

Graduate study Wood technology; Programme: Wood Products Design

Assessment methods and criteria

Acad. Year 2023/24

Programme requirements and learning outcomes

A) General engineering competence

- A1: Inform potential buyers of final product quality characteristics and of trends in wood products design,
- A2: Independently gather data, statistically process, present and analyse gathered data, discuss and make conclusions based on analysed data and distinguish possibilities of different interpretation of the same problem analysed in different ways,
- A3: Give presentations at fairs.

B) Focused engineering competence

- B1: Apply current technical regulations in ensuring quality of wood, wooden materials and final products,
- B2: Resolve interdisciplinary problems which refer not only to product design or construction and their presentation, but also include the selection of all production materials, processing technology and assurance of final product quality,
- B3: Apply final wood product, wooden and non-wooden materials design methodology in developing and improving products, quality upgrade, product design and construction,
- B4: Develop and plan a complete construction system which consists of planning, designing, constructing, preparing technical documentation and applying technologies for final product manufacturing
- B5: Evaluate board materials according to processing possibilities, technical and ecological characteristics, and choose optimal constructional solutions adequate for the properties and processability of each board material type,
- B6: Evaluate, select and apply composite materials regarding the patterns existing inside the wood composite construction system and decide on the selection of proper material,
- B7: Apply theoretical, practical and methodological basics of furniture design as a complex interdisciplinary process,
- B8: Develop the ability of independent analytic and creative design and acting,
- B9: Analyse and make conclusions on wood properties and their application in wood product design,
- B10: Apply knowledge of furniture quality and methods of its examination and develop and plan a complete system of final product quality assurance,
- B11: Perceive space, conduct measuring, display, plan, design and equip functional special units and apply methods of analysis and coordinating functional furniture groups in relation to the space,
- B12: Develop skills of complete space equipping.

C) Technological engineering competence

- C1: Construct wooden products for building purposes in accordance with the basic safety criteria and usage functionality,
- C3: Conduct furnishing of facilities,
- C4: Recommend the finishing process technology for products, evaluate quality of the finishing process and recommend methods for preventing mistakes in the finishing process,
- C5: Apply systematic work methods on planning with the aim of rational material application and constructional solutions,
- C6: Manage projects from the preliminary design to serial production with additional operating of CAD programmes for visualization and automatic construction,
- C7: Apply contemporary methods and techniques of healthy furniture design and ensure protection of man and environment through its production and usage,
- C8: Choose optimal constructional solution and its versions using discursive methods,
- C9: Apply 3D modelling using AutoCAD and 3D Studio MAX programme packages,

- C10: Programme during construction process in order to improve design productivity, and thus the entire production system,
- C11: Choose tools and set the parameters for the operation of mechanical treatment in final wood processing.

D) Organisational engineering competence

- D1: Perform responsible tasks in company management in the area of production management, technical production preparation, termination and management of materials,
- D2: Manage and ensure quality adapted to specific production problems in wood product design,
- D3: Manage and conduct international trade in wood and wood products,
- D4: Perform responsible tasks in company management in the area of project and human resources management.

E) Other engineering competence

- E1: Perform tasks of scientific and professional associate in scientific research institutions in the field of wood and wood technology,
- E2: Conduct courses in vocational secondary schools and other similar schools,
- E3: Perform activities and tasks in publicist writing and the media related to the wood profession,
- E4: Upgrade their professional and scientific competencies through different forms of education and postgraduate studies.

The correlation between the learning outcomes of the subject and the learning outcomes of the program

