandfonline.com/doi/full/10.1080/00405000.2021.1907971>, <https://repozitorij.uni-lj.si/IzpisGradiva.php?id=141246>, DOI: 10.1080/00405000.2021.1907971
3. ZUPIN, Živa, CERAR, Urša, PODBEVŠEK, Tanja. Garment design according to zero waste design principle. V: ÜN, Çağrı (ur.), KIDIRYUZ, Merve (ur.). Full texts book : Cukurova 9th International Scientific Researches Conference : October 9-11, 2022, Adana, Turkey. Cukurova 9th International Scientific Researches Conference, October 9-11, 2022, Adana, Turkey. Ankara: IKSAD Publishing House, 2022. Str. 1721-1729. ISBN 978-625-8246-28-5. [https://en.iksadkongre.net/files/ugd/262ebf\\_712087d19a0843b786e9a55dd73c035e.pdf](https://en.iksadkongre.net/files/ugd/262ebf_712087d19a0843b786e9a55dd73c035e.pdf).

4. ZUPIN, Živa, HLADNIK, Aleš, DIMITROVSKI, Krste. Prediction of one-layer woven fabrics air permeability using porosity parameters. *Textile research journal*. 2012, vol. 82, no. 2, str. 117-128, ilustr. ISSN 0040-5175.
5. ZUPIN, Živa. Computer aided fabrics patterning = [Računalniško podprto vzorčenje tkanin]. V: CVIKL, Nives (ur.), HREN BRVAR, Maja (ur.). Tekstil, oblačilna kultura in moda = Textile, the culture of clothing and fashion : Musoeurope : the collected volume of the symposium 18.-19. 10. 2019, (Zbirka Musoeurope, 6). Maribor: Pokrajinski muzej; = Regional Museum. 2019, str. 23-33, ilustr.

# STATISTIČNE METODE V TEKSTILSTVU

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Predmet:</b>                   | Statistične metode v tekstilstvu |
| <b>Course title:</b>              | Statistical Methods in Textile   |
| <b>Članica nosilka/UL Member:</b> | UL NTF                           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068405 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11127   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                    | 0                                             | 60                                          | 4    |

|                                   |                  |
|-----------------------------------|------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Stanislav Praček |
|-----------------------------------|------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                                              |
|--------------------------|----------------------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Angleščina, Slovenščina |
|                          | Vaje/Tutorial: Angleščina, Slovenščina       |

|                                                                              |                                |
|------------------------------------------------------------------------------|--------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>          |
| Vpis v letnik študija.                                                       | Enrollment in into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| I.1 Uvod, osnovni pojmi I.2 Statistične funkcije (povprečje, mediana, modus,...) I.3 Statistične funkcije za vzorčenje (varianca, kovarianca, standardni odklon,...) II. Obdelava podatkov II.1 Uvod v obdelavo podatkov II.2 Tabeliranje in urejanje podatkov II.3 Statistična obdelava podatkov III. Teoretične porazdelitve III.1 Normalna porazdelitev III 1a t-porazdelitev III.2 Binomska porazdelitev III.3 Poissonova porazdelitev III.4 F-porazdelitev IV. Vzorčenje IV.1 Statistično zaupanje IV.2 Statistične količine (korelacija, korelacijski koeficient,...) IV.3 Linearna regresija in regresijska premica | I.1 Introduction, basic concepts I.2 statistical features (mean, median, mode, ...) I.3 Statistical Functions sampling (variance, covariance, standard deviation, ...) II. Data processing II.1 Introduction II.2 tabulation of data processing and data management II.3 Statistical data processing III. Theoretical distributions III.1 Normal distribution III 1a t-Distribution III.2 Binomial distribution III.3 Poisson distribution III.4 F-distribution IV. Sampling IV.1 statistical confidence IV.2 statistical quantities (correlation coefficient of correlation, ...) IV.3 Linear regression and the regression line |

|                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                 |
| - Graf, U., Hening, H.J., Wilrich P.T.: Statistische Methoden bei Textilen Untersuchungen, Heidelberg, Springer Verlag 1974. |
| -Sachs, L.: Angewandte Statistik, Anwendung statistischer Methoden, (7.izd.) Berlin, Springer Verlag 1999.                   |

- Weiss, N.A.: Elementary statistics (4. izd.) Addison Wesley Longman, 1999.  
 - Praček S.: Vaje iz statistike z rešitvami za VSŠ program [Elektronski vir], študijsko gradivo, 2011  
**Dodatna literatura / Additional textbook:**  
 Johnson, R.A., Miller & Freund's Probability and Statistics for Engenneers (6.izd.) Prentice Hall, 1999.  
 Verjetnost in statistika (2002), Milan Hladnik

### Cilji in kompetence:

Cilj in namen predmeta je naučiti študente osnove statistike.  
 Predmetno specifične kompetence:  
 -Študent pozna in zna uporabljati metode zbiranja, urejevanja, prikazovanja ter vrednotenja rezultatov meritev na objektivni in deduktiven način.  
 -Pozna strokovno izrazoslovje statistike in statistične računske metode vrednotenja ene, dveh ali več temeljnih skupnosti. Prav tako pozna osnovne teoretičnih modelnih porazdelitev, ki predstavljajo splošno temeljno znanje za deduktivno statistično analizo.  
 -Predmet navaja študente na kritično presojo razultatov s preverjanjem veljavnosti ničelne in alternativne hipoteze ter omogoča sprejemanje razumnih odločitev v praksi na osnovi deduktivne statistične analize in s tem reševanja tehnoloških problemov ali sposobnosti ohranjanja in skrbi za kakovost izdelkov.

### Objectives and competences:

The aim and purpose of the course is to teach students the fundamentals of statistics.  
 Subject-specific competencies:  
 - The student knows and is able to use the methods of collecting, editing, presenting and evaluating the results of measurements in an objective and deductive manner.  
 - The student knows the terminology and statistical calculation method of valuation of one, two or more population. It is also aware of the underlying theoretical model distribution representing the general basic knowledge of deductive statistical analysis.  
 - The subject stating students to critically assess the different results of the verification of the null and alternative hypotheses, and allows for make sound decisions in practice based on deductive statistical analysis, and thereby solving technological problems or the keeping and care for the quality of the products.

### Predvideni študijski rezultati:

Znanje in razumevanje:  
 Osnovno znanje in razumevanje statistike in statistične deduktivne analize. Poznavanje različnih metod statističnega vrednotenja meritev ene, dveh ali več temeljnih skupnosti.  
 Sposobnost matematično rešiti naloge razlik dveh srednjih vrednosti, izračunati linearne korelacije dveh ali večih spremenljivk, in z regresijsko analizo postaviti linearni model med dvema spremenljivkama. Pridobljeno znanje, elementarne matematične metode in vrednotenje rezultatov omogočajo sklepno analizo in nedvoumen odgovor na zastavljena vprašanja o veljavnosti ničelne (H0) ali alternativne hipoteze (H1).

### Intended learning outcomes:

Knowledge and understanding:  
 Basic knowledge and understanding of statistics and statistical deductive analysis. Knowing the different methods of statistical evaluation of measurements of one, two or more population.  
 Ability to solve mathematical exams, the difference of two averages to calculate the linear correlation of two or more variables, and by a regression analysis to put a linear model between the two variables.  
 The acquired knowledge, elementary mathematical methods and evaluation of results allows for concluding analysis and unequivocal answer to the questions about the validity of the null (H0) and alternative hypothesis (H1).

### Metode poučevanja in učenja:

Predavanja so neposredno povezana z vajami, pri katerih študentje praktično spoznajo in razumejo temeljne osnove statistične teorije in matematično-statistične metode. Vaje obsegajo reševanje računskih nalog z neposrednimi problemi povezanimi s tekstilno stroko ter od vsakega udeleženca zahtevajo aktivno in neposredno reševanje nalog pred avditorijem ostalih udeležencev. Dodatno pojasnjevanje nekaterih vsebin predmeta je na željo posameznih študentov v času govorilnih ur.

### Learning and teaching methods:

Lectures are directly related to the exercises in which the students learn practical and understand about basic fundamentals of statistical theory and mathematical-statistical methods. Exercises comprise a solving problems with direct problems associated with the textile profession and from each participant require an active and direct solving exams in front of the auditorium of the other participants. Additional clarifying of certain content of the course is at the request of individual students during consultation hours.

| <b>Načini ocenjevanja:</b>           | <b>Delež/Weight</b> | <b>Assessment:</b>                    |
|--------------------------------------|---------------------|---------------------------------------|
| Pisni/ustni izpit/zagovor na daljavo | 100,00 %            | Written/oral examination/ Interactive |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

**Reference nosilca/Lecturer's references:**

- PRAČEK, Stanislav, MOŽINA, Klemen, SLUGA, Franci. Shock in the yarn during unwinding from packages. Abstr. appl. anal., 2013, vol. 2013, art. ID 972941, 6 str. <http://dx.doi.org/10.1155/2013/972941>, doi: 10.1155/2013/972941. [COBISS.SI-ID 2864240].
- PRAČEK, Stanislav, MOŽINA, Klemen, SLUGA, Franci. Yarn motion during unwinding from packages. Math. comput. model. dyn. syst., 2012, vol. 18, no. 6, str. 553-569. <http://www.tandfonline.com/doi/abs/10.1080/13873954.2012.674688>, doi: 10.1080/13873954.2012.674688. [COBISS.SI-ID 2724976] .
- PRAČEK, Stanislav, SLUGA, Franci. Numerical simulations of yarn unwinding from packages. Mathematical and computational applications in science and engineering, 2010, vol. 15, no. 5, str. 846-852, ilustr. [http://mcjournal.org/specialissuevolume15\\_5/14.pdf](http://mcjournal.org/specialissuevolume15_5/14.pdf). [COBISS.SI-ID 2551664] .
- PRAČEK, Stanislav, SLUGA, Franci. Matematical model for yarn unwinding from packages. Mathematical and computational applications in science and engineering, 2010, vol. 15, no. 5, str. 853-858, ilustr. [http://www.mcjournal.org/specialissuevolume15\\_5/15.pdf](http://www.mcjournal.org/specialissuevolume15_5/15.pdf). [COBISS.SI-ID 2551920].

# STILSKO SVETOVANJE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Stilsko svetovanje |
| <b>Course title:</b>              | Styling Consulting |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068371 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11152   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |               |
|-----------------------------------|---------------|
| <b>Nosilec predmeta/Lecturer:</b> | Nataša Peršuh |
|-----------------------------------|---------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                                                     |
|------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                               |
| Vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and choice of the course. |

|                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>- Razumevanje pomena pojma stilizma in njegovih področij</li> <li>- Vloga profesije stilizma in stilskega svetovanja za tržne in individualne namene</li> <li>- Povezovanje področij znotraj segmenta modnega stilizma (maska, frizura, fotografija ipd.)</li> <li>- osnovno razumevanje in kompetence za ustvarjanje enostavnih, ciljno usmerjenih stilističnih podob</li> </ul> | <ul style="list-style-type: none"> <li>– Understanding of the term stylism and its sub fields</li> <li>– The role of stylism and style consulting for branding or individual purposes</li> <li>– Linking the various fields connected directly to fashion stylism purposes (hair, make up, photography etc.)</li> <li>– Basics knowledge and practical competences for creating simple resoult focused styling identities</li> </ul> |

### Temeljna literatura in viri/Readings:

- DAVIS, F. Fashion, Culture, and Identity. Chicago : The University of Chicago Press, 1992.
- JOHNSON GROSS, K., in STONE, J. What Should I Wear?. London : Thames and Hudson, 1998.
- FARR, K. The Pocket Stylist. New York : Gotham Books, 2004.
- ARBETTER, L. Secrets of Style. New York : InStyle, 2003.
- FINCHER WINTERS, P., in WINTERS, A. A. What Works in Fashion Advertising. New York : Retail Reporting Corporation, 1996.
- MCDOWELL, C. Hats : Status, Style and Glamour. London : Thames & Hudson, 1997.
- ALLEN, C. The Handbag : to Have and to Hold. London : Carlton, 1999.

- MACK, J. Ethnic Jewelry. New York : Harry N. Abrams, 1999.
- DORMER, P., in TURNER, R. The New Jewelry : Trends + Traditions. London : Thames and Hudson, 1994.
- The International Hairstyle Index. Amsterdam : The Pepin Press, 2003.
- RUSTENHOLZ, A. Make up. London : Hachette Illustrated, 2003.
- BURATTO CAOVIOLA, P. Shoes : Objects of Art and Seduction. Milano : Skira, 1998.
- Periodične publikacije modnih časopisov in revij

Literatura je dosegljiva v knjižnici Oddelka za tekstilstvo, NTF.

#### **Cilji in kompetence:**

Študent pridobi osnovna znanja s področja stilizma in stilskega svetovanja, ki ga uporablja pri izvedbi projektnih nalog in kasneje v praksi kot podporo ostalim znanjem in osnovo za nadaljnji razvoj v smeri profesije stilista.

#### **Objectives and competences:**

Students acquire the basic knowledge in the field of stylism and styling consulting which is used by the assigned projects and later in practise as a supportive knowledge and the basis for further development in the styling based professions.

#### **Predvideni študijski rezultati:**

Znanje in razumevanje:

- Pozna osnovne pojme stilizma
- Pozna različna področja stilizma, nanj vezane profesije in možnosti uporabe znanja
- Pridobi potrebna znanja za ustvarjanje osnovnih stilističnih podob
- V praksi uporabi pridobljena znanja na projektnem delu

#### **Intended learning outcomes:**

Knowledge and understanding:

- Students know the basic terms from the field of stylism
- Students know the various fields of stylism, the possibilities of the stylist profession, possible applications of knowledge and job opportunities
- They acquire the necessary skills for the creation of simple styling proposals
- They use practical knowledge within their own project work

#### **Metode poučevanja in učenja:**

Predavanja, seminarsko in projektno delo, individualno delo.

#### **Learning and teaching methods:**

Lectures, seminar and project work, individual work.

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|              |         |                |
|--------------|---------|----------------|
| -pisni izpit | 50,00 % | - written exam |
| - seminar    | 50,00 % | - seminar      |

#### **Ocenjevalna lestvica:**

#### **Grading system:**

|  |  |
|--|--|
|  |  |
|--|--|

#### **Reference nosilca/Lecturer's references:**

- Samostojne predstavitve avtorskih kolekcij blagovne znamke Natasa Persuh: Ljubljana Fashion Week (2011 - 2015), Cro-a-porter, Zagreb (2011, 2007, 2005, 2004) itd.
- SQUAT, kreativno vodstvo, kolekcije in posebni projekti: Galerija Squat, Ljubljana (2009 – 2015), razstava v okviru London Fashion Week (2013), Young@Squat na Fashion Clash Maastricht (2013, 2015) itd.
- "sens(n)ation ", skupinska razstava z Maison Martin Margiela, Jakopičeva galerija, Ljubljana (2011)
- Mesec oblikovanja, različne samostojne in skupinske razstave, Ljubljana (2008 - 2011)
- "BARBIE " Contemporary ghetto, skupinska razstava v okviru 4.mednarodnega Arhitekturnega Bienala v Ljubljani (2008)

# STROKOVNA ANGLEŠČINA

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                               |
|-----------------------------------|-------------------------------|
| <b>Predmet:</b>                   | Strokovna angleščina          |
| <b>Course title:</b>              | English for Specific Purposes |
| <b>Članica nosilka/UL Member:</b> | UL NTF                        |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068397 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11116   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 0                       | 60                  | 0                  | 0                                    | 0                                             | 60                                          | 4    |

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Barbara Luštek Preskar, prof. angl. in nem. |
|-----------------------------------|---------------------------------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |            |
|--------------------------|----------------------|------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina |
|                          | Vaje/Tutorial:       | Angleščina |

### Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

|                                                             |
|-------------------------------------------------------------|
| Vpis v letnik študija.                                      |
| Pogoj za pristop k izpitu:<br>90 % prisotnost na srečanjih. |

### Prerequisites:

Enrolment into study year.