Code from course	General engineering competence			Focused engineering competence												Technological engineering competence										Organizational engineering competence				Other engineering competence						
	A1	A2	A3	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	D1	D2	D3	D4	E1	E2	E3	E4			
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Construction of wood products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
to describe and explain the construction types of objects for civil engineering (doors, windows, stairs, partition walls, floor, wall, ceiling lining, staircases built-in cabinet) based on their modelling features and use	drawing exercises, correction, exercise evaluation, field report, final examination	B2, B3, B4 C1
to construct, draw and describe construction of windows, balcony doors, outer and inner doors (room or entrance door with a suitable door frame) based on the principle of functionality, safety and durability of use	drawing exercises, correction, exercise evaluation, field report, final examination	B2 C1, C4
to construct, draw and describe construction of windows, balcony doors, outer and inner doors (room or entrance door with a suitable door frame) based on the principle of functionality, safety and durability of use	drawing exercises, correction, exercise evaluation, field report, final examination	B2, B3, B4 C1, C4
to construct, draw and describe construction of interior equipment of a facility (separating walls, floor, wall and ceiling lining, staircases and stairs, built-in cabinet) based on the principle of functionality and safety of use	drawing exercises, correction, exercise evaluation, final examination	B2, B3, B4 C1, C4
to calculate the dimensions of steps (height & width) and staircases (walking line inclination and length) for straight, double-flight, multiple-flight and curved staircases;	drawing exercises, correction, exercise evaluation, final examination	B2, B4 C1, C4
to sketch and describe construction of funeral equipment (coffin, sarcophagus and semisarcophagus);	drawing exercises, correction, exercise evaluation	B2, B4 C1, C4
to recognise the modelling and construction solutions of the equipment for children's playgrounds	final examination	B2 C1
to gather, group and process information about the assigned topic and present it	exercises	B2, B4 C2, C4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures(L)	-			30	-	1
Seminar paper/ Report (SP)	5%	Partly neat and partly correct, corrected twice, not submitted on time	Sufficient (2)	-	15	0,5
		Neat and partly correct, corrected twice, submitted on time	Good (3)			
		Neat, correct, complete, not submitted on time	Very good (4)			
		Neat with minor corrections, complete and submitted on time	Very good (4)			
		Neat, correct, complete, submitted on time	Excellent (5)			

Exercises (E)	25%	Partly neat and partly correct, corrected twice, not submitted on time	Sufficient (2)	30	45	2,5
		Neat and partly correct, corrected twice, submitted on time	Good (3)			
		Neat, correct, complete, not submitted on time	Very good (4)			
		Neat with minor corrections, complete and submitted on time	Very good (4)			
		Neat, correct, complete, submitted on time	Excellent (5)			
Written examination (WE)	35%	60-70%	Sufficient (2)	-	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Oral examination (OE)	35%	60-70%	Sufficient (2)	-	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(WEx35 + OEx35 + Ex25 + SPx5)/100		60	90	6

Detailed description of evaluation elements for lectures, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures	Student' attendance is checked and recorded. Student may be absent from no more than 20% of lectures.	in accordance with the syllabus	-
Exercising and making exercising, seminar paper or report	Student' attendance is checked and recorded. Student may be absent from no more than 10% of exercises. Exercises are checked and graded. The grade is the arithmetic mean. The requirements for taking the examination (written part) are positively graded exercises and seminar paper.	in accordance with the syllabus	-
Written examination (WE)	Students whose exercises have been graded and who regularly attended classes may take the examination. Students randomly choose an assignment with the product photograph or given parameters for drawing and designing. Orthogonal projections and characteristic sections are drawn freehandedly, and the component and technical description on forms prepared beforehand. The written examination is graded and included in the final grade .	examination period	-
Oral examination (OE)	A requirement for taking the oral examination is to acquire sufficient scores in the written part of the examination. Students' theoretical knowledge and understanding of constructional compositions are examined. The final grade will be calculated by the formula (WEx35 + OEx35 + Ex25 + SPx5)/100	examination period	

Technological production management

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
To establish the position and activities of production management within management system;	Exercises evaluation, partial exams, final exam	D1
To create production order as a main holder of production management information;	Exercises evaluation, partial exams, final exam	D1
To establish material standards and requirements for production;	Exercises evaluation, partial exams, final exam	D1
To establish time standards and requirements for production;	Exercises evaluation, partial exams, final exam	D1
To establish capacity requirements for production;	Exercises evaluation, partial exams, final exam	D1
To prepare and make complete technological documentation as a part of management-information system in company;	Exercises evaluation, partial exams, final exam	D1
To make a project of management-information system in company	Exercises evaluation, partial exams, final exam	D4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	40%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	28	30	3
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Partial exam 2 (PE2)	30%	61-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			

		91-100%	Excellent (5)			
TOTAL	100%	(Ex40 + PE1x30+PE2x30)/100		60	60	5

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS bodovi
Final exam (FE)	100 %	61-70%	Sufficient (2)	2	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Fex100)/100				

* students who don't pass the partial exams during the semester have to attend the final exam which is 100% of the grade.

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (30 hours of direct lectures)	-
Exercise project	Exercises are given in groups and student make exercise project individually. Each project is complex (1 project) and it is been made in parts corresponding to teaching parts. Student presents the whole project at the end of semester, and each part is evaluated on lectures during the semester. The project is 40 points and together with partial exams points it makes 100 points (100%).	At the end of semester	
Partial exam 1	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises. Partial exam 1 is 30 points and it covers the subject lectured until the time of partial exam.	7 th week	
Partial exam 2	Partial exam 2 can be attended by students who did not miss more than 15% of lectures and exercises. Partial exam 2 is 30 points and it covers the subject between partial exam 1 and time of partial exam 2. Students who collect enough points in two partial exams and in exercise project pass the subject and get the final grade.	13 th week	
Oral exam	Students who did not pass the subject through partial exams and exercise project (less the 61% of points), or who are not satisfied with the grade, can attend the final oral exam in given exam periods. The grade given on oral exam is final and it makes 100% of the grade.	In given exam periods	

Panel Materials

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
to identify, evaluate and compare the physico-mechanical, ecological, technical and aesthetic properties of panel materials	laboratory and practical classes, seminar paper, final exam	B5
explain the requirements for the quality of panel materials regarding the construction requirements and furniture design requirements	laboratory and practical classes, seminar paper, final exam	B5

to analyse and evaluate important factors influencing the properties of panel materials in indoor and outdoor use	laboratory and practical classes, seminar paper, final exam	B5
to determine the applicability of panels from the economic aspect	laboratory and practical classes, seminar paper, final exam	B5
to evaluate panels workability regarding the specific of their structure	laboratory and practical classes, seminar paper, final exam	B5
to recommend the appropriate type of panel, regarding the specific place of its use	laboratory and practical classes, seminar paper, final exam	B5

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	20%	Partially disordered and incomprehensible, with major corrections and on time	Sufficient (2)	15	15	1
		Orderly, legible, with major corrections and on time	Good (3)			
		Orderly, legible, with minor corrections and on time	Very good (4)			
		Orderly, legible and on time	Excellent (5)			
Seminar paper (SP)	20%	Partially disordered, incomprehensible and illogically conceived text, with major corrections and on time	Sufficient (2)	-	45	1.5
		Orderly, legible and logically conceived text, with major corrections and on time	Good (3)			
		Orderly, legible and logically conceived text, with minor corrections and on time	Very good (4)			
		Orderly, legible and logically conceived text, without corrections and on time	Excellent (5)			
Exam (EX)	60%	50-61%	Sufficient (2)	-	45	1.5
		62-73%	Good (3)			
		74-85%	Very good (4)			
		86-100%	Excellent (5)			
TOTAL	100%	(Ex20 + SPx20 + EXx60)/100		45	105	5

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
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Attendance of lectures and exercises	The attendance is checked and the attendance of the students is recorded. Student may justifiably be absent with a maximum of 10% of direct teaching hours.	semester (45 hours of direct lecturer)	-
Exercises	Exercises are attended in groups. All exercises are of practical character and are carried out in laboratory. At the beginning of the first exercise, students receive templates for all exercises; they are acquainted with the details of each exercise, and how to submit the exercises report. The accuracy, legibility and regularity (submission on time) is evaluated.	in accordance with the agreed terms	Exceptionally, in the case of a justified reason, the student is allowed to compensate his/hers absence on the individual exercise
Seminar paper	In their seminar paper the student process the results obtained on exercises. More precisely, the aim of the seminar paper is to compare the properties of examined boards as depending on their type. In addition to the practical part carried out as part of regular teaching, while writing their seminar papers the students also use the data recorded during field work. Theoretical part is performed through the study of relevant literature that they define in coordination with the course lecturer. The seminar paper is submitted at the end of the semester, in the form of a written report.	15. week	Students who submit and their seminar paper is evaluated positively can access the exam
Written exam	Only the students which have submitted their exercises reports and whose seminar paper is evaluated positively, can take the final written exam. The students are given the printed exam form and they answer the questions asked. The written exam is evaluated and participates in the final grade of the subject.	Exam terms	
Oral exam	Students that pass the written exam are asked questions from different parts of the program content. The final grade of the subject is obtained according to the formula (Ex20 + SPx20 + EXx60)/100		

Methodology of furniture design

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Explain the purpose, goals and reasons of application of design methods (primary and secondary research, survey, interview, observation, photography, video recording, anthropometric research, literature research, marketing research, cultural analysis, focus group etc.), within the methodology of industrial furniture in wood industry, and identify the effects of them	exercises (project assignment), final exam	A2 B2, B7, B8 E2
Evaluate the theoretical, practical and methodological goals and design methods of furniture as part of a complex interdisciplinary design process on a given example.	exercises (project assignment), final exam	A1, A2 B2, B7, B8, B9 E1, E2
Manage the product design process at all stages of the Product Development phase (concept phase and realization; Creating and searching for concept, preliminary research and problem definition, project feasibility assessment, concretization of conceptual solutions, checking and expanding the concept, product development and concept development, sample design, value analysis and verification,	exercises (project assignment), final exam	A1, A2, A3 B2, B7, B8 C6 E1, E2