Requirement to sit the exam:  
90% presence at seminar.

### Vsebina:

- Branje in strategije branja, uvajanje v diskurz strokovnih in tehničnih besedil s področja tekstilstva (vzorci, slog oblačenja, trajnostnost in recikliranje, oznake tekstilij, vlakna, apretura, pametne tekstilije itd.),
- določanje ključnih besed, pisanje povzetkov,
- uporaba slovarjev, glosarjev in drugih informacijskih virov,
- pisanje sestavkov in poročil,
- opisovanje grafov,
- poslovna komunikacija (pisanje pisem, prošenj,

### Content (Syllabus outline):

- Reading and reading strategies, introduction into discussing technical and professional texts from the field of textiles (patterns, styles, sustainability and recycling, textile labelling, fibres, finishing, smart textiles etc.),
- defining and understanding keywords, writing abstracts,
- using dictionaries, glossaries and other information sources,
- writing reports,
- describing graphs,
- business communication (business correspondence,

|                                                                 |                                                                                                               |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| življenjepisa, javno nastopanje),<br>- sodelovanje v razpravah. | writing letters of application and CVs, giving public presentations),<br>- taking active part in discussions. |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- Luštek Preskar, B., English for Specific Purposes – Textile Engineering. Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2011.
- Didaktiziran material, ki ga pripravi predavatelj sam.
- Materiali dostopni na spletnih straneh na temo stroke.
- Spletni slovarji in glosarji, splošni ter terminološki.

Literatura je dosegljiva v knjižnici Oddelka za tekstilstvo, grafiko in oblikovanje, NTF.

Literature is available in the library at the Faculty of Natural Sciences and Engineering, Department of Textiles, Graphic Arts and Design.

### Cilji in kompetence:

Dograjevanje splošnega znanja angleščine na višjo stopnjo z uvajanjem strokovnih tekstov.

Predmetno specifične kompetence:

- izpopolnjevanje kompetenc v ustnem in pisnem izražanju,
- širjenje besednega zaklada in gradnja strokovnega besedišča,
- ozaveščanje o aktualnih perečih temah s področja stroke (trajnostnost, recikliranje itd.),
- razvijanje bralnih spretnosti.

### Objectives and competences:

Upgrading general knowledge of English to a higher level by introducing technical and professional texts.

Course-specific competences:

- meeting competences in oral and written communication,
- enriching the existing vocabulary and building technical vocabulary,
- raising awareness of current hot topics from the field of textiles (sustainability, recycling etc.),
- getting familiar with reading strategies to improve reading skills.

### Predvideni študijski rezultati:

Znanje in razumevanje:

- seznanitev s osnovnim strokovnim besediščem z določenih področij tekstilnega inženirstva,
- poglobljeno znanje posameznih slovničnih struktur,
- povzemanje/parafraziranje,
- pisanje povzetkov, sestavkov in projektnih poročil,
- pisne in ustne komunikacijske spretnosti,
- predstavitve v angleščini,
- poslovna komunikacija.

### Intended learning outcomes:

Knowledge and understanding:

- acquiring basic terminology from certain fields of textile engineering,
- in-depth knowledge of specific grammatical structures,
- summarising/paraphrasing,
- writing abstracts, paragraphs and project reports,
- oral and written communication skills,
- giving presentations in English,
- business communication.

### Metode poučevanja in učenja:

- Predavanja,
- vaje,
- samostojno delo,
- delo v parih/skupinah.

Uporaba spletne učilnice in IKT metod poučevanja.

Medpredmetno povezovanje z drugim predmetom pri izdelavi seminarske naloge in predstavitvi le-te.

### Learning and teaching methods:

- Lectures,
- practical work,
- individual work,
- work in pairs/groups.

Using online classroom and ICT teaching methods.

Cross-curricular cooperation with another course at preparation and presentation of the seminar paper.

|                                                       |                                                         |
|-------------------------------------------------------|---------------------------------------------------------|
| Delo poteka na fakulteti ali preko spletne platforme. | Work takes place live or online via an online platform. |
|-------------------------------------------------------|---------------------------------------------------------|

| <b>Načini ocenjevanja:</b>                                                         | <b>Delež/Weight</b> | <b>Assessment:</b>                                                         |
|------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|
| Pisni test, ustno preverjanje (Ocenjevalna lestvica: 6–10 pozitivno, 5 negativno). | 50,00 %             | Written and oral examination (Grading scale: 6–10 pass, 5 fail)            |
| Zadolžitev tekom semestra (Ocenjevalna lestvica: 6–10 pozitivno, 5 negativno)      | 50,00 %             | Various assignments during the semester (Grading scale: 6–10 pass, 5 fail) |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

- LUŠTEK PRESKAR, Barbara. English for specific purposes. [Graphic arts]. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2020. 160 str., ilustr. ISBN 978-961-6900-27-0. [COBISS.SI-ID 28249603]
- LUŠTEK PRESKAR, Barbara. English for specific purposes. Textile engineering. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2011. 128 str., ilustr. ISBN 978-961-6045-95-7. [COBISS.SI-ID 257973760]
- LUŠTEK PRESKAR, Barbara, VRBINC, Marjeta. Patient information leaflet as genre in English and Slovenian : contrastive analysis. V: CIGAN, Vesna (ur.), KRAKIĆ, Ana-Marija (ur.), OMRČEN, Darija (ur.). Od teorije do prakse u jeziku struke : zbornik radova = From theory to practice in language for specific purposes : conference proceedings = Von der Theorie zur Praxis in der Fachsprache : Sammelband. Zagreb: Udruga nastavnika jezika na visokošolskim ustanovama: = Association of LSP Teachers at Higher Education Institutions. 2019, str. 144-157, ilustr. Od teorije do prakse u jeziku struke (Zbornik radova). ISSN 1849-9279. [COBISS.SI-ID 17231107]
- STANKOVIĆ ELESINI, Urška, QUALIZZA, Nataša Pavla, HRKAČ, Tanja, ABSEC, Andreja, LUŠTEK PRESKAR, Barbara, JEDRINOVIĆ, Sanja, URBAS, Raša. Analiza uporabnosti in namembnosti večpredmetnega zvezka pri pouku v prvem razredu osnovne šole. Sodobna pedagogika. okt. 2021, letn. 72(138), št. 3, str. 46-64, ilustr. ISSN 0038-0474. [https://www.sodobna-pedagogika.net/clanki/03-2021\\_analiza-uporabnosti-in-namembnosti-vecpredmetnega-zvezka-pri-pouku-v-prvem-razredu-osnovne-sole/](https://www.sodobna-pedagogika.net/clanki/03-2021_analiza-uporabnosti-in-namembnosti-vecpredmetnega-zvezka-pri-pouku-v-prvem-razredu-osnovne-sole/). [COBISS.SI-ID 83967747]
- STANKOVIĆ ELESINI, Urška, LUŠTEK PRESKAR, Barbara. Posodobitev visokošolskega predmeta Inovacijski management = Higher education course Innovation management update. V: LIPOVEC, Alenka (ur.). Vloga predmetnih didaktik za kompetence prihodnosti : zbornik povzetkov. 1. izd. Maribor: Univerzitetna založba Univerze, 2019. Str. 283-284. ISBN 978-961-286-298-5. <http://press.um.si/index.php/ump/catalog/view/433/436/706-2>. [COBISS.SI-ID 3654000]

# TEHNIČNE TEKSTILJE IN KOMPOZITI

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>Predmet:</b>                   | Tehnične tekstilije in kompoziti  |
| <b>Course title:</b>              | Technical textiles and composites |
| <b>Članica nosilka/UL Member:</b> | UL NTF                            |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0565012 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11133   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 45                      | 30                  | 15                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Dunja Šajn Gorjanc, Tatjana Rijavec |
|-----------------------------------|-------------------------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

Tehnične tekstilije: Kratek pregled industrijskih in visokozmogljivih vlaken s poudarkom na lastnostih in možnostmi uporabe. Kablane preje, vrvi in hibridne preje, opredelitev, tržni pomen. Tekstilije v notranji opremi, transportnih sredstvih, v gradbeništvu, v nizkih gradnjah, kmetijstvu, za medicinske in higienske namene, za embalažo, zaščito okolja, športne rekvizite. Varovalna oblačila za mehansko, kemično, biološko zaščito, pred elektrostatičnim nabojem, sevanji, mrazom, toploto, ognjem, idr. Študij konstrukcij, premazov in obdelav. Recikliranje tehničnih tekstilij.

Osnove elektropredenja in aplikacija nanokompozitov na področju naprednih tehničnih tekstilij.

Tekstilni kompoziti: S tekstilijami ojačani kompoziti: razvrstitev kompozitov glede na vrsto matrice in glede na vrsto ojačitvene komponente. Tehnološki

### Content (Syllabus outline):

Technical textiles: A brief overview of industrial and high-performance fibres with an emphasis on performance and usability features. Cabled yarns, ropes and hybrid yarns, definition, market importance. Textiles in interior design, in transport, construction, civil engineering, agriculture, medical and hygienic purposes, for packaging, environmental protection, sports equipment. Protective clothing for mechanical, chemical, biological protection against electrostatic charge, radiation, cold, heat, fire, etc. Study of construction, coatings and finishing. Recycling of technical textiles.

Basics of electrospinning and application of nanocomposites in the field of advanced technical textiles.

Textile composites: classification of composites according to the type of matrix and the type of reinforcement component. Technology

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| <p>postopki izdelave polimernih kompozitov iz termostabilnih in termoplastičnih matric. Lastnosti, poškodbe in recikliranje kompozitov, uporaba in trendi.</p> <p>Lastnosti plastenih tekstilij. Struktura 2D in 3D tekstilnih kompozitov (tkanine, pletiva, netkane tekstilije, pletenice, prešite tekstilije. Laminiranje z različnimi vezivi in postopki.</p> | <p>manufacturing processes of polymer composites from thermosetting and thermoplastic matrices. Properties, damage and recycling of composites, application trends.</p> <p>Structural composites - laminates: properties of layered textiles. The structure of the 2D and 3D textile composites (woven, knitted, non-woven fabrics, braids, quilted textiles). Laminating with different binders and procedures.</p> |
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### Temeljna literatura in viri/Readings:

- *Handbook of technical textiles*. Ur. A.R. Harrocks in S.C. Anand. Cambridge: Woodhead Publishing, Boca Raton e tal.: The Textile Institute, CRC Press. 2015.
- *Textile protection*. Ur. R.A. Scott. Cambridge: Woodhead Publishing, Boca Raton e tal.: The Textile Institute, CRC Press. 2005.
- ŠAJN GORJANC, Dunja. *Tehnične tekstilije in kompoziti : študijsko gradivo : E-predavanja : E-vaje*. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, Katedra za tekstilno in oblačilno inženirstvo, 2020. 1 zv. (loč. pag.), ilustr. [https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/tehnice-tekstilije\\_studijsko-gradivo\\_2020/](https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/tehnice-tekstilije_studijsko-gradivo_2020/).
- WALTER, F. *Coated and laminated textiles*. Cambridge: Woodhead Publishing Limited, 2002. ŠAJN GORJANC, Dunja. *Tehnične tekstilije in kompoziti : študijsko gradivo : E-predavanja : E-vaje*. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, Katedra za tekstilno in oblačilno inženirstvo, 2020. 1 zv. (loč. pag.), ilustr. [https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/tehnice-tekstilije\\_studijsko-gradivo\\_2020/](https://www.ntf.uni-lj.si/toi/employee/dunja-sajn/tehnice-tekstilije_studijsko-gradivo_2020/).
- *Natural fibers, plastics and composites*. Uredila F.T. Wallenberger, N.E. Weston. Boston : Kluwer Academic Press, 2004.
- *Design and manufacture of textile composites*. Uredil A. C. Long. Boca Raton : CRC Press; Cambridge : Woodhead, 2005.

### Dodatna literatura / Additional textbook:

- *Textiles for cold weather apparel*. Ur. J. Williams. Cambridge: Woodhead Publishing, Boca Raton e tal.: The Textile Institute, CRC Press. 2009.
- *Design and manufacturing of textile composites*. Ur. A.C. Long. Cambridge: Woodhead Publishing, Boca Raton e tal.: The Textile Institute, CRC Press. 2005.

### Cilji in kompetence:

#### Cilji:

Študent spozna področja uporabe in tehnološke procese izdelave tehničnih tekstilij in s tekstilijami ojačenih kompozitov in laminiranih tekstilij, nanokompozitnih tekstilij izdelanih s postopkom elektropredenja, njihove lastnosti in konstrukcije. Spozna tehnološke postopke izdelave in možnosti uporabe.

#### Kompetence:

- pozna prednosti in omejitve uporabe tekstilij na tehničnih področjih
- pozna možnosti uporabe nanokompozitnih tekstilij, izdelanih s postopkom elektropredenja
- pozna osnovne postopke izdelave kompozitov
- zna izbrati tehnične tekstilije, primernih lastnosti in jih uporabiti samostojno ali v kompozitu.

### Objectives and competences:

#### Objectives:

Students learn about the application fields and production processes of technical textiles and textiles reinforced composites laminated textiles, nanocomposite textiles produced by the electrospinning process their properties and structure. They learn about technological manufacturing processes and the application options.

#### Competences:

- knowledge of the advantages and limitations of the use of textiles in technical fields
- knows the advantages and limitations of using nanocomposite textiles produced by the electrospinning process
- knowledge of the basic processes of manufacture of composites
- is able to select technical textiles with suitable properties and use technical textiles alone or in composite.