realization, prototype production, trial series, solution evaluation, product launch and tracking).			
Apply the Product Development phases and explain the importance of usage of methodology in the design process.	exercises (project assignment), final exam	B7, B8	A2
Establish criteria, goals and requirements for a new product under the Design Concept concept (concept of product).	exercises (project assignment), final exam	B2, B7, B8 C6 E1, E2	
Analyze product feasibility by applying feasibility criteria and optimize the solution (target user group, operating technology, materials used, standardization of elements, cost of production, etc.)	exercises (project assignment)	A1, A2 B2, B7, B8 C6	
Make a detailed elaboration of design solution of the product and prepare the model	exercises (project assignment)	B1, B2, B7, B8, B10 C6, C8	

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	0			15	0	0,5
Exercises (E)	90%	Partial understanding of the adopted subject, poor student activity and the quality of the project task solution.	Sufficient (2)	30	60	4
		Partial understanding of the adopted subject, good student activity and quality of the project task solution.	Good (3)			
		Very well applied and adopted material, very good student activity and quality of	Very good (4)			

		the project task solution.				
		Exceptional engagement, excellent applied and adopted material, excellent student activity and the quality of the project task solution.	Excellent (5)			
Oral exam (OE)	10%	60-70%	Sufficient (2)	0	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(E×90 + OE×10) / 100		45	75	5

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures	The attendance is checked and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of the tuition.	semester (15 hours of direct lecturer)	
Excercises	The exercises are checked and recorded by the presence of students. The student can justifiably absent with a maximum of 10% of the exercise. The right to sign is acquired by the number of attendance classes and exercises. Exercises (project assignment) are submitted according to the given deadlines and are evaluated.	According the syllabus	
Oral exame	Requirements for the oral part of the exams are devoted and positively evaluated exercises, ie the project assignment and all other tasks. The oral exam consists of verbal defense (presentation) of the project task solution and the understanding of all phases of designing the conceptual and execution solution in the project assignment as well as the understanding and adoption of knowledge in lectures and exercises. The final grade is obtained according to the formula: $(E \times 90 + OE \times 10) / 100$	Exam terms	

Macroscopic properties and texture of wood

Macroscopic properties and texture of wood (elective course, 1th semester, 1rd year)

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Determination of influence of macroscopic properties of wood on processing and application of wood in wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Determination of the influence of wood texture on wood processing and application of wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Evaluation of the impact of macroscopic properties of wood and texture of wood for certain types of wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Determination of type of woodworking for the purpose of achieving the maximum effect of macroscopic properties of wood and wood texture for certain types of wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Definition of macroscopic properties of wood and texture of wood for certain types of wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Practical determination of macroscopic properties of wood and texture of wood for certain wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	30	2
Exercises (E)	70%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	15	30	1,5
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			

		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	14	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Ex70 + PE1x30)/100		46	74	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS bodovi
Final exam (FE)	100 %	61-70%	Sufficient (2)	2	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Fex100)/100				

* students who don't pass the partial exams during the semester have to attend the final exam which is 100% of the grade.

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and excercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (45 hours of direct lectures)	-
Exercise project	Exercises are given in groups and student make exercise project individually. Each project is complex (1 project) and it is been made in parts corresponding to teaching parts. Student presents the whole project at the end of semester, and each part is evaluated on lectures during the semester.	end of semestar	
Partial exam 1	First partial exam can be attended by students who did not miss more than 15% of lectures and excercises.	end of semestar	
Written and oral exam	Students who did not pass the subject through partial exams and exercise project (less the 61% of points), or who are not satisfied with the grade, can attend the final oral exam in given exam periods. The grade given on oral exam is final and it makes 100% of the grade.	In given exam periods	

Furniture and equipment of space

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Distinguish types, typology and tasks of housing and public space	exercises (project assignment), final exam	A2 B2, B7, B8, B11
Identify and apply components, principles and elements of space design (color, texture, light, materials, orientation) in a historical style periods, contemporary architecture and/or given task	exercises (project assignment), final exam	A1, A2, A3 B2, B7, B11, B12 C2, C6
Evaluate and implement features of Croatian heritage in designing the space content and interior furnishing with appropriate furniture.	final exam	A1, A2, A3 B2, B7, B11, B12
Apply the theory and criteria of spatial planning and architectural design in space furnishing	exercises (project assignment)	B11, B12 C2
Apply human measures as a module of space organization	exercises (project assignment)	B2, B7, B8, B11, B12 C2, C6
Evaluate and apply the principles of contemporary design of residential and public space and furniture (aesthetic, functional, social, psychological and social, technical-technological, ecological and ethnological) in relation to the needs and habits of the user	exercises (project assignment), final exam	A2 B2, B7, B8, B11, B12 C2, C6 E1, E2
Analyze, recommend and design a functional furniture group in relation to the specified spatial unit for residential or public use and user needs.	exercises (project assignment)	A1, A2, A3 B2, B7, B8, B11, B12 C2
Analyze individual spatial units and their functions in the residential or public space (common space, private (space), work space, socializing, communication, rest, etc.)	exercises (project assignment)	A1, A2, A3 B2, B7, B8, B11, B12 C2
Apply design sketching or computer design in presentation of the design solution of furniture and equipment	exercises (project assignment)	B2, B7, B8, B11, B12 C8
Present a solution of well-equipped space and shaped furniture to a group of people (potential clients, teachers, colleagues etc.)	exercises (project assignment), final exam	A1, A2, A3 B2, B7, B8, B11, B12 C2, C8 E2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	0			30	0	1

Exercises (E)	75%	Partial understanding of the adopted subject, poor student activity and the quality of the project task solution.	Sufficient (2)	15	57	2,4
		Partial understanding of the adopted subject, good student activity and quality of the project task solution.	Good (3)			
		Very well applied and adopted material, very good student activity and quality of the project task solution.	Very good (4)			
		Exceptional engagement, excellent applied and adopted material, excellent student activity and the quality of the project task solution.	Excellent (5)			
Written exam (OE)	20%	Poor application and understanding of theoretical knowledge and practical skills in a given task, more than 50% of errors	Sufficient (2)	0	12	0,4
		Good application and understanding of theoretical knowledge and practical skills in a given assignment, less than 30% of errors	Good (3)			
		Very good application and understanding of theoretical knowledge and practical skills in a given assignment, less than 10% of errors	Very good (4)			
		Excellent application and understanding of theoretical knowledge and practical skills in the default task without any mistakes	Excellent (5)			
Oral exam (OE)	5%	60-70%	Sufficient (2)	0	6	0,2
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(E×75 + WE×20 + OE×5) / 100		45	45	4

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures	The attendance is checked and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of the tuition.	semester (15 hours of direct lecturer)	
Partial exam	The exercises are checked and recorded by the presence of students. The student can justifiably absent with a maximum of 10% of the exercise. During the semester, the student prepares exercises / tasks in team and individual work, monitoring continuous student progress and adopting thematic knowledge and skills, in accordance with the evaluation criteria.	According the syllabus	

	The right to sign is obtained by the number of attendance classes and exercises as well as assignments within the given time limit. It is obligatory to submit each phase of the project task to insight. Submission of the project task is by deadline, by the end of the semester. A written exam student does not have the right to go out of handed and positively evaluated exercises.		
Written exam	Requirements for entering the written part of the exams are submitted and positively evaluated exercises ie project assignment and all other tasks. The written exam consists of a task which examines the application and understanding of theoretical knowledge and practical skills. A positive assessment of the written part of the exam is a condition for going to the oral exam.	Exam terms	
Oral exam	The oral exam consists of the oral defense (presentation) of the project task solution and the understanding of each phase in the project task as well as the understanding and adoption of the knowledge in the lectures and exercises. The final grade is obtained according to the formula: $(E \times 75 + WE \times 20 + OE \times 5) / 100$	Exam terms	

Special products of wood

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Determining the characteristics of special products of wood in use that affect the choice of wood species for the production of special products of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Determination of the required parameters of trees and sawmill for making special wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Determining the most characteristic properties of wood material for the production of special wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Determination of timber properties relevant for the production of special wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Defining the basic technological characteristics for the production of special wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Valuation of technological characteristics for production of special wood products	Exercises evaluation, partial exams, final exam	A2,B2, B9
Collection of relevant data to display the basic technological characteristics for the production of special wood products for the purpose of displaying as scientific or professional work	Exercises evaluation, partial exams, final exam	A2,B2, B9

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	45	2,5

Exercise s (E)	70%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	15	15	1
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Ex70 + PE1x30)/100		46	75	4

Final exam (FE)	100 %	61-70%	Sufficient (2)	2	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Fex100)/100				
* students who don't pass the partial exams during the semester have to attend the final exam which is 100% of the grade.						