### Predvideni študijski rezultati:

### Intended learning outcomes:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <p>Študenti znajo izdelati polimerni kompozit in mu določiti lastnosti. Zna izdelati nanokompozitno tekstilijo s postopkom elektropredenja glede na izbrane tehnološke parametre. Zna izbrati ustrezno ojačitveno komponento in predvideti njen vpliv na uporabne lastnosti kompozita.</p> <p>Študenti razumejo laminirane strukture (strukturni kompoziti) in nanostrukture in vplive različnih tehnoloških faz na kakovost tekstilnih kompozitov.</p> | <p>Students know how to make a polymer composite and determine its properties. They know how to produce a nanocomposite textile with using the electrospinning process. They know how to choose the right reinforcement component and predict its impact on useful properties.</p> <p>Students understand laminated structures (structural composites) and nanostructure and the effects of different technological stages on the quality of textile composites.</p> |
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| <b>Metode poučevanja in učenja:</b>                                                                                   | <b>Learning and teaching methods:</b>                                                                                           |
| Metode poučevanja: <ul style="list-style-type: none"> <li>• predavanja</li> <li>• seminar</li> <li>• vaje.</li> </ul> | Teaching methods: <ul style="list-style-type: none"> <li>- lectures</li> <li>- seminar</li> <li>- experimental work.</li> </ul> |

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| <b>Načini ocenjevanja:</b>          | <b>Delež/Weight</b> | <b>Assessment:</b>                               |
| Pisni/ustni izpit                   | 50,00 %             | Written/oral exam                                |
| Izdelava in predstavitev seminarja. | 30,00 %             | Preparation and presentation of the seminar work |
| Opravljenе vaje                     | 20,00 %             | Completed tutorial                               |

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| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

##### Rijavec Tatjana

- KRANER ZRIM, Polona, MEKJAVIĆ, Igor B., RIJAVEC, Tatjana. Properties of laminated silica aerogel fibrous matting composites for footwear applications. *Textile research journal*. 2016, vol. 86, no. 10, str. 1063-1073. ISSN 0040-5175. DOI: 10.1177/0040517515591781.
- RIJAVEC, Tatjana. Silica aerogel based high thermal insulation materials. V: MAITY, Subhankar (ur.), SINGHA, Kunal (ur.), PANDIT, Pintu (ur.). *Functional and technical textiles*. Cambridge: Woodhead Publishing; [Amsterdam]: Elsevier; [Manchester]: The Textile Institute, 2023. Str. 419-452, ilustr. The Textile Institute Book Series. ISBN 978-0-323-91593-9.  
<https://www.sciencedirect.com/science/article/pii/B9780323915939000225>, DOI: 10.1016/B978-0-323-91593-9.00022-5.
- BAJDE, Zoja, RIJAVEC, Tatjana. Accelerated ageing of oil painting canvas. V: SIMONČIČ, Barbara (ur.), et al. *Symposium proceedings. 41st International Symposium on Novelties in Textiles and 5th International Symposium on Novelties in Graphics and 45th International Congress IFKT*, Ljubljana, Slovenia, 27-29 May 2010. Ljubljana: Faculty of Natural Sciences and Engineering, Department of Textiles, 2010. Str. 305-311, ilustr. ISBN 978-961-6045-80-3. [COBISS.SI-ID 2370672]

##### Šajn Gorjanc Dunja

- ŠAJN GORJANC, Dunja. Functional properties of nonwovens as an insulating layer for protective gloves. *Polymers*. 2023, vol. 15, iss. 3, str. 1-15
- BATIČ, Eva, ŠAJN GORJANC, Dunja. Characteristics of laminates for car seats. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], 29 Sep 2020, vol. , no. , 14 str.  
<https://content.sciendo.com/view/journals/aut/ahead-of-print/article-10.2478-aut-2020-0032/article-10.2478-aut-2020-0032.xml>, doi: 10.2478/aut-2020-0032.
- BEZGOVŠEK, Špela, ŠAJN GORJANC, Dunja, PULKO, Boštjan, LENART, Stanislav. Influence of structural parameters of nonwoven geotextiles on separation and filtration in road construction. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], Dec. 2020, vol. 20, no. 4, str. 449 - 460.  
<https://www.degruyter.com/view/j/aut.ahead-of-print/aut-2019-0038/aut-2019-0038.xml?format=INT>
- ŠAJN GORJANC, Dunja, BRAS, Ana, NOVAK, Boštjan. Influence of technology process on responsiveness of footwear nonwovens. *AUTEX research journal*, ISSN 1470-9589. [Print ed.], 19. Sep.

2019, vol. , no. , 13 str. <https://content.sciendo.com/view/journals/aut/ahead-of-print/article-10.2478-aut-2019-0053.xml>

- ŠAJN GORJANC, Dunja. Netkane tekstilije na Tectextilu 2019 = Nonwoven textiles at Tectextil 2019. *Tekstilec : glasilo slovenskih tekstilcev*, ISSN 0351-3386. [Tiskana izd.], 2020, vol. 63, priloga 1, str. SI 54-SI 66

# TEHNOLOŠKO OBLIKOVANJE TEKSTILIJ IN OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

**Predmet:**

Tehnološko oblikovanje tekstilij in oblačil

**Course title:**

Technological design of textiles and clothing

**Članica nosilka/UL**

UL NTF

**Member:**

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

Univerzitetna koda predmeta/University course code: 0643010

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  |                    |                                         |                                                     | 60                                                | 4    |

Nosilec predmeta/Lecturer: Klara Kostajnshek, Matejka Bizjak, Živa Zupin

Vrsta predmeta/Course type: Obvezni/Compulsory

Jeziki/Languages:

Predavanja/Lectures:

Angleščina, Slovenščina

Vaje/Tutorial:

**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Vpis v letnik študija.  
Za pristop h končnemu izpitu je pogoj opravljen seminar.

**Prerequisites:**

Enrolment into the study year.  
For the final exam, a completed seminar work is a prerequisite.

**Vsebina:**

**Predavanja:**

- Uvod: pomen kreativnosti pri razvoju novih izdelkov, kreativnost in inženirsko oblikovanje, inženirsko načrtovanje; omejitve in nasprotja v oblikovanju in tehnologiji;
- Nov izdelek, faze razvoja novega izdelka, sinergija oblike in funkcije izdelka, značilnosti uspešnih tekstilnih in oblačilnih izdelkov;
- Tehnološke omejitve pri oblikovanju in načrtovanju tekstilij in oblačil;
- Časovno načrtovanje procesov priprave in izdelave prototipne in tržne kolekcije tekstilij in oblačil;
- Tehnološka dokumentacija za tekstilije/oblačila
- Ekonomika izdelka in procesa izdelave;

**Content (Syllabus outline):**

**Lectures:**

- Introduction: the importance of creativity in new product development, creativity and design engineering, technical planning; limits and contradictions in design and technology;
- New product, phases of new product development, synergy of product form and function, characteristics of successful textile and clothing products;
- Technological limitations in textile and clothing design and planning;
- Timing of processes to prepare and produce prototype and market collection of textiles and clothing;
- Technological documentation for textiles/clothing.

|                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                              |
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| <ul style="list-style-type: none"> <li>• Informacijsko-komunikacijski sistemi in oprema za razvoj, optimiranje in proizvodnjo tekstilij in oblačil.</li> </ul> <p><b>Seminar:</b><br/>Študij primerov inženirskega oblikovanja tekstilij in oblačil.</p> | <ul style="list-style-type: none"> <li>• Economic aspects of the product and manufacturing process;</li> <li>• Information and communication systems and equipment for the development, optimization and production of textiles and clothing.</li> </ul> <p><b>Seminar:</b><br/>Case studies of textile and clothing engineering design.</p> |
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### Temeljna literatura in viri/Readings:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• QUINN, B. Textile futures: fashion, design and technology. 2010, Berg, Oxford, 307 str.;</li> <li>• COLCHESTER, C. Textiles today: a global survey of trends and transitions, 2007, Thames &amp; Hudson, London, 208 str.;</li> <li>• KUMAR, B.(ed.) &amp; TKAKUR, S. (ed.). Textiles for advanced applications. 2017, INTECH, Rijeka, 421. str.;</li> <li>• PEČJAK, V. Pot do novih idej : Tehnike kreativnega mišljenja. 2001, New Moment, No. 16, Ljubljana, 176 str.;</li> <li>• NORMAN, D. Emotional design. 2005, Basic books, New York, 272 str.</li> </ul> |
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### Cilji in kompetence:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <ul style="list-style-type: none"> <li>• Razumevanje pomena sinergije tehnologije in oblikovanja pri oblikovanju in načrtovanju tekstilij in oblačil ter razumevanje odnosa med obliko in funkcijo izdelka;</li> <li>• Razumevanje pomena poznavanja tehnoloških omejitev pri oblikovanju in načrtovanju tekstilij in oblačil;</li> <li>• Spoznavanje metod in tehnik zbiranja idej in pospeševanja kreativnosti na področju oblikovanja in načrtovanja tekstilij in oblačil;</li> <li>• Poznavanje principov in časovnega načrtovanja procesov priprave in izdelave prototipne in tržne kolekcije tekstilij in oblačil;</li> <li>• Poznavanje pomena tehnološke dokumentacije za tekstilije/oblačila ter povezanosti posameznih elementov z ekonomiko izdelka in procesa izdelave;</li> <li>• Poznavanje principov informacijsko-komunikacijskih sistemov in opreme pri razvoju, optimiranju in izdelavi tekstilij in oblačil.</li> </ul> | <p><b>Objectives and competences:</b></p> <ul style="list-style-type: none"> <li>• Understanding the importance of the synergy of technology and design in the design and planning of textiles and clothing and understanding the relationship between product design and function;</li> <li>• Understanding the importance of knowing technological limitations in textile and clothing design and planning;</li> <li>• Getting to know the methods and techniques for gathering ideas and encouraging creativity in the design and planning of textiles and clothing;</li> <li>• Knowing the principles and timing of the processes for preparing and producing prototypes and market collections of textiles and clothing;</li> <li>• Knowledge of the importance of technological documentation for textiles/clothing and the relationship of each element to the economics of the product and the manufacturing process;</li> <li>• Knowledge of the principles of information and communication systems and equipment in the development, optimization and production of textiles and clothing.</li> </ul> |
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### Predvideni študijski rezultati:

|                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                      |
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| <ul style="list-style-type: none"> <li>• Sposobnost kreativnega inženirskega razmišljanja s ciljem razvoja inovativnih tekstilij in oblačil;</li> <li>• Sposobnost vodenja procesa načrtovanja in izdelave inovativnih tekstilij in oblačil.</li> </ul> | <p><b>Intended learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• The ability to think creatively with the aim of developing innovative textiles and clothing;</li> <li>• The ability to lead the process of design and manufacture of innovative textiles and clothing.</li> </ul> |
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### Metode poučevanja in učenja:

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| <ul style="list-style-type: none"> <li>• Predavanja, podprta z interaktivnimi predstavitvami;</li> <li>• Aktivno sodelovanje v razpravah na določeno temo;</li> </ul> | <p><b>Learning and teaching methods:</b></p> <ul style="list-style-type: none"> <li>• Lectures supported by interactive presentations;</li> <li>• Active participation in discussions on a specific topic;</li> </ul> |
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|                                                                 |                                                                          |
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| • Samostojna priprava seminarske naloge z javno predstavitvijo. | • Independent preparation of a seminar paper with a public presentation. |
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| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b> |
|----------------------------|---------------------|--------------------|
| Pisni/ustni izpit          | 50,00 %             | Written/oral exam  |
| Seminarska naloga          | 50,00 %             | Seminar work       |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

#### Reference nosilca/Lecturer's references:

##### Matejka Bizjak

1. KOSTAJNŠEK, Klara, BIZJAK, Matejka. Estimation of permeability properties of technologically developed jacquard fabrics = Ocena svojstava propustljivosti žakar tkanina dobijenih tehnološkim postupkom. Hemijska industrija. 2023, vol. 77, no. 3, str. 191-202. ISSN 2217-7426. <https://www.ache-pub.org.rs/index.php/HemInd/article/view/1056>, DOI: 10.2298/HEMIND221017008K.
2. KOSTAJNŠEK, Klara, PEULIĆ, Svjetlana, BIZJAK, Matejka. Design and development of a jacquard fabric for zero- waste garments. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 16th International İzmir Textile & Apparel Symposium, IITAS 2023, October 25 - 27, 2023, İzmir-Türkiye. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2023. Str. 440-443, ilustr. ISBN 978-605-338-430-4.
3. KOSTAJNŠEK, Klara, BAJRIČ, Špela, BIZJAK, Matejka. Technological design of jacquard fabric and their functionalization. V: TOKARSKA, Magdalena (ur.). Passion for Innovation : AUTEX conference proceedings. 21st World Textile Conference AUTEX 2022, June 7-10, 2022, Lodz, Poland, online. Łódź: Lodz University of Technology Press, 2022. Str. 55-59. ISBN 978-83-66741-75-1.
4. BIZJAK, Matejka. Texprocess 2022 – Več kot napredek = Texprocess 2022 – More than progress. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2023, vol. 66, priloga 1, str. si 22-si 29, ilustr. ISSN 0351-3386. Digitalna knjižnica Slovenije - dLib.si. [COBISS.SI-ID 161366787], [SNIP]
5. VILMAN PROJE, Jana, BOGATAJ, Janez, BIZJAK, Matejka. Oblikovanje pripadnostnih oblačil za potrebe turizma. Annales : anali za istrske in mediteranske študije. Series historia et sociologia. [Tiskana izd.]. 2018, letn. 28, št. 1, str. 139-150, ilustr. ISSN 1408-5348. <http://zdjp.si/Annales-series-historia-et-sociologia-28-2018-1/>, Digitalna knjižnica Slovenije - dLib.si, DOI: 10.19233/ASHS.2018.10.

##### Živa Zupin

- ZUPIN, Živa, ŠTAMPFL, Veronika, KOČEVAR, Tanja Nuša, GABRIJELČIČ TOMC, Helena. Comparison of measured and calculated porosity parameters of woven fabrics to results obtained with image analysis. Materials. 2024, vol. 17, iss. 4, str. 1-19, ilustr. ISSN 1996-1944. <https://www.mdpi.com/1996-1944/17/4/783>.
- ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <https://dergipark.org.tr/en/download/article-file/2224036>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.
- ROZMAN, Tjaša, ŠUBIC, Špela, KAVKLER, Katja, ZUPIN, Živa. Konservatorsko-restavratorski posegi na Kogojem počivalniku Gondola = DConservation-restoration interventions on Kogoj's lounge chair Gondola. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2019, vol. 62, priloga 1, str. si 63-sl 71. ISSN 0351-3386.
- ZUPIN, Živa, MOTNIKAR, Ana, ZOREC, Petja, GAJŠEK, Gašper, HRASTAR, Zala, MAVRIČ, Zala, MIKLAČIČ, Anita, PETROVČIČ, Elizabeta, REŠETIČ, Klara, SCHWARZBARTEL, Petra, TURK, Maruša, VIDMAR, Lara, VRHOVSKI, Iris. Exploring the history of hosiery and design of modern socks-socks. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 -27, 2021, İzmir-Turkey. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 549-553, ilustr. ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>.
- ZUPIN, Živa. Computer aided fabrics patterning = [Računalniško podprto vzorčenje tkanin]. V: CVIKL, Nives (ur.), HREN BRVAR, Maja (ur.). Tekstil, oblačilna kultura in moda = Textile, the culture of clothing

and fashion : Museoeurope : the collected volume of the symposium 18.-19. 10. 2019. Maribor: Pokrajinski muzej; = Regional Museum, 2019. Str. 23-33, ilustr. Zbirka Museoeurope, 6. ISBN 978-961-94532-3-0.

**Klara Kostajnšek**

1.KOSTAJNŠEK, Klara, BIZJAK, Matejka, ERTEKIN, Gözde, ERTEKIN, Mustafa. Evaluation of the UV protection properties of para-aramid woven fabrics with various specialty core yarns. *Polymers*. 2024, vol. 16, iss. 21, [article no.] 3090, str. 1-17, ilustr. ISSN 2073-4360.

2.KOSTAJNŠEK, Klara, DIMITROVSKI, Krste, KADOGLU, Hüseyin, ÇELİK, Pinar, BAŞAL BAYRAKTAR, Güldemet, ÜTE, Tuba Bedez, DURAN, Deniz, ERTEKIN, Mustafa, DEMŞAR, Andrej, BIZJAK, Matejka. Functionalization of woven fabrics with PBT yarns. *Polymers*. 2021, vol. 13, iss. 2, str. 1-

3.KOSTAJNŠEK, Klara, DIMITROVSKI, Krste. Use of extended cover factor theory in UV protection of woven fabric. *Polymers*. 2021, vol. 13, iss. 8, str. 1-13, ilustr. ISSN 2073-4360. <https://www.mdpi.com/2073-4360/13/8/1188>.

4.BIZJAK, Matejka, KOSTAJNŠEK, Klara. ITMA 2023 - Tkanje = ITMA 2023 – Weaving. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2023, vol. 66, priloga 2, str. si 106-si 117, ilustr. ISSN 0351-3386.