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exceries	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (45 hours of direct lectures)	-
Exercise project	Exercises are given in groups and student make exercise project individually. Each project is complex (1 project) and it is been made in parts corresponding to teaching parts. Student presents the whole project at the end of semester, and each part is evaluated on lectures during the semester.	end of semestar	

Partial exam 1	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises.	end of semester	
Written and oral exam	Students who did not pass the subject through partial exams and exercise project (less the 61% of points), or who are not satisfied with the grade, can attend the final oral exam in given exam periods. The grade given on oral exam is final and it makes 100% of the grade.	In given exam periods	

Non-wood Materials

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Compare the physical and mechanical properties of selected materials.	knowledge test, final exam	B3
Compare an individual manufacturing processes for the processing of synthetic polymeric materials (extrusion, injection molding, blow molding, rotational molding).	knowledge test, final exam	B3
Suggest and select a particular type of material based on knowledge of its structure, properties and typical areas of use.	knowledge test, final exam	B3

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade		Evaluation elements	Share in evaluation
Lectures(L)	-		-	30	0	1
Exercises (E)	-	-	-	15	30	1,5
Final Exam (FE)	100 %	60-70% 71-80% 81-90% 91-100%	dovoljan (2) dobar (3) vrlo dobar(4) odličan (5)	2	43	1,5
TOTAL	100%			47	73	4

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exceries	The attendance is checked and the attendance of the students is recorded. A student may justifiably	semester (45 hours of direct lecturer)	-

	miss no more than 15% hours of all lectures and exercises.		
Written exam	Examinations can be attended by students who attended lectures and exercises. The students in the written exam (multiple choice question), choose the correct answers. The written exam is evaluated and participates in the final grade of the subject.	Exam terms	
Oral exam	After passing a written exam, students are asked questions from different parts of the lecture content.		

Investigation of physical and mechanical properties of wood

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Determination of the necessary parameters of trees for the selection of modal trees for the exploration of physical and mechanical properties of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Selection and felling of trees for the exploration of physical and mechanical properties of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Preparation of samples for research of physical and mechanical properties of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Testing of physical and mechanical properties of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Statistical treatment and evaluation of the results of the research of physical and mechanical properties of wood	Exercises evaluation, partial exams, final exam	A2,B2, B9
Collection of relevant data to display the results of research on physical and mechanical properties of wood for the purpose of displaying as scientific or professional work	Exercises evaluation, partial exams, final exam	A2,B2, B9

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	90	3
Exercises (E)	40%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	15	30	1
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			

Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Ex40 + PE1x30+PE2x30)/100		46	150	5

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam (FE)	100 %	61-70%	Sufficient (2)	2	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(Fex100)/100				

* students who don't pass the partial exams during the semester have to attend the final exam which is 100% of the grade.

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (60 hours of direct lectures)	-
Exercise project	Exercises are given in groups and student make exercise project individually. Each project is complex (1 project) and it is been made in parts corresponding to teaching parts. Student presents the whole project at the end of semester, and each part is evaluated on lectures during the semester.	end of semestar	
Partial exam 1	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises.	end of semestar	
Written and oral exame	Students who did not pass the subject through partial exams and exercise project (less the 61% of points), or who are not satisfied with the grade, can attend the final oral exam in given exam periods. The grade given on oral exam is final and it makes 100% of the grade.	In given exam periods	

Wood Composite Materials

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Select materials and determine the technological parameters for pressing process of wood composite sandwich panels.	knowledge test, final exam	B6
Select materials and determine the technological parameters for pressing process of laminated wood composites.	knowledge test, final exam	B6
Apply European and international standards for determining the properties of wood composite panels.	knowledge test, final exam	B6

Methods of grading

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade		Evaluation elements	Maximum points or Share in evaluation
Predavanja	-		-	30	0	1
Vježbe	-	-	-	30	30	2
Final exam (FE)	100 %	60-70% 71-80% 81-90% 91-100%	Sufficient (2) Good (3) Very good (4) Excellent (5)	2	58	2
Total	100%			62	88	5

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	The attendance is checked and the attendance of the students is recorded. A student may justifiably miss no more than 15% hours of all lectures and exercises.	semester (60 hours of direct lecturer)	-
Written exam	Examinations can be attended by students who attended lectures and exercises. The students in the written exam (multiple choice question), choose the correct answers. The written exam is evaluated and participates in the final grade of the subject.	Exam terms	
Oral exam	After passing a written exam, students are asked questions from different parts of the lecture content.		