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5.KOSTAJNŠEK, Klara, URBAS, Raša, DIMITROVSKI, Krste. A new simplified model for predicting the UV-protective properties of monofilament pet fabrics. *AUTEX research journal*. [Print ed.]. 21. Aug. 2019, vol. 19, no. 3, str. 263-270.

# TEKSTILJE ZA INTERIER

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                        |
|-----------------------------------|------------------------|
| <b>Predmet:</b>                   | Tekstilije za interier |
| <b>Course title:</b>              | Interior textiles      |
| <b>Članica nosilka/UL Member:</b> | UL NTF                 |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068372 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11151   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |            |
|-----------------------------------|------------|
| <b>Nosilec predmeta/Lecturer:</b> | Živa Zupin |
|-----------------------------------|------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

| Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti: | Prerequisites:                                      |
|-----------------------------------------------------------------------|-----------------------------------------------------|
| Vpis v letnik študija in izbira predmeta.                             | Enrolment into study year and choice of the course. |

| Vsebina:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Content (Syllabus outline):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Predavanja:</p> <ul style="list-style-type: none"><li>• Uvod: spoznavanje z zgodovinskim razvojem tekstilne notranje opreme in največjimi oblikovalskimi dosežki na tem področju.</li><li>• Spoznavanje konvencionalnih in specialnih surovin za tekstilno notranjo opremo ter njihovih lastnosti in posebnosti.</li><li>• Spoznavanje temeljnih lastnosti, uporabe in konstrukcije posameznih tekstilnih izdelkov za notranjo opremo (okenske tekstilije, talne tekstilije, stenske tekstilije, pohištvene tekstilije, kopalniške tekstilije, kuhinjske tekstilije, posteljne tekstilije, dekorativne tekstilije, idr.).</li><li>• Spoznavanje konstrukcije in lastnosti tekstilij za posebne namene v interierju (absorpcija in razpršitev zvoka, toplotna izolacija, odpornost proti gorenju, UV zaščita, odpornost proti zamazanju, udobnost,</li></ul> | <p>Lectures:</p> <ul style="list-style-type: none"><li>• Introduction: learning about the historical development of the interior textiles and the major design achievements in this field.</li><li>• Learning about conventional and specialty raw materials for the interior textiles as well as their characteristics and specialities.</li><li>• Learning about basic properties, use and construction of various textile products for interior (window textiles, floor textiles, wall textiles, furnishing textiles, bathroom textiles, kitchen textiles, beddings, decorative textiles, etc.).</li><li>• Learning about the structure and properties of textiles for specific purposes in the interior (sound absorption and dispersion, heat insulation, resistance to burning, UV protection, stain resistance, comfort, resistance to deformation, etc.).</li></ul> |

|                                                                                                                                                                                                                                 |                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| odpornost proti deformacijam, ipd.).<br>• Spoznavanje specifičnih metode preskušanja in zagotavljanja kakovosti tekstilij za interier.<br><br>Seminar:<br>• Raziskovanje posameznih specifičnih področij tekstilij za interier. | • Learning about specific methods of testing and quality assurance of interior textiles.<br><br>Seminar:<br>• Exploring specific areas of textiles for interiors. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

|                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Jackman, D., Dixon, M., Condra, J. : The guide to textiles for interiors. 3rd ed. - Winnipeg : Portage & Main Press, 2003.                                                            |
| 2. Rowe, T. : Interior textiles: design and developments, edited by T. Rowe. - Boca Raton [etc.] : CRC Press ; Cambridge : Woodhead Publishing ; [Manchester] : Textile Institute, 2009. |
| 3. Larsen, J.L., Weeks, J. : Fabrics for interiors : a guide for architects, designers, and consumers. New York [etc.] : John Wiley & Sons, 1975.                                        |

### Cilji in kompetence:

|                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Seznanitev z zgodovinskim razvojem tekstilij za interier<br>• Poznavanje razdelitve in lastnosti posameznih tekstilij za notranjo opremo<br>• Poznavanje specifičnih konstrukcij tekstilij za interier in njihovih značilnosti<br>• Poznavanje specifičnih metod testiranja tekstilij za interier | <b>Objectives and competences:</b><br>• Acquaintance with the historical development of interior textiles<br>• Knowing the classification and properties of various interior textiles<br>• Mastering specific structures of interior textiles and their characteristics<br>• Knowing specific methods for interior textiles testing |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Predvideni študijski rezultati:

|                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Znanje in razumevanje:<br>• pridobitev osnovnih znanj o vrstah, značilnostih, lastnostih in posebnostih tekstilij za interier<br>• sposobnost izbora ustreznih metod za preskušanje lastnosti tekstilij za interier<br>• sposobnost ocenjevanja kakovosti tekstilije in sposobnost izbora optimalne tekstilije za interier na podlagi preskušanj. | <b>Intended learning outcomes:</b><br>Knowledge and understanding:<br>• acquiring basic knowledge about the types, properties, characteristics and specifics of interior textiles<br>• mastering the selection of the appropriate method for the interior textiles testing<br>• ability to assess quality and select the optimal fabrics for the interior on the basis of textile testing |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Metode poučevanja in učenja:

|                                   |                                                                       |
|-----------------------------------|-----------------------------------------------------------------------|
| • predavanja<br>• seminarsko delo | <b>Learning and teaching methods:</b><br>• lectures<br>• seminar work |
|-----------------------------------|-----------------------------------------------------------------------|

### Načini ocenjevanja:

|                                  | Delež/Weight | Assessment:                 |
|----------------------------------|--------------|-----------------------------|
| • pisni/ustni izpit              | 70,00 %      | • written/oral exam         |
| • poročilo o seminarskem delu    | 20,00 %      | • seminar work report       |
| • predstavitev seminarskega dela | 10,00 %      | • seminar work presentation |

### Ocenjevalna lestvica:

|                                                          |                                                                                          |
|----------------------------------------------------------|------------------------------------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | <b>Grading system:</b><br>5 - 10, a student passes the exam if he is graded from 6 to 10 |
|----------------------------------------------------------|------------------------------------------------------------------------------------------|

### Reference nosilca/Lecturer's references:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <a href="https://dergipark.org.tr/en/download/article-file/2224036">https://dergipark.org.tr/en/download/article-file/2224036</a> , DOI: 10.32710/tekstilvekonfeksiyon.1065942. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- ZUPIN, Živa, DIMITROVSKI, Krste, HLADNIK, Aleš, KOSTAJNŠEK, Klara. Elongation properties of woven fabrics with incorporated PBT yarns. The journal of The Textile Institute. 2022, vol. 113, no. 5, str. 846-856, ilustr. ISSN 0040-5000.  
<https://www.tandfonline.com/doi/full/10.1080/00405000.2021.1907971>, <https://repozitorij.uni-lj.si/IzpisGradiva.php?id=141246>, DOI: 10.1080/00405000.2021.1907971.
- ŠUBIC, Špela, GOLEŽ, Mateja, GABRIJELČIČ TOMC, Helena, ZUPIN, Živa, ROZMAN, Tjaša, KAVKLER, Katja. Počivalnik Gondola Oskarja Kogoj : analize in konservatorsko-restavratorski poseg. Argo : časopis slovenskih muzejev. 2019, 62, [št.] 1, str. 72-79, ilustr. ISSN 0570-8869.
- ROZMAN, Tjaša, ŠUBIC, Špela, KAVKLER, Katja, ZUPIN, Živa. Konservatorsko-restavratorski posegi na Kogojevem počivalniku Gondola = DConservation-restoration interventions on Kogoj's lounge chair Gondola. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2019, vol. 62, priloga 1, str. si 63-sl 71. ISSN 0351-3386.
- ZUPIN, Živa, CERAR, Urša, PODBEVŠEK, Tanja. Garment design according to zero waste design principle. V: ÜN, Çağrı (ur.), KIDIRYUZ, Merve (ur.). Full texts book : Cukurova 9th International Scientific Researches Conference : October 9-11, 2022, Adana, Turkey. Cukurova 9th International Scientific Researches Conference, October 9-11, 2022, Adana, Turkey. Ankara: IKSAD Publishing House, 2022. Str. 1721-1729. ISBN 978-625-8246-28-5.  
[https://en.iksadkongre.net/\\_files/ugd/262ebf\\_712087d19a0843b786e9a55dd73c035e.pdf](https://en.iksadkongre.net/_files/ugd/262ebf_712087d19a0843b786e9a55dd73c035e.pdf).
- ZUPIN, Živa, KOVAČIČ, Sara. Performance properties of double bed jacquard knitted fabrics for upholstery. V: KARDAŞLAR, Ahmet (ur.), MİKE, Faruk (ur.). Full text book : II. International Korkut Ata Scientific Researches Conference : October 7-8, 2023, Ankara, Turkey. II. International Korkut Ata Scientific Researches Conference, October 7-8, 2023, Ankara, Turkey. Ankara: IKSAD Publishing House, 2023. Str. 555-562, ilustr. ISBN 978-625-367-347-5.  
[https://www.korkutataconference.org/\\_files/ugd/614b1f\\_16c34c13a6234f2782cbdf104c7aa9a.pdf](https://www.korkutataconference.org/_files/ugd/614b1f_16c34c13a6234f2782cbdf104c7aa9a.pdf).

# TEKSTILNA IN OBLAČILNA TRADICIJA

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Predmet:</b>                   | Tekstilna in oblačilna tradicija |
| <b>Course title:</b>              | Textile and clothing tradition   |
| <b>Članica nosilka/UL Member:</b> | UL NTF                           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik               | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|----------------------|-------------|-----------|
| Načrtovanje tekstilij in oblačil, prva stopnja, univerzitetni            | Ni členitve (študijski program) | 2. letnik, 3. letnik | 2. semester | izbirni   |
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik            | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068373 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11149   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 45                      | 15                  | 0                  | 0                                    | 0                                             | 60                                          | 4    |

|                                   |                               |
|-----------------------------------|-------------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Klara Kostajnshek, Živa Zupin |
|-----------------------------------|-------------------------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                                              |
|--------------------------|----------------------------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: Angleščina, Slovenščina |
|                          | Vaje/Tutorial: Angleščina, Slovenščina       |

|                                                                              |                                                     |
|------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                               |
| vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and choice of the course. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>– izvor in pomen tekstilij in oblačil, funkcije tekstilij in oblačil, vrste in skupine tekstilij in oblačil</li> <li>– zgodovinski razvoj tekstilij in oblačil</li> <li>– zgodovinska povezanost tekstilne in oblačilne tehnologije ter tekstilne umetnosti/oblikovanja</li> <li>– Evropska tekstilna in oblačilna tradicija</li> <li>– Slovenska tekstilna in oblačilna tradicija (obrt, industrija, oblikovanje)</li> </ul> | <ul style="list-style-type: none"> <li>– origin and significance of textiles and clothing, function of textiles and clothing, types and categories of textiles and clothing</li> <li>– historical development of textiles and clothing</li> <li>– historical interaction of textile and clothing technology and textile arts/ design</li> <li>– European textile and clothing tradition</li> <li>– Slovenian textile and clothing tradition (trade, industry, design)</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• PUŠNIK, M. FAJT, E. (ur). Moda in Kultura oblačenja. Ljubljana, 2015</li> <li>• STANKOVIČ ELESINI, U., CERAR, E., PAVKO-ČUDEN, A. Tekstilne poti po ljubljanskih ulicah. Ljubljana: Oddelek za tekstilstvo, Naravoslovnotehniška fakulteta: Mestna občina, 2014</li> <li>• KRESAL, F. Tekstilna industrija v Sloveniji 1918–1941. Ljubljana : Založba Borec, 1976</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>BOUCHER, F. A history of costume in the West. London, Thames and Hudson, 1997</li> <li>Pisani, Lea, Ravni oblačenja = Dress code : s posebnimi poglavji o gostovanju na televiziji, pogovoru za službo, pogrebni slovesnosti, poroki, maturantskem plesu in šoli : novo: kako oblikovati kodeks za sproščeno oblačenje v poslovnem svetu. Ljubljana : L. Pisani, 2020</li> <li>Sadar Almira. O modi : izbrana poglavja o sodobni modi : univerzitetni učbenik za predmet Uvod v oblikovanje oblačil, Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2011</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Cilji in kompetence:                                                                                                                                                                                                                                                                                                                                                                                                                               | Objectives and competences:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Cilji:</p> <p>Študenti spoznajo zgodovino razvoja tekstilij in oblačil. Razumejo povezavo med razvojem znanosti in tehnologije, tekstilno in oblačilno tehnologijo ter umetnostjo in oblikovanjem.</p> <p>Kompetence:</p> <ul style="list-style-type: none"> <li>– poznavanje pomena tekstilne in oblačilne tradicije in dediščine</li> <li>– poznavanje slovenske tekstilne in oblačilne tradicije v odnosu do evropske in globalne</li> </ul> | <p>Objectives:</p> <p>Students learn about the history of the textiles and clothing development of. They understand the link between the development of science and technology, textile and clothing technology and art and design.</p> <p>Competencies:</p> <ul style="list-style-type: none"> <li>- understanding of the importance of textile and clothing tradition and heritage</li> <li>- knowledge of the Slovenian textile and clothing tradition in relation to the European and global tradition</li> </ul> |

| Predvideni študijski rezultati:                                                                                                                                                                                                        | Intended learning outcomes:                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Znanje in razumevanje:</p> <ul style="list-style-type: none"> <li>– poznavanje zgodovine razvoja tekstilij in oblačil</li> <li>– poznavanje slovenske tekstilne in oblačilne tradicije: obrti, industrije in oblikovanja</li> </ul> | <p>Knowledge and understanding:</p> <ul style="list-style-type: none"> <li>- knowledge of the history of development of textiles and clothing</li> <li>- knowledge of the Slovenian textile and clothing tradition: crafts, industry and design</li> </ul> |

| Metode poučevanja in učenja:                                                              | Learning and teaching methods:                                                       |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>– predavanja</li> <li>– seminarsko delo</li> </ul> | <ul style="list-style-type: none"> <li>– lectures</li> <li>– seminar work</li> </ul> |

| Načini ocenjevanja: | Delež/Weight | Assessment:         |
|---------------------|--------------|---------------------|
| – pisni/ustni izpit | 70,00 %      | – written/oral exam |
| – seminarsko delo   | 30,00 %      | – seminar work      |

| Ocenjevalna lestvica:                                    | Grading system:                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

| Reference nosilca/Lecturer's references:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Živa Zupin</b></p> <ul style="list-style-type: none"> <li>ZUPIN, Živa, ŠTAMPFL, Veronika, KOČEVAR, Tanja Nuša, GABRIJELČIČ TOMC, Helena. Comparison of measured and calculated porosity parameters of woven fabrics to results obtained with image analysis. Materials. 2024, vol. 17, iss. 4, str. 1-19, ilustr. ISSN 1996-1944. <a href="https://www.mdpi.com/1996-1944/17/4/783">https://www.mdpi.com/1996-1944/17/4/783</a>.</li> <li>ZUPIN, Živa, KNIFIC, Karmen, PAVKO-ČUDEN, Alenka. Comfort properties of functional double bed knitted fabric for firefighters underwear. Tekstil ve konfeksiyon dergisi : journal of textile and apparel. 2023, vol. 33, no. 3, str. 249-261. ISSN 1300-3356. <a href="https://dergipark.org.tr/en/download/article-file/2224036">https://dergipark.org.tr/en/download/article-file/2224036</a>, DOI: 10.32710/tekstilvekonfeksiyon.1065942.</li> <li>ROZMAN, Tjaša, ŠUBIC, Špela, KAVKLER, Katja, ZUPIN, Živa. Konservatorsko-restavratorski posegi na Kogojevem počivalniku Gondola = DConservation-restoration interventions on Kogoj's lounge chair Gondola. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2019, vol. 62, priloga 1, str. si 63-sl 71. ISSN 0351-3386.</li> </ul> |

- ZUPIN, Živa, MOTNIKAR, Ana, ZOREC, Petja, GAJŠEK, Gašper, HRASTAR, Zala, MAVRIČ, Zala, MIKLAVČIČ, Anita, PETROVČIČ, Elizabeta, REŠETIČ, Klara, SCHWARZBARTEL, Petra, TURK, Maruša, VIDMAR, Lara, VRHOVSKI, Iris. Exploring the history of hosiery and design of modern socks-socks. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 15th International İzmir Textile & Apparel Symposium, IITAS 2021, October 26 -27, 2021, İzmir-Turkey. Izmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2021. Str. 549-553, ilustr. ISBN 978-605-338-329-1. <http://www.iitas2021.com/en/>.
- ZUPIN, Živa. Computer aided fabrics patterning = [Računalniško podprto vzorčenje tkanin]. V: CVIKL, Nives (ur.), HREN BRVAR, Maja (ur.). Tekstil, oblačilna kultura in moda = Textile, the culture of clothing and fashion : Museoeurope : the collected volume of the symposium 18.-19. 10. 2019. Maribor: Pokrajinski muzej: = Regional Museum, 2019. Str. 23-33, ilustr. Zbirka Museoeurope, 6. ISBN 978-961-94532-3-0.

#### **Klara Kostajnshek**

- KOSTAJNŠEK, Klara, BIZJAK, Matejka, ERTEKIN, Gözde, ERTEKIN, Mustafa. Evaluation of the UV protection properties of para-aramid woven fabrics with various specialty core yarns. *Polymers*. 2024, vol. 16, iss. 21, 3090, str. 1-17.
- KOSTAJNŠEK, Klara, BIZJAK, Matejka. Estimation of permeability properties of technologically developed jacquard fabrics = Ocena svojstava propustljivosti žakar tkanina dobijenih tehnološkim postupkom. *Hemjska industrija*. 2023, vol. 77, no. 3, str. 191-20 ISSN 2217-7426.
- KOSTAJNŠEK, Klara, PEULIČ, Svjetlana, BIZJAK, Matejka. Design and development of a jacquard fabric for zero- waste garments. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). *Book of proceedings*. 16th International İzmir Textile & Apparel Symposium, IITAS 2023, October 25 - 27, 2023
- GRÖMER, Karina, KOSTAJNŠEK, Klara, TOLAR, Tjaša, PAJAGIČ BREGAR, Gojka. Tekstilna najdba iz železnodobne naselbine Most na Soči : konservacija, analiza, primerjava = Textile find from the Iron Age settlement at Most na Soči : conservation, analysis and comparisons. V: DULAR, Janez (ur.), TECCO HVALA, Sneža (ur.). *Železnodobno naselje Most na Soči. Razprave = The Iron Age settlement at Most na Soči. Treatises*. 1. izd. Ljubljana: ZRC SAZU, Inštitut za arheologijo: Založba ZRC, 2018. Str. 453-465
- GRÖMER, Karina, TOLAR, Tjaša, KOSTAJNŠEK, Klara. Textile and fur remains in Grave 6, Tumulus 1, from Pleška hosta at Molnik = Ostanki tkanine in živalskih dlak (krzna) v grobu 6 gomile 1 v Pleški hosti na Molniku. V: TECCO HVALA, Sneža. *Molnik pri Ljubljani v železni dobi = The iron age site at Molnik near Ljubljana*. 1. izd. Ljubljana: ZRC SAZU, Inštitut za arheologijo, Založba ZRC, 2017. Str. 211-216, 217-219

# TEKSTILNE SUROVINE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>Predmet:</b>                   | Tekstilne surovine    |
| <b>Course title:</b>              | Textile raw materials |
| <b>Članica nosilka/UL Member:</b> | UL NTF                |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068398 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11117   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 15                 | 0                                       | 15                                                  | 90                                                | 6    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Marija Gorjanc |
|-----------------------------------|----------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                              |
|------------------------------------------------------------------------------|------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>        |
| Vpis v letnik študija.                                                       | Enrolment in the study year. |

### Vsebina:

Osnovni pojmi povezani s tekstilnimi surovinami, sistematizacija vlaken.  
Pregled razvoja vlaken v povezavi z razvojem znanosti in tehnologije.  
Fizikalne in kemijske lastnosti vlaken.  
Tehnologije pridobivanja naravnih in oblikovanja umetnih vlaken.  
Osnove molekulske in nadmolekulske strukture.  
Vpliv fizikalnih in kemijskih postopkov na strukturo ter lastnosti vlaken.  
Pričakovane in zahtevane lastnosti vlaken za uporabo v izdelkih.  
Mikroskopske in kemične metode razpoznavanja vlaken.  
Novosti na področju tekstilnih materialov.

### Content (Syllabus outline):

Introduction and basics related to textile raw materials and systematization of fibers.  
Overview of fiber development in conjunction with the development of science and technology.  
Physical and chemical properties of fibers.  
Technology of extraction of natural fibres and design of man-made fibers.  
Basics of molecular and supramolecular structure.  
The influence of physical and chemical processes on the structure and properties of the fibers.  
The expected and required properties of fibers for use in products.  
Microscopic and chemical methods in fiber identification.  
Novelties in the field of textile materials.

### Temeljna literatura in viri/Readings:

RIJAVEC, T. Tekstilne surovine. Osnove. Ljubljana : NTF, Oddelek za tekstilstvo, 2000.  
 RIJAVEC, T. Tekstilna vlakna. Lastnosti in uporaba. Ljubljana : NTF, Oddelek za tekstilstvo, 2002.  
 Elsasser, V.H. Textiles : concepts and principles, 2005, 2nd ed., New York : Fairchild Publications, cop.  
 COOK, J. G. Handbook of Textile Fibres. 1, Natural Fibres. Shildon : Merrow, 1993.  
 COOK, J. G. Handbook of Textile Fibres. 2, Man-Made Fibres. Shildon : Merrow, 1993.  
 Structure formation in polymeric fibers / David R. Salem (editor) 2001, Munich : Hanser ; Cincinnati : Hanser  
 Gardner Publications, cop. 2001  
 HIBBERT, R. Textile Innovation : Traditional, Modern and Smart Textiles. London : Line, 2002.  
<http://www.innovationintextiles.com/>

#### **Cilji in kompetence:**

študenti dobijo širok vpogled v sistematiko, lastnosti in uporabo tekstilnih in tehničnih vlaken za oblačila, notranjo opremo, tehnične izdelke in kompozite, poznavanje in razumevanje osnov znanstvene teorije o vlaknih  
 poznavanje lastnosti vlaken in povezovanje z lastnostmi končnega izdelka  
 poznavanje metod in praktično znanje za določitev kvalitativne surovinske sestave tekstilij

#### **Objectives and competences:**

Students get a broad insight into the structure, properties and applications of textile and technical fibres for clothing, interior decoration, technical products and composites.  
 Knowledge and understanding basic scientific theory of fibres.  
 Knowledge of fibres properties and connecting them to the properties of final product.  
 Understanding the methods and having practical knowledge for qualitative identification of the textiles fibre composition.

#### **Predvideni študijski rezultati:**

Znanje in razumevanje:  
 - Študent zna izbrati vlakna glede na tekstilno tehnološke in uporabne lastnosti končnega izdelka.  
 - Zna reševati enostavnejše praktične probleme od identifikacije tekstilnih surovin do uvajanja enostavnejših modifikacij v nove izdelke.

#### **Intended learning outcomes:**

Knowledge and understanding:  
 - The student is able to select the fibres according to the textile technological and useful properties of the final product.  
 - Is able to solve practical problems from the identification of textile materials to introduction of simple modifications into new products.

#### **Metode poučevanja in učenja:**

Predavanja, seminar, individualne ali skupinske naloge, laboratorijske vaje.

#### **Learning and teaching methods:**

Interactive lectures, seminars, individual and group assignments, laboratory work.

#### **Načini ocenjevanja:**

#### **Delež/Weight**

#### **Assessment:**

|                                 |         |                                |
|---------------------------------|---------|--------------------------------|
| Izpit                           | 50,00 % | Exam                           |
| Seminar                         | 30,00 % | Seminar                        |
| Laboratorijske vaje in kolokvij | 20,00 % | Laboratory work and colloquium |

#### **Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### **Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

#### **Reference nosilca/Lecturer's references:**

- VERBIČ, Anja, BRENČIČ, Katja, PRIMC, Gregor, MOZETIČ, Miran, ŠALA, Martin, GORJANC, Marija. Plasma-assisted green synthesis of ZnO directly on polyethylene terephthalate fabric. *Fibers and polymers*. 2023, vol. 24, no. 1, str. 83-94, ilustr. ISSN 1229-9197
- PRAVEEN, K. M., PRIMC, Gregor, SIMONČIČ, Barbara, GORJANC, Marija, VESEL, Alenka, MOZETIČ, Miran, et al. Plasma-assisted fabrication of hydrophobic siloxane based sol-gel-coated coir fibres. *Surface innovations*. 2022, vol. 10, no. 2, str. 128-139. ISSN 2050-6260.

- OGRIZEK, Linda, LAMOVŠEK, Janja, ČUŠ, Franc, LESKOVŠEK, Mirjam, GORJANC, Marija. Properties of bacterial cellulose produced using white and red grape bagasse as a nutrient source. *Processes*. [Online ed.]. 2021, vol. 9, iss. 7, str. 1-15, ilustr. ISSN 2227-9717.
- VESEL, Alenka, LOJEN, Dane, ZAPLOTNIK, Rok, PRIMC, Gregor, MOZETIČ, Miran, EKAR, Jernej, KOVAČ, Janez, GORJANC, Marija, KUREČIČ, Manja, STANA-KLEINSCHEK, Karin. Defluorination of polytetrafluoroethylene surface by hydrogen plasma. *Polymers*. 2020, vol. 12, no. 12, str. 2855-1- 2855-14. ISSN 2073-4360.
- GORJANC, Marija, MOZETIČ, Miran, PRIMC, Gregor, VESEL, Alenka, SPASIĆ, Kosta, PUČ, Nevena, PETROVIĆ, Zoran Lj., KERT, Mateja. Plasma treated polyethylene terephthalate for increased embedment of UV-responsive microcapsules. *Applied Surface Science*. [Print ed.]. 15. Oct. 2017, vol. 49, str. 224-234, ilustr. ISSN 0169-4332.

# TEKSTILNI TISK

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                  |
|-----------------------------------|------------------|
| <b>Predmet:</b>                   | Tekstilni tisk   |
| <b>Course title:</b>              | Textile printing |
| <b>Članica nosilka/UL Member:</b> | UL NTF           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068406 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11135   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 15                  | 45                 | 0                                       | 0                                                   | 90                                                | 6    |

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Petra Forte Tavčar |
|-----------------------------------|--------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

### Vsebina:

Načini, postopki in tehnike tiskanja tekstila. Zgodovinski razvoj tiska. Strojne naprave in oprema za filmski, transferni in digitalni tisk. Razvoj digitalnega tiska za tekstil. Postopki izdelave tiskovnih form za filmski tisk. Postopki reprodukcije vzorcev za filmski in digitalni tisk. Splošna priprava blaga za tisk in posebna priprava za digitalni tisk. Sodobna barvila za tiskanje tekstila. Sestava tiskarskih past. Vrste in sestava črnih za digitalni tisk. Pomen fiksiranja in naknadnih obdelav pri klasičnih in digitalnih tehnikah tiskanja. Specialni postopki tiskanja. Ekološka problematika barvil, pomožnih sredstev in postopkov. Trajnostni vidik digitalnega tiska. Vaje: izdelava tiskarskih past, ročni tisk z različnimi sodobnimi barvili, jedki in rezervni tisk, transferni tisk, izžigalni tisk, krep efekt, specialni pigmenti, analiza vzorcev  
Seminar: praktični ali teoretični

### Content (Syllabus outline):

Processes and techniques of textile printing. Historical development of printing. Machines and equipment for screen, transfer and digital printing. Development of digital printing for textile. Production of printing forms for screen printing, sample reproduction, pretreatment of fabric. Special preparation of textile for digital printing. Dyes and pigments for textile printing. Constitution of printing pastes and inks. Type and composition of inks for digital printing. The importance of curing, steaming and final steps in conventional and digital printing. Special printing processes. Ecological issues of dyes, chemicals and processes. Sustainability of digital printing. Practical work: print paste production, hand screen printing with different dyes (reactive, vat, disperse, acid, pigments), discharge and reserve printing,

|                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Praktični - digitalni tisk vzorca, ki ga oblikuje študent, na različne substrate z reaktivnimi barvili in pigmenti . Ali</p> <p>Teoretični. Študent samostojno obdela sodobno temo iz tiskanja tekstilij in jo predstavi skupini.</p> | <p>transfer and digital, burn-out style, crimp style, special pigments, sample analysis.</p> <p>Project: practical or theoretical</p> <p>Practical – student prepare a design and print it digitally using reactive dyes or pigments.</p> <p>Theoretical – student represent a topic from modern textile printing and present it to the group.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

FORTE-TAVČER, Petra. Tehnologija tiskanja tekstilij. 1. izd. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2010. VIII, 78 str., ilustr., graf. prikazi. ISBN 978-961-6045-82-7. [COBISS.SI-ID 251720960]

-FORTE-TAVČER, Petra, KERT, Mateja. Tiskanje tekstilij : navodila za vaje. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2010. 89 str., ilustr., graf. prikazi, tabele. ISBN 978-961-6045-83-4. [COBISS.SI-ID 252607232]

- L.W.C. Miles: Textile Printing, SDC, 2011.

### Cilji in kompetence:

Študenti spoznajo postopke tiskanja tekstila. Spoznajo tehnike tiska, orodja, strojno opremo, pripravo barvil in tiskarskih past ter kemične procese pri tiskanju. Povežejo strukturo vlaken z možnostmi aplikacije barvil ali drugih komponent. Spoznajo zgodovino vzorčenja blaga s tiskanjem. Spoznajo tehnično dokumentacijo in proizvajalce tiskarskih barvil in pomožnih sredstev. Uporabljajo najnovejšo tehniko digitalnega tiska in spoznajo njene prednosti z vidika vpliva na okolje in ekonomičnosti.

### Objectives and competences:

Students acquire knowledge in the field of the textile printing which are necessary for professional and quality implementation of the process. Subject-specific competencies:

- printing processes, techniques, equipment, machines,
- printing pastes preparation
- chemical processes at printing
- conditions for reactions between dyes and fibers
- history of textile printing
- producers of dyes and auxiliaries and technical documentation

They use digital printing technique and acquire its environmental and economical advantages.

### Predvideni študijski rezultati:

Znanje in razumevanje:

Študenti spoznajo postopke tiskanja tekstila. Seznanijo se s tiskarskimi tehnikami, orodji, strojno opremo, s pripravo barvil in tiskarskih past ter s kemičnimi procesi pri tiskanju. Spoznajo zgodovinski razvoj tiskanja na tekstil. Spoznajo tehnično dokumentacijo in proizvajalce tiskarskih barvil in pomožnih sredstev.