Quality of finished products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
to recognise, describe and distinguish the quality factors of finished products (constructional, technological, economic, ergonomic etc.) and assess the impact of materials on the quality of the furniture;	final examination	B1, B10
to apply knowledge of interdisciplinary approach (use of non-wood material, bedmattress body interaction) when assuring the quality of wood finished products	exercises, correction, exercise evaluation, field report, final examination	B2
to apply HRN EN standards in testing and production of furniture (testing of school furniture, chairs, tables, cabinets, beds, cots and playgrounds)	exercises, correction, exercise evaluation, final examination	B1, B10
to analyse and evaluate factors influencing product durability and reliability (the quality of built-in materials, construction, processing, environment influence) and defined the safety and stability of furniture;	exercises, correction, exercise evaluation , final examination	B1, B2, B10
to evaluate the flammability of upholstered furniture according to valid HRN EN standards	exercises, correction, exercise evaluation, final examination	B1, B10
to gather, group and process information about the given topic and to present it	exercises, correction, exercise evaluation, field report, final examination	B1, B10

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-			15	-	0,5
Seminar paper/ Report (SP)	5%	Partly neat and partly correct, corrected twice, not submitted on time	Sufficient (2)	-	9	0,3
		Neat and partly correct, corrected twice, submitted on time	Good (3)			
		Neat, correct, complete, not submitted on time	Very good (4)			
		Neat with minor corrections, complete and submitted on time	Very good (4)			

		Neat, correct, complete, submitted on time	Excellent (5)			
Exercise s (E)	25%	Partly neat and partly correct, corrected twice, not submitted on time	Sufficient (2)	30	21	1,7
		Neat and partly correct, corrected twice, submitted on time	Good (3)			
		Neat, correct, complete, not submitted on time	Very good (4)			
		Neat with minor corrections, complete and submitted on time	Very good (4)			
		Neat, correct, complete, submitted on time	Excellent (5)			
Oral examinat ion (OE)	70%	60-70%	Sufficient (2)	-	45	1,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(OEx70 + Ex25 + SPx5)/100		45	75	4

Detailed description of evaluation elements for lectures, exercises, partial or final examinations:

Evaluation elements	Description	Deadline	Compensation
Lectures	Student' attendance is checked and recorded. Student may be absent from no more than 20% of lectures.	in accordance with the syllabus	-
Exercising and making exercising, seminar paper or report	Student' attendance is checked and recorded. Student may be absent from no more than 10% of exercises. Exercises are checked and graded. The grade is the arithmetic mean. The requirements for taking the examination (oral part) are positively graded exercises, seminar paper and an oral presentation given of the assigned product tested in the Laboratory.	in accordance with the syllabus	-
Oral examination (OE)	Students whose exercises have been graded and who regularly attended classes may take the examination. Students' theoretical knowledge and understanding of methods and procedures for	examination period	-

	testing furniture and other wood products will be examined. The final grade will be calculated by the formula (OEx70 + Ex25 + SPx5)/100		
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Information systems on wood products market

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
To carry out a process of wood and wood product market research and to evaluate supply and demand data for wood products.	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4
To analyze the needs and trends for wood and wood products in the macro-circle	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4
To analyze information on business to business market and business behavior when purchasing wood and wood products.	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4
To compare a business to business and business to customer's markets related to consumption of wooden products.	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4
To select the most important participants in the business buying process regarding wood based product market and businesses.	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4
To assess the strengths and weaknesses of competitors in the wood and wood products market.	Exercises evaluation, partial exams, final exam	A1, A2, A3, D3, D4, E1. E3, E4

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	20%	Partly disordered and incomprehensible, with major corrections and on time	Sufficient (2)	15	30	1,5
		Neat, legible, with major corrections and on time	Good (3)			
		Neat, legible, with minor corrections and on time	Very good (4)			

		Neat, legible, accurate and on time	Excellent (5)			
Seminar paper (SP)	10%	Partially disordered, incomprehensible and illogically conceived text, with major corrections and on time	Sufficient (2)	-	15	0,5
		Orderly, legible and logically conceived text, with major corrections and on time	Good (3)			
		Orderly, legible and logically conceived text, with minor corrections and on time	Very good (4)			
		Orderly, legible and logically conceived text, without corrections and on time	Excellent (5)			
Test 1 (T1)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Test 2 (T2)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(Ex20 + SPx10 + T1x35 + T2x35)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam (FE) *	100%	60-70 %	Sufficient (2)	2	30	1
		71-80 %	Good (3)			
		81-90 %	Very good (4)			
		91-100	Excellent (5)			
TOTAL	100 %	(FEx80+Ex20)/100				

* If the student did not manage to achieve the minimum points for passing the tests, he is obliged to take the written and oral part of the exam. Only students who have met the conditions for signing (delivered exercises and seminar work) have the right to take the exam.