Študent zna uporabiti najprimernejši postopek tiskanja, ustrezna barvila in pomožne kemikalije za doseganje zelenega efekta na blagu .Uporablja ustrezne analize metode za vrednotenje rezultatov dela. Zna dokumentirati potek dela in oceniti kvaliteto izdelka ter vpliv uporabljenih postopkov in materialov na okolje. Osvoji delo v laboratoriju. Osvojeno znanje lahko študent uporabi v

### Intended learning outcomes:

Knowledge and understanding:

- students understand the aim and the goals of printing processes of textiles,
- he knows the equipment, optimal processing conditions, auxiliaries and chemicals
- he knows the preparation of printing pastes and fabrics,
- he learns about technical documentation of dyes and auxiliaries
- he is able to assess and interpret the results of treatments,
- he considers the environmental influence of different processes.
- he acquires work in the laboratory

Students apply the acquired knowledge in industrial printing processes or craft processes that support the design of textiles or the marketing of textile products.

|                                                                                                                                 |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|
| industrijskih procesih tiskanja ali obrtniških postopkih, za podporo oblikovanju tekstilij ali pri trženju tekstilnih izdelkov. |  |
|---------------------------------------------------------------------------------------------------------------------------------|--|

|                                                                                                                                                                                           |                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Metode poučevanja in učenja:</b>                                                                                                                                                       | <b>Learning and teaching methods:</b>                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• Predavanja v predavalnici in/ali na daljavo po spletu</li> <li>• seminarji - praktični ali teoretični</li> <li>• laboratorijske vaje.</li> </ul> | <ul style="list-style-type: none"> <li>– lectures in a lectureroom and/or on-line</li> <li>– seminars – practical or teoretical</li> <li>– laboratory practices</li> </ul> |

|                                |                     |                                    |
|--------------------------------|---------------------|------------------------------------|
| <b>Načini ocenjevanja:</b>     | <b>Delež/Weight</b> | <b>Assessment:</b>                 |
| • ustni/pisni izpit,           | 50,00 %             | – oral/written exam,               |
| • seminarska naloga,           | 10,00 %             | – project,                         |
| • kolokvij iz opravljenih vaj. | 40,00 %             | – written exam on laboratory work. |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference nosilca/Lecturer's references:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>GOLJA, Barbara, FORTE-TAVČER, Petra. Patterned printing of fragrant microcapsules to cotton fabric. <i>Coatings</i>. 26. april 2022, vol. 12, iss. 5, str. 1-12</p> <p>LAVRIČ, Gregor, KARLOVITS, Igor, MUCK, Deja, FORTE-TAVČER, Petra, KAVČIČ, Urška. Influence of ink curing in UV LED inkjet printing on colour differences, ink bleeding and abrasion resistance of prints on textile = Vpliv sušenja tiskarske barve v UV LED kapljičnem tisku na barvne razlike, razlivanje tiskarske barve in odpornost proti drgnjenju potiskanih tkanin. <i>Tekstilac : glasilo slovenskih tekstilcev</i>. [Tiskana izd.]. 2021, vol. 64, [no.] 3, str. 221-229</p> <p>FORTE-TAVČER, Petra, ŠTULAR, Danaja, AHTIK, Jure. Digital printing of anaglyph images onto textile = Anaglyph görüntülerin dijital baskı ile tekstil üzerine basılması. <i>Tekstil ve konfeksiyon dergisi</i>, ISSN 1300-3356, 2013, vol. 23, no. 4, str. 381-386. [COBISS.SI-ID 2959216]</p> |

# TEMELJNE PREISKAVE TEKSTILIJ

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                  |
|-----------------------------------|----------------------------------|
| <b>Predmet:</b>                   | Temeljne preiskave tekstilij     |
| <b>Course title:</b>              | Basic methods in textile testing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                           |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 2. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068407 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11132   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 30                  | 30                 | 0                                    | 0                                             | 90                                          | 6    |

|                                   |               |
|-----------------------------------|---------------|
| <b>Nosilec predmeta/Lecturer:</b> | Andrej Demšar |
|-----------------------------------|---------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>Pomen in uporaba preiskav v tekstilstvu, standardi in njihova uporaba, vzorčenje, merjenje in vrednotenje meritev, tekstilije in vlaga, osnovne preiskave vlaken – določanje dimenzij in trdnosti, osnovne preiskave prej – določanje dimenzij, vitja, trdnosti, enakomernosti, osnovne preiskave ploskih tekstilij – določanje dimenzij, trdnosti, prepustnosti in vpojnosti in lastnosti povezane z udobnostjo in uporabnostjo tekstilij in oblačil, fizikalno mehanske lastnosti tkanin, označevanje tekstilnih izdelkov, temeljne kemijske preiskave – določanje surovinske sestave tekstilij in ugotavljanje poškodb, pregled sodobnih metod karakterizacije polimernih materialov</p> <p>Seminar: predstavitev določene standardizirane metode.</p> | <p>Importance and use of testing in textile, standards and their application, sampling, measurement and evaluation of measurements, textiles and humidity, the basic investigations of fiber - determination of size and strength, basic investigation of yarns - determining dimensions, twist, strength, uniformity, basic investigation of textiles - determining the size, strength, permeability and absorption and the properties associated with the comfort and usability of textiles, physical-mechanical properties of fabrics and apparel, labelling of textile products, basic chemical investigations – qualitative and quantitative composition of textiles, determination of deterioration, the review of modern methods of characterization of polymeric materials</p> <p>Seminar: presentation of one standardized method.</p> |

|                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vaje: merjenje osnovnih lastnosti tekstilij – dolžinska masa vlaken, dolžinska masa prej, natezna trdnost preje, natezna, trgalna, razpočna in pregibna trdnost tkanin in pletiv, zračna prepustnost in toplotna prevodnost, gorljivost, obstojnost na drgnjenje, ugotavljanje poškodb tekstilij. | Exercises: measuring the basic properties of textiles – linear density, tensile properties, tearing, bursting and bending strength, air permeability and thermal conductivity, burning properties of textiles, resistance to rubbing, analysing of deterioration of textiles. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Temeljna literatura in viri/Readings:

- MORTON, W.E. HEARLE, J.W.S. Physical properties of textile fibres. Manchester : The Textile Institute, 1997.
- COLLIER, B.J. EPPS, H.H. Textile testing and analysis. Upper Saddle River : Merrill, 1999.
- SAVILLE, B. P. Physical testing of textiles. Cambridge : Woodhead publishing Ltd and The Textile Institute, 2000.
- GREGOR-SVETEC, D. Temeljne preiskave tekstilij. Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2010.

### Cilji in kompetence:

Temeljni cilj: Študenti se seznajajo z osnovnimi fizikalnimi, mehanskimi in kemičnimi tekstilno tehnološkimi metodami preskušanja tekstilij ter obenem spoznajo lastnosti tekstilij od vlaken do končnih izdelkov. Seznanijo se s standardi in njihovo uporabo.

Kompetence:

- razumevanje splošne strukture tekstilne stroke ter povezanosti med njenimi poddisciplinami,
- poznavanje in razumevanje preiskovalnih metod,
- razumevanje uporabe statističnega vrednotenja meritev in rezultatov tekstilnih preiskav,
- sposobnost interpretacije rezultatov analiz,
- sposobnost za reševanje konkretnih delovnih problemov na podlagi poznavanja tekstilnih materialov in njihovih lastnosti.

### Objectives and competences:

Objective: Students learned about the basic physical, mechanical and chemical textile testing methods and at the same time learn about the properties of textiles from fiber to finished products. They are acquainted with the standards and their application.

Competencies:

- Understanding of the general structure of the textile profession and the connection between its sub-disciplines,
- Knowledge and understanding of methods of investigation,
- Understanding the use of statistical evaluation of measurement results and textile investigations,
- The ability to interpret the results of analyses,
- The ability to solve real problems based on knowledge of textile materials and their properties.

### Predvideni študijski rezultati:

Znanje in razumevanje: Pozna pomen in uporabo tekstilnih preiskav, zna razložiti in uporabiti standard, pozna vpliv vlage na lastnosti tekstilij, pozna posamezne metode določanja lastnosti vlaken, prej in ploskovnih tekstilij, oblačil, pozna prednosti in pomanjkljivosti posameznih metod preskušanja, zna izvesti meritev po danem postopku preskušanja, zna vrednotiti rezultate meritev in jih podati, pozna vrste poškodb in metode njihovega določanja, ve kako se označujejo tekstilije. Razume povezavo med lastnostmi tekstilij in metodami preskušanja.

### Intended learning outcomes:

Knowledge and understanding of: Student knows the importance and use of textile testing methods, knows how to interpret and use a standard, is familiar with the impact of moisture on the properties of textiles, knows the testing methods for the determination of the properties of individual fibers, yarns and flat textiles, apparel, knows the advantages and disadvantages of testing methods, knows how to perform measurements for a given test procedure, is able to evaluate the results of measurements, knows types of deterioration and methods of their determination, knows how to characterize textiles. Knows the connection between the properties of textiles and testing methods.

### Metode poučevanja in učenja:

Predavanja, seminarsko delo, vaje.

### Learning and teaching methods:

Lectures, seminar work and exercises.

### Načini ocenjevanja:

- pisni izpit

### Delež/Weight

50,00 %

### Assessment:

- written exam

|                     |         |                 |
|---------------------|---------|-----------------|
| - seminarska naloga | 30,00 % | - seminar paper |
| - vaje              | 20,00 % | - exercises     |

**Ocenjevalna lestvica:**

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

**Grading system:**

5 - 10, a student passes the exam if he is graded from 6 to 10

**Reference nosilca/Lecturer's references:**

- KAVKLER, Katja, DEMŠAR, Andrej. Application of FTIR and Raman spectroscopy to qualitative analysis of structural changes in cellulosic fibres = Uporaba FTIR in ramanske spektroskopije pri kvalitativni analizi strukturnih sprememb celuloznih vlaken. Tekstilec, ISSN 0351-3386, 2012, letn. 55, št. 1, str. 19-44, ilustr. [COBISS.SI-ID 2727792]
- DEMŠAR, Andrej, ŽNIDARČIČ, Dragan, GREGOR-SVETEC, Diana. Impact of UV radiation on the physical properties of polypropylene floating row covers. African journal of biotechnology, ISSN 1684-5315, 2011, vol. 10, no. 41, str. 7998-8006. [COBISS.SI-ID 6760057]
- DEMŠAR, Andrej, BUKOŠEK, Vili, KLJUN, Alenka. Dynamic mechanical analysis of nylon 66 cord yarns. Fibres & textiles in Eastern Europe, ISSN 1230-3666, 2010, vol. 18, no. 4 (81), str. 29-34, ilustr. [COBISS.SI-ID 2426480]

# TKANINE

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |               |
|-----------------------------------|---------------|
| <b>Predmet:</b>                   | Tkanine       |
| <b>Course title:</b>              | Woven fabrics |
| <b>Članica nosilka/UL Member:</b> | UL NTF        |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 2. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068399 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11122   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 30                      | 15                  | 45                 | 0                                    | 0                                             | 90                                          | 6    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Matejka Bizjak |
|-----------------------------------|----------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Osnovni pojmi in konstrukcijske lastnosti tkanin. Osnovne tkalske vezave in konstrukcijska priprava vzorcev. Spoznavanje tkanin izdelanih v različnih tehnikah tkanja. Načrtovanje tkanin z želenimi lastnostmi in uporaba CAD/CAM sistemov za tkanje. Tehnološki postopki izdelave tkanin: priprava za tkanje (previjanje preje, snovanje, škrobljenje, vlaganje/prevezovanje, priprava votka), tkanje (mehanizmi tkalskega stroja in njihove funkcije). Fizikalno mehanske lastnosti tkanin in načrtovanje trajnostnih tkanin. | Basic terms and constructional characteristics of fabrics. Designing fabrics, basic woven structures and preparation of patterns. Learning about fabrics made by various weaving techniques. Planning of fabrics with desired characteristics and use of CAD /CAM systems. Technological procedures of fabric's manufacturing: Preparation for weaving (winding, warping, sizing, weft preparation), weaving (mechanisms of weaving machines and their functions). Physical-mechanical properties of fabrics and planning sustainable fabrics. |

|                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                                                                           |
| BIZJAK, M.: <i>Izročki predavanj Tkanine in drugo gradivo dostopno v spletni učilnici predmeta</i><br>JAKŠIČ, D. <i>Priprava osnove in votka za tkanje</i> . Ljubljana : Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, 2001. |

JAKŠIČ, D. *Tehnologija tkanja. Del 2, Tkanje*. Ljubljana : Fakulteta za naravoslovje in tehnologijo, VTO Tekstilna tehnologija, 1980.

ADANUR, S. *Handbook of Weaving*. Lancaster ; Basel : Technomic, cop. 2001

ORMEROD, A., SONDHELM, W. S. *Weaving : technology and operations*. Manchester : The Textile Institute, cop. 1995

BIZJAK, M., KOSTAJNŠEK, K. *Enostavne vezave tkanin*. 1. izd. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2017. 103 str., ilustr.

BIZJAK, Matejka. ITMA 2019 - Tkanje = ITMA 2019 - Weaving. Tekstilec : glasilo slovenskih tekstilcev. [Tiskana izd.]. 2020, vol. 63, priloga 1, str. si100-sl111, ilustr. ISSN 0351-3386. [COBISS.SI-ID 21052931]

#### Cilji in kompetence:

Poznavanje konstrukcijskih, tehnoloških, ekonomskih, in mehanskih/funkcionalnih parametrov, ki vplivajo na načrtovanje tkanin. Poznavanje osnovnih vezav in tkanih struktur, ter pomena tehnoloških faz in strojne opreme za izdelavo tkanin. Poznavanje vpliva vhodnih parametrov na fizikalno mehanske lastnosti tkanin in njihovo uporabo. Poznavanje metod in aparatur za določanje fizikalno mehanskih lastnosti tkanin. Kompetence: samostojno načrtovanje in prepoznavanje tkanin, sposobnost analize tkanih struktur ter določanje njenih lastnosti, sposobnost izbire potrebnih proizvodnih faz in strojne opreme, poznavanje strokovne terminologije.

#### Objectives and competences:

Knowledge of the constructive, technological, economic and mechanical/functional parameters that influence the design of fabrics. Knowledge of basic weaves and fabric structures and the importance of technological phases and hardware for fabric production. Knowledge of the influence of input parameters on physical mechanical fabric properties and their application. Knowledge of the methods and apparatus for determining the physical-mechanical properties of fabrics. Competences: independent design and recognition of fabrics, ability to analyze woven structures and determine their properties, ability to select the necessary production phases and hardware, knowledge of technical terminology.

#### Predvideni študijski rezultati:

Znanje in razumevanje posameznih faz nastanka tkanine, razumevanje razlik v konstrukciji tkanine in vpliva na fizikalno mehanske lastnosti tkanin, poznavanje strojne opreme glede na želene lastnosti tkanin za določen namen.

#### Intended learning outcomes:

Knowledge and understanding of the various stages of fabric formation, understanding of the differences in fabric structure and physical mechanical properties of woven fabrics, knowledge of machinery depending on the desired characteristics of fabrics for the specific purposes.

#### Metode poučevanja in učenja:

– predavanja  
– seminar  
– laboratorijske vaje

#### Learning and teaching methods:

– lectures  
– seminars  
– laboratory work

#### Načini ocenjevanja:

– pisni izpit  
– seminarska naloga  
– kolokvij iz vaj

#### Delež/Weight

50,00 %  
20,00 %  
30,00 %

#### Assessment:

– written exam  
– seminar work  
– colloquium from tutorial

#### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

#### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

#### Reference nosilca/Lecturer's references:

- KOSTAJNŠEK, Klara, BIZJAK, Matejka. Estimation of permeability properties of technologically developed jacquard fabrics = Ocena svojstva propustljivosti žakar tkanina dobijenih tehnološkim postupkom. Hemijska industrija. 2023, vol. 77, no. 3, str. 191-202. ISSN 2217-7426.

- KOSTAJNŠEK, Klara, PEULIĆ, Svjetlana, BIZJAK, Matejka. Design and development of a jacquard fabric for zero- waste garments. V: PERRIN AKÇAKOCA KUMBASAR, Emriye (ur.). Book of proceedings. 16th International İzmir Textile & Apparel Symposium, IITAS 2023, October 25 - 27, 2023, İzmir-Türkiye. İzmir: Ege University, Faculty of Engineering, Department of Textile Engineering, 2023. Str. 440-443, ilustr. ISBN 978-605-338-430-4.
- KOSTAJNŠEK, Klara, DIMITROVSKI, Krste, KADOGLU, Hüseyin, ÇELİK, Pinar, BAŞAL BAYRAKTAR, Güldemet, ÜTE, Tuba Bedez, DURAN, Deniz, ERTEKIN, Mustafa, DEMŞAR, Andrej, BIZJAK, Matejka. Functionalization of woven fabrics with PBT yarns. *Polymers*. 2021, vol. 13, iss. 2, str. 1-19, ilustr. ISSN 2073-4360
- KOCIĆ, Ana, BIZJAK, Matejka, POPOVIĆ, Dušan, POPARIĆ, Goran, STANKOVIĆ, Snežana. UV protection afforded by textile fabrics made of natural and regenerated cellulose fibres. *Journal of cleaner production*. [Print ed.]. 10. Aug. 2019, vol. 228, str. 1229-1237. ISSN 0959-6526.
- STANKOVIĆ, Snežana, NOVAKOVIĆ, Milada, POPOVIĆ, Dušan M., POPARIĆ, Goran, BIZJAK, Matejka. Novel engineering approach to optimization of thermal comfort properties of hemp containing textiles. *The journal of The Textile Institute*. 2019, vol. 110, no. 9, str. 1271-1279, ilustr. ISSN 0040-5000.
- BIZJAK, Matejka. ITMA 2019 - Tkanje = ITMA 2019 - Weaving. *Tekstilec : glasilo slovenskih tekstilcev*. [Tiskana izd.]. 2020, vol. 63, priloga 1, str. si100-sl111, ilustr. ISSN 0351-3386. [COBISS.SI-ID 21052931]

# TRŽENJE TEKSTILIJ IN OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>Predmet:</b>                   | Trženje tekstilij in oblačil       |
| <b>Course title:</b>              | Marketing of textiles and clothing |
| <b>Članica nosilka/UL Member:</b> | UL NTF                             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0078173 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11145   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 45                      | 15                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |                   |
|-----------------------------------|-------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Mateja Kos Koklič |
|-----------------------------------|-------------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                                                 |
|------------------------------------------------------------------------------|-------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                           |
| Vpis v letnik študija in izbira predmeta.                                    | Enrolment into study year and course selection. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Pomen trženja tekstilij in oblačil v slovenskem, evropskem in svetovnem prostoru v preteklosti, sedanjosti in predviden razvoj v prihodnosti; Tržišča in metode njihovega raziskovanja, viri podatkov; Segmentacija tržišča; Vplivi mikro in makro okolja (gospodarske in družbene spremembe) na različne tržne segmente potrošnikov; Oblikovanje modnih smernic kot odraz globalne raziskave tržišča in interpretacija njihovega vpliva na različne tržne segmente potrošnikov; Oblikovanje trženjskega spleta novih tekstilnih in oblačilnih izdelkov; Oblikovanje in upravljanje z blagovnimi znamkami tekstilij in oblačil; Principi trajnostnega trženja; | The importance of marketing of textiles and clothing in Slovenian, European and global environment in the past, the present and expected future developments; Markets and methods of their research; Market segmentation; The effects of micro and macro environment (economic and social changes) on various consumer market segments; Designing fashion trends as a reflection of global market research and interpretation of their impact on various consumer market segments; Development of marketing mix for new textile and clothing products; Creating a brand of textiles and clothing collections; Principles of sustainable marketing; |

|                                                                                                                                                              |                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digitalizacija v trženju, digitalno trženje;<br>Sodobna strokovna terminologija s področja trženja<br>tekstilij in oblačil v slovenskem in angleškem jeziku. | Digitalization in marketing, digital marketing;<br>Professional terminology in marketing of textiles and<br>clothing in Slovenian and English language. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Temeljna literatura in viri/Readings:**

KONEČNIK RUZZIER, M. Temelji trženja. Ljubljana: Meritum, 2024;  
HINES, M. (2024). Fashion Marketing: Contemporary Issues (3. izdaja).  
MITTERFELLNER, O. (2019). Fashion marketing and communication: Theory and practice across the  
fashion industry. Routledge.

### **Cilji in kompetence:**

**Cilj:**  
Razumevanje vloge in pomena trženja v procesu  
ustvarjanja visoke dodane vrednosti kolekcij tekstilij  
in oblačil v luči trajnosti in digitalizacije.

**Kompetence:** Sposobnost aktivnega sodelovanja pri  
razvoju novih tekstilnih in oblačilnih izdelkov s  
pomočjo poznavanja potrošnikov; Prenos  
teoretičnega strokovnega znanja s področja trženja  
tekstilij in oblačil v prakso. Upoštevanje principov  
trajnosti in digitalizacije v procesu trženja.

### **Objectives and competences:**

**Objectives:**  
Understanding the role of marketing in the process of  
creating high value-added textile and clothing  
collections in the light of sustainability and  
digitalization.

**Competencies:**  
The ability to actively participate in the development  
of new textile and apparel products with the help of  
knowledge about consumers;  
Transfer of theoretical expertise from the field of  
marketing of textiles and clothing into practice.  
Considering the principles of sustainability and  
digitization in the marketing process.

### **Predvideni študijski rezultati:**

Znanje in razumevanje:  
Razumevanje pomena tržnih raziskav v tržno  
usmerjenem tekstilnem/oblačilnem podjetju,  
Razumevanje pomena segmentacije tržišča pri  
oblikovanju novih tekstilnih/oblačilnih kolekcij;  
Razumevanje in interpretacija globalnih modnih  
smernic in njihov vpliv na različne ciljne skupine;  
Razumevanje in analiziranje vplivov mikro in makro  
okolja na nakupno vedenje ciljnih skupin  
potrošnikov;  
Razumevanje bodočih potreb in želja potrošnikov v  
povezavi z razvojem trženjskega spleta novih  
tekstilnih/oblačilnih izdelkov, znanj in storitev na  
tržišču;  
Organizacija, vodenje in izvedba tržnih raziskav s  
področij analize konkurence, segmentacije tržišča,  
razvoja trženjskega spleta za izbrane tržne segmente,  
pomembnih za razumevanje potreb in želja izbranih  
ciljnih skupin potrošnikov;  
Razumevanje vloge trajnosti in digitalizacije v  
procesu trženja;  
Obvladovanje sodobne strokovne terminologije s  
področja trženja tekstilij in oblačil.

### **Intended learning outcomes:**

Knowledge and understanding:  
Understanding the role of market research in market-  
oriented textile / clothing company;  
Understanding the importance of market  
segmentation in developing new textile / clothing  
collections;  
Understanding and interpretation of global fashion  
trends and their impact on various target groups;  
Understanding and analyzing the effects of micro and  
macro environment on buying behavior of target  
groups;  
Understanding of future needs and desires of  
consumers with respect to the development of  
marketing mix of new textile / apparel products,  
knowledge and services in the marketplace;  
Organization, management and execution of market  
research in the areas of market segmentation;  
Analysis of the impact of the environment,  
development of marketing mix for selected market  
segments etc. relevant to understanding the needs and  
desires of consumer target groups;  
Understanding the role of sustainability and  
digitalization in the marketing process;  
Mastery of the current professional terminology from  
the area of marketing of textiles and clothing.

### **Metode poučevanja in učenja:**

Predavanja, seminarsko delo, skupinsko delo.

### **Learning and teaching methods:**

Lectures, Seminar work, team work.

| <b>Načini ocenjevanja:</b>   | <b>Delež/Weight</b> | <b>Assessment:</b>      |
|------------------------------|---------------------|-------------------------|
| Pisni izpit                  | 50,00 %             | Written exam            |
| Individualno seminarsko delo | 30,00 %             | Individual seminar work |
| Skupinsko delo               | 20,00 %             | Team work 20            |

| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
|----------------------------------------------------------|----------------------------------------------------------------|
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

**Reference nosilca/Lecturer's references:**

- KOS KOKLIČ, Mateja, KUKAR-KINNEY, Monika, VIDA, Irena. Consumers' de-ownership as a predictor of dark-side digital acquisition behavior: moderating role of moral intensity and collectivism. Journal of business research. Jan. 2022, vol. 138, str. 108-116.
- CULIBERG, Barbara, CHO, Hichang, KOS KOKLIČ, Mateja, ŽABKAR, Vesna. The role of moral foundations, anticipated guilt and personal responsibility in predicting anti-consumption for environmental reasons. Journal of business ethics. Jan. 2023, vol. 182, iss. 2, str. 465-481.
- GIDAKOVIĆ, Petar, KOS KOKLIČ, Mateja, ZEČEVIĆ, Mila, ŽABKAR, Vesna. The influence of brand sustainability on purchase intentions : the mediating role of brand impressions and brand attitudes. Journal of brand management. Nov. 2022, vol. 29, iss. 6 (spec. iss.), str. 556-568.

# USNJE IN KRZNO

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Predmet:</b>                   | Usnje in krzno  |
| <b>Course title:</b>              | Leather and fur |
| <b>Članica nosilka/UL Member:</b> | UL NTF          |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068097 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11150   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical tutorials | Druge oblike študija<br>/Other forms of study | Samostojno delo<br>/Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|-----------------------------------------------|---------------------------------------------|------|
| 15                      | 30                  | 0                  | 0                                    | 15                                            | 60                                          | 4    |

|                                   |                |
|-----------------------------------|----------------|
| <b>Nosilec predmeta/Lecturer:</b> | Marija Gorjanc |
|-----------------------------------|----------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                                                     |
|------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>                               |
| Vpis v študij letnika in izbira predmeta.                                    | Enrolment into study year and choice of the course. |

|                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                 |
| Zgodovina in prihodnost usnja in krzna;<br>Trgovanje z usnjem in krznom;<br>Viri kož za izdelavo usnja in krzna;<br>Vrste in značilnosti naravnega in umetnega usnja;<br>Vrste in značilnosti naravnega in umetnega krzna;<br>Aplikativne lastnosti usnja;<br>Aplikativne lastnosti krzna;<br>Označevanje usnja in krzna ter zakonske omejitve;<br>Orodja za izdelavo produktov iz usnja in krzna | History and future of leather and fur;<br>Trading of leather and fur;<br>Sources of skins to produce leather and fur;<br>Types and characteristics of natural and artificial leather;<br>Types and characteristics of natural and artificial furs;<br>Applied properties of leather;<br>Applied properties of fur;<br>Labelling of leather and fur and regulatory constraints;<br>Tools for production of leather and fur products |

|                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>Izbrani strokovni in znanstveni članki iz periodičnih publikacij, ki so na voljo v knjižnici Oddelka za tekstilstvo, grafiko in oblikovanje ter v elektronskih revijah. / Selected professional and original scientific articles from periodicals, available in the library of the Department of Textiles, Graphic Arts and Design and in electronic journals.</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cilji in kompetence:</b>                                                                                                                                                                                                                                                                                                                        | <b>Objectives and competences:</b>                                                                                                                                                                                                                                                                                                                                             |
| Cilj je seznaniti študenta o virih, vrstah, pridobivanju in uporabnosti usnja ter krzna, s poudarkom na materialu, uporabnosti, vzdrževanju in zakonskih omejitvah.                                                                                                                                                                                | The objective is teach students about the sources, types, acquisition and utility of leather and fur, with a focus on their materials, usability, maintenance and legal restrictions.                                                                                                                                                                                          |
| Kompetence:<br>Razumevanje različnosti ekonomije in kultur uporabe usnja in krzna;<br>Poznavanje virov usnja in krzna;<br>Prepoznavanje naravnega in umetnega usnja ter krzna;<br>Znanje o uporabnosti usnja in krzna;<br>Poznavanje strokovne terminologije s področja usnjarstva in krznarstva v slovenskem in vsaj enem svetovnem tujem jeziku. | Competences:<br>Understanding the diversity of economic and cultural uses of leather and fur;<br>Learning the sources of leather and fur;<br>Identifying natural and artificial leather and fur;<br>Learning about the usefulness of leather and fur;<br>Acquiring technical terminology in the field of leather and fur in Slovenian and at least one world foreign language. |

|                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predvideni študijski rezultati:</b>                                                                                                                                                                                                             | <b>Intended learning outcomes:</b>                                                                                                                                                                                                                                         |
| Študent pridobi osnovna znanja o virih, vrstah, značilnostih, negi, vzdrževanju in označevanju naravnega in umetnega usnja ter krzna, o aplikativnih lastnostih v povezavi s tekstilijami, o trgovanju z usnjem in krznom ter zakonskih omejitvah. | Students will acquire basic knowledge of the sources, types, characteristics, care, maintenance and identification of natural and artificial leather and fur and of applied properties in relation to textiles, the trading of leather and fur and statutory restrictions. |

|                                                                                        |                                                                                                |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Metode poučevanja in učenja:</b>                                                    | <b>Learning and teaching methods:</b>                                                          |
| ekskurzijePredavanje, seminar (ki glede na možnosti nudi tudi delavnice in ekskurzije) | Lectures, seminars (which depending on the possibilities offers also workshops and excursions) |

|                            |                     |                    |
|----------------------------|---------------------|--------------------|
| <b>Načini ocenjevanja:</b> | <b>Delež/Weight</b> | <b>Assessment:</b> |
| Izpit                      | 50,00 %             | Exam               |
| Opravljen seminar          | 50,00 %             | Completed seminar  |

|                                                          |                                                                |
|----------------------------------------------------------|----------------------------------------------------------------|
| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference nosilca/Lecturer's references:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>PRIMOŽIČ, Ivi, OSTOJIČ SEDONJA, Katarina, GORJANC, Marija. Razvoj umetnega usnja iz olupka granatnega jabolka in izdelava torbice ter drobižnice = Devekopment of artificial leather from pomegranate peel and production of purse and coin wallet. V: KERT, Mateja (ur.), TOMŠIČ, Brigita (ur.). Trajnost in krožno gospodarstvo v tekstilstvu : zbornik izvlečkov : 49. simpozij o novostih v tekstilstvu : 5. oktober 2023, Ljubljana, Slovenija. 49. simpozij o novostih v tekstilstvu, 5. oktober 2023, Ljubljana. Ljubljana: Naravoslovnotehniška fakulteta, Oddelek za tekstilstvo, grafiko in oblikovanje, 2023. Str. 41. ISBN 978-961-7189-08-7. [COBISS.SI-ID 167765763]</li> <li>GORJANC, Marija, OKRŠLAR, Marija. Doma vzgojena bakterijska celuloza kot alternativa materialom v modni industriji. V: BERLEC, Tomaž (ur.), BROJAN, Miha (ur.), DROBNIČ, Boštjan (ur.). ŠTeKam : Študentska tehniška konferenca : Fakulteta za strojništvo, Ljubljana, 7. 9. 2023. Ljubljana: Fakulteta za strojništvo, 2023. Str. 42-49, ilustr. ISBN 978-961-7187-01-4. [COBISS.SI-ID 164115715]</li> <li>OGRIZEK, Linda, LAMOVŠEK, Janja, ČUŠ, Franc, LESKOVŠEK, Mirjam, GORJANC, Marija. Properties of bacterial cellulose produced using white and red grape bagasse as a nutrient source. Processes. [Online ed.]. 2021, vol. 9, iss. 7, str. 1-15, ilustr. ISSN 2227-9717. <a href="https://www.mdpi.com/2227-9717/9/7/1088">https://www.mdpi.com/2227-9717/9/7/1088</a>, <a href="https://repozitorij.uni-lj.si/IzpisGradiva.php?id=135870">https://repozitorij.uni-lj.si/IzpisGradiva.php?id=135870</a>, DOI: 10.3390/pr9071088. [COBISS.SI-ID 68226819]</li> </ul> |



# UVOD V OBLIKOVANJE TEKSTILIJ IN OBLAČIL

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                                            |
|-----------------------------------|--------------------------------------------|
| <b>Predmet:</b>                   | Uvod v oblikovanje tekstilij in oblačil    |
| <b>Course title:</b>              | Introduction to Textile and Fashion design |
| <b>Članica nosilka/UL Member:</b> | UL NTF                                     |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 1. letnik | 1. semester | obvezni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068408 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11128   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 0                   | 30                 | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |                            |
|-----------------------------------|----------------------------|
| <b>Nosilec predmeta/Lecturer:</b> | Almira Sadar, Marija Jenko |
|-----------------------------------|----------------------------|

|                                    |                      |
|------------------------------------|----------------------|
| <b>Vrsta predmeta/Course type:</b> | Obvezni / Compulsory |
|------------------------------------|----------------------|

|                          |                      |             |
|--------------------------|----------------------|-------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Slovenščina |
|                          | Vaje/Tutorial:       | Slovenščina |

|                                                                              |                            |
|------------------------------------------------------------------------------|----------------------------|
| <b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b> | <b>Prerequisites:</b>      |
| Vpis v letnik študija.                                                       | Enrolment into study year. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vsebina:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Content (Syllabus outline):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| poznavanje teoretičnih osnov oblikovanja tekstilij in oblačil<br>- razvoj mode v 20. stoletju<br>- značilnosti sodobne mode<br>- značilnosti trajnostne mode<br>- strategija oblikovanja tekstilij in oblačil od koncepta do realizacije za predvidene ciljne skupine<br>- poznavanje dosežkov tekstilnega in modnega oblikovanja<br>- specifičnost oblikovanja tekstilij glede na različne tehnike izdelave<br>- specifičnost oblikovanja oblačil glede na različne ciljne skupine in cenovne razrede | – Knowledge of the theoretical bases of textiles and clothing<br>– Development of fashion in the 20th century<br>– Characteristics of fashion today<br>– Characteristics of a sustainable fashion<br>– Strategy of textile and clothing design from the concept to the realization of different target groups<br>– Knowledge of the achievements of the textile and fashion design<br>– The specificity of textile design according to the different techniques<br>– The specificity of clothing design according to the different target and price groups |

|                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temeljna literatura in viri/Readings:</b>                                                                                                                   |
| - C. McDowell: Fashion Today, Phaidon Press Limited, 2000<br>- S. Frankel: Visionaries, V&A Publication, 2001<br>- M. Bernard, Fashion Theory, Routledge, 2007 |

### Cilji in kompetence:

**Cilji:**  
Študenti spoznajo osnove oblikovanja tekstilij in oblačil, razvoj kolekcij tekstilij in oblačil, nastanek in vpliv modnih tendenc in značilnosti sodobne mode.

**Kompetence:**

- poznavanje razvoja tekstilij in oblačil, ki izhaja iz družbenih sprememb in razvoja tehnologije
- poznavanje razvojne poti izdelka od zasnove do izvedbe,
- zakonitosti oblikovanja kolekcij tekstilij in oblačil na osnovi modnih smernic, tržnih raziskav in cenovnega razreda za določeno skupino izdelkov,
- poznavanje pravilne izbire materialov, barv, vzorcev, krojev in pomožnega materiala za določeno kolekcijo tekstilij in oblačil

### Objectives and competences:

**Objectives:**  
Students learn the basics of textile and clothing design, development of textile and clothing collections, the influence of fashion trends and characteristics of fashion today.

**Competencies:**

- Knowledge of the development of textiles and clothing resulting from social changes and developments in technology
- Knowledge of the development of the product from design to implementation
- How to design different collections of textiles and clothing regarding on fashion trends, market research and price range for a given product group
- Knowledge of the choice of materials, colors, patterns, cuts and auxiliary materials for a specific collection of textile and clothing

### Predvideni študijski rezultati:

**Znanje in razumevanje:**  
Študentje se naučijo slediti oblikovalskim projektom in jih podpreti s teoretičnim in praktičnim znanjem pridobljenim pri programu proizvodnje tekstilij in oblačil. Sposobni so razumeti različne projekte iz področja tekstilij in oblačil, strokovno sodelovati pri izvedbi kolekcij in s tem tvorno vplivati na izgled novih proizvodov.

### Intended learning outcomes:

**Knowledge and understanding:**  
Students learn how to follow the design projects and cooperate on them with theoretical and practical knowledge acquired in the program of production of textiles and garments. They are able to understand the various projects in the field of textiles and clothing, cooperate in the implementation of collections and thus actively influence the appearance of new products

### Metode poučevanja in učenja:

Predavanja in vaje, obiski razstav, sejmov in modnih studijev.

### Learning and teaching methods:

Lectures and tutorials, visits to exhibitions, fairs and fashion shows.

### Načini ocenjevanja:

#### Delež/Weight

#### Assessment:

|             |         |              |
|-------------|---------|--------------|
| Pisni izpit | 50,00 % | Written exam |
| Vaje        | 50,00 % | Tutorial     |

### Ocenjevalna lestvica:

5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10

### Grading system:

5 - 10, a student passes the exam if he is graded from 6 to 10

### Reference nosilca/Lecturer's references:

- Bread, skupinska razstava, Mestni muzej, Ljubljana, junij 2008
- Krinolinije, samostojna razstava, Vžigalica, Ljubljana, december 2009
- Cvetnoetno, razstava etno pohištva, Slovenski etnografski muzej, Ljubljana, junij 2011
- O modi, izbrana poglavja o sodobni modi; knjiga izdana junija 2011
- oblikovanje tekstila za LL stol 2013
- sodelovanje na EU Gateway to Japan, kolekcija jesen/zima 2013/14
- Zavesa, sodelovanje na skupinski razstavi Hotel Obir
- oblikovanje interiera za hotel Pr govedar (arhitektura AKSLarhitekti)
- knjiga Oblikujmo z Almiro Sadar, november 2013

- Mentorstva projektom in umetniške ter strokovne publikacije s področja oblikovanja tekstilij od leta 2005:
- Spominjam se, predstavitev Katedre za oblikovanje tekstilij in oblačil, Kino Šiška- Ljubljana, Maximarket-Ljubljana, KUD France Prešeren-Ljubljana, 2013
- Krila, predstavitev Katedre za oblikovanje tekstilij in oblačil, Kino Šiška- Ljubljana, 2012
- Svetloba, predstavitev Katedre za oblikovanje tekstilij in oblačil, Kino Šiška- Ljubljana, KUD France Prešeren-Ljubljana, 2011
- Svetloba, monografija, prispevek, Ljubljana, 2011
- Knjiga v tekstilu, predstavitev Katedre za oblikovanje tekstilij in oblačil, Kino Šiška- Ljubljana, Tovarna umetnosti-Majšperk, Maximarket-Ljubljana, KUD France Prešeren-Ljubljana, 2010
- KnjigaBook, monografija, prispevek, Ljubljana, 2010

# VODENJE KAKOVOSTI

## UČNI NAČRT PREDMETA/COURSE SYLLABUS

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Predmet:</b>                   | Vodenje kakovosti  |
| <b>Course title:</b>              | Quality management |
| <b>Članica nosilka/UL Member:</b> | UL NTF             |

| Študijski programi in stopnja                                            | Študijska smer                  | Letnik    | Semestri    | Izbirnost |
|--------------------------------------------------------------------------|---------------------------------|-----------|-------------|-----------|
| Tekstilno in oblačilno inženirstvo, prva stopnja, visokošolski strokovni | Ni členitve (študijski program) | 3. letnik | 2. semester | izbirni   |

|                                                            |         |
|------------------------------------------------------------|---------|
| <b>Univerzitetna koda predmeta/University course code:</b> | 0068098 |
| <b>Koda učne enote na članici/UL Member course code:</b>   | 11311   |

| Predavanja<br>/Lectures | Seminar<br>/Seminar | Vaje<br>/Tutorials | Klinične vaje<br>/Clinical<br>tutorials | Druge oblike<br>študija<br>/Other forms<br>of study | Samostojno<br>delo<br>/Individual<br>student work | ECTS |
|-------------------------|---------------------|--------------------|-----------------------------------------|-----------------------------------------------------|---------------------------------------------------|------|
| 30                      | 30                  | 0                  | 0                                       | 0                                                   | 60                                                | 4    |

|                                   |               |
|-----------------------------------|---------------|
| <b>Nosilec predmeta/Lecturer:</b> | Andrej Demšar |
|-----------------------------------|---------------|

|                                    |                    |
|------------------------------------|--------------------|
| <b>Vrsta predmeta/Course type:</b> | Izbirni / Elective |
|------------------------------------|--------------------|

|                          |                      |                         |
|--------------------------|----------------------|-------------------------|
| <b>Jeziki/Languages:</b> | Predavanja/Lectures: | Angleščina, Slovenščina |
|                          | Vaje/Tutorial:       | Angleščina, Slovenščina |

| Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti: | Prerequisites:                                      |
|-----------------------------------------------------------------------|-----------------------------------------------------|
| Vpis v letnik študija in izbira predmeta.                             | Enrolment into study year and selecting the course. |

| Vsebina:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Content (Syllabus outline):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Osnovni pojmi in definicije. Pomen vodenja kakovosti z vidika svetovne konkurenčnosti. Značilnosti sistemov vodenja kakovosti za mala in velika podjetja; Zgodovinski pregled sistemov vodenja kakovosti od pregledovanja do celovitega vodenja kakovosti. Najpomembnejši teoretiki na področju vodenja kakovosti (Juran, Deming, Garvin, Crosby, Conti, Ishikava, Taguchi in drugi); Razvoj standardov za vodenje kakovosti. Struktura standardov skupine ISO 9000. Pregled zahtev standarda ISO 9001:2000. Presojanje in certificiranje sistemov kakovosti po standardu ISO 9001; Pregled osnovnih metod in tehnik na področju vodenja kakovosti (osnovne tehnike statistične analize, statistična procesna kontrola, načrtovanje in | Basic terms and definitions. Meaning of quality management from the viewpoint of world competition. Characteristics of quality management systems for small and large companies; Historical overview of quality management systems from inspections to total quality management. Important scientists in the field of quality management (Juran, Deming, Garvin, Crosby, Conti, Ishikava, Taguchi and others); Development of quality management standardisation. Structure of ISO 9000 standardisation. Overview of ISO 9001:2000 standard requirements. Certification of quality systems according to ISO 9001; Overview of basic methods and techniques in the field of quality management (basic techniques of statistical analysis, statistical process control, design |

|                                                                                                                                                                                              |                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| analiza eksperimentov, tehnike, ki se uporabljajo v procesu stalnih izboljšav kakovosti);<br>Ekonomika kakovosti;<br>Celovito vodenje kakovosti;<br>Samooocenjevanje in nagrade za kakovost. | of experiments, techniques for constant quality improvements.<br>Economics of quality.<br>Total quality management.<br>Self-evaluation and awards for quality. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **Temeljna literatura in viri/Readings:**

|                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------|
| EVANS, J. R. Total Quality : Management, Organization, and Strategy. Mason, OH : Thomson/South-Western, 2003;      |
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### **Cilji in kompetence:**

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| <p>Temeljni cilj:<br/>Opredelitev sodobnega pojmovanja kakovosti in sistemov vodenja kakovosti v kontekstu svetovne konkurenčnosti in značilnosti orodij za vodenje kakovosti vključno s standardi za sisteme vodenja kakovosti, njihovega presojanja in certificiranja.</p> <p>Kompetence:<br/>Sposobnost razumevanja sodobnih konceptov sistemov vodenja kakovosti in pojmovanja kakovosti, razvijanje zavesti o pomenu kakovosti v kontekstu svetovne konkurenčnosti, spoznavanje razvoja sistemov vodenja kakovosti in njihova kritična analiza, sposobnost kritične analize orodij za vodenje kakovosti, vključno s standardi za sisteme vodenja kakovosti, sposobnost uporabe metod in orodij za postopke stalnih izboljšav, sposobnost izbire in uporabe temeljnih statističnih metod pri analizi podatkov, sposobnost uporabe metod samooocenjevanja in razumevanje njihovega pomena za doseganje poslovne odličnosti, sposobnost dela v skupini na področju kakovosti.</p> | <p><b>Objectives and competences:</b></p> <p>Objectives:<br/>Definition of modern understanding of quality management systems in the frame of world competition and characteristics of tools for quality management, including standardisation for quality management, assessment and certification.</p> <p>Competences:<br/>Ability to understand modern concepts of quality and quality management systems, development of awareness of the meaning of quality in the frame of world competition, learning about the development of quality management systems and their critical evaluation, ability of critical analysis of tools for quality management including standardisation for the quality management systems, ability to use methods and tools for constant improvement, ability to choose and use basic statistical methods at data analysis, ability to use methods for self-evaluation and understanding of their meaning for development of business excellence and ability to work in a team in the field of quality.</p> |
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### **Predvideni študijski rezultati:**

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| <p>Znanje in razumevanje:<br/>Pozna sodobni pomen kakovosti in sistemov vodenja kakovosti in jih zna kritično analizirati;<br/>Pozna osnovna orodja, ki se uporabljajo na področju vodenja in v procesu stalnih izboljšav kakovosti;<br/>Pozna in razume pomen standardov za sisteme vodenja kakovosti. Razume različne koncepte vodenja kakovosti.<br/>Pozna in razume osnovne metode statistične analize.<br/>Razume pomen kontrolnih kart kot orodja za odkrivanje neskladnosti v procesih.</p> | <p><b>Intended learning outcomes:</b></p> <p>Knowledge and understanding of:<br/>Modern meaning of quality and quality management systems and their critical evaluation;<br/>Tools which are used in the field of management and in the process of constant quality improvement;<br/>Quality management standardisation; different concepts of quality management;<br/>Basic statistical methods for data analysis;<br/>Control charts as a tool for discovering discrepancies in processes;<br/>Self-evaluation and awards for business excellency.</p> |
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| Razume metode samoocenjevanja in nagrade za poslovno odličnost. |  |
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| <b>Metode poučevanja in učenja:</b> | <b>Learning and teaching methods:</b> |
| Predavanja in seminarsko delo.      | Lectures and seminar work.            |

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| <b>Načini ocenjevanja:</b>     | <b>Delež/Weight</b> | <b>Assessment:</b>            |
| Pisni izpit                    | 50,00 %             | Written exam                  |
| Seminarska naloga              | 30,00 %             | Seminar paper                 |
| Predstavitve seminarske naloge | 20,00 %             | Presentation of seminar paper |

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| <b>Ocenjevalna lestvica:</b>                             | <b>Grading system:</b>                                         |
| 5 - 10, pri čemer velja, da je pozitivna ocena od 6 - 10 | 5 - 10, a student passes the exam if he is graded from 6 to 10 |

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