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	The attendance of the students are checked and recorded. Student may justifiably be absent with a maximum of 15 % of direct teaching hours.	semester (90 hours of direct lecturer)	-
Exercises	Exercises are attended in groups. For each exercise, students receive individual templates - tasks. The deadline for the exercise is two weeks and if the exercise is not timely submitted and the	in accordance with the	Exceptionally, in the case of a justified reason.

	positive evaluation is not obtained, the student gets an additional task. The accuracy, tidiness and regularity of exercise are evaluated (time-honoured exercises).	agreed terms	
Seminar /Project	Students choose the topic of the seminar paper from the proposed topics or receive a project assignment. The seminars are graded according to the attached criteria.	13 th and 14 th week	Students who submit and receive a positive evaluation of their seminar paper can take the exam.
Test 1	Students who have a positive assessment of the first half of exercises and who have not abstained from teaching more than 15% can access the first test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	9 th week	Students who pass the first test can access the second test.
Test 2	Students who have a positive assessment of all exercises and who have not abstained from teaching more than 15% can access the second test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	15 th week	Students who pass 1 st and 2 nd test are exempted from the exam.
Written exam (WE)	Students who have a positive assessment of all exercises can attend the exam. The exam consists of three computational and theoretical tasks. To pass, students must acquire a minimum of 60% of the points.	Exam terms	-
Oral exam (OE)	Students who pass a written exam are asked questions from different parts of the program. The final grade of the subject is obtained according to the formula: (Wax50+OEX50)/100	Exam terms	-

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	50%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	13	45	2
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	25%	51-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			

Partial exam 2 (PE2)	25%	51-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(E50 + PE1x25+PE2x25)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
			Sufficient (2)			
		51-70%				
Final exam (FE)	100 %	71-80%	Good (3)	2	30	1
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(FE100)/100				

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (60 hours of direct lecturer)	-
	Exercises are made individually. Within the exercise, 4 individual tasks are performed, which eventually merge into the whole and form a project assignment (the project task is presented in the last term of the course, before the 2nd semester) At the beginning of the first exercise, students are provided with instructions on how to perform the exercises and the appearance of the collar, liner and insertion sheet in which they will print in the form. The accuracy, regularity and regularity (time-honored exercises). Exercises carry 50 points.	According to a time schedule	
Partial exam I	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises. The 1. Partial exam is 50 points and it covers the issues regarding until the time of partial exam.	6th. week	

Partial exam II	Second partial exam can be attended by students who did not miss more than 15% of lectures and exercises and have obtained more than 25 points in the Partial exam I. The II. Partial exam is 150 points.	14th. week	
Written exam	Students who did not receive a positive assessment from the exercise and the partial exams (less than 51% of the total score) or are not satisfied with a final grade will approach the written exams according to certain examination deadlines. The written exam consists of 2 assignments (depending on the complexity of the assignment, with each assignment max number of points)	Exam terms	
Oral exam	The requirement for the oral exam is 51 % on the written exam. The score obtained on the oral exam is the final grade in the 100% ratio. Note: The person who passed the exam via partial exams and obtained the right to a final grade, and is not satisfied with the final grade, can access the oral exam, but in that case may score a grade higher than the grade obtained by passing the exam through a partial exam . The grade given on oral exam is final and it makes 100% of the grade.	Exam terms	

Professional practice

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Apply the acquired knowledge and skills acquired during the study in specific situations	Diary report on professional practice	A2, A3, B1, B2, B3, C4, C2, C5, C6, C7, D1, D2, D3, D4 E4, E5
Apply communication skills in new work environments	Diary report on professional practice	D2, D4
Record and comment on the features of the wood technology process and business and propose optimization and rationalization in accordance with applicable standards and regulations	Diary report on professional practice	B4, C2, C3
Design and propose possible improvements in the existing wood production and business	Diary report on professional practice	B2, B3, C4, C2, C6, C7
Solve technical problems independently or as a team	Diary report on professional practice	D1, D2, D4
Form a sense of responsibility and motivation to perform assigned tasks	Diary report on professional practice	D2, D3, D4
Prepare a written report on professional practice	Diary report on professional practice	E3

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Total:				80	80	4

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
The work performance of a student during professional practice	a) High work performance b) Satisfactory work performance c) Weaker performance than expected without justified reasons		
Application of theory in practical work during professional practice	a) It demonstrates the extraordinary skill of applying the theory in practical work b) Recognizes the theoretical framework in practical work c) Does not link the theoretical framework with practical work		
The student's skill of solving problems during professional practice	a) Very skilled in solving problems, innovative and creative b) It is possible to solve the default problem in a familiar way c) Does not show satisfactory problem solving skills		
Ability of a student to make decisions during professional practice	a) Decides independently, based on thorough analysis of (changing) circumstances b) Decisions are satisfactory in known situations c) It often makes wrong decisions without analysis of the situation		
Ability to collaborate in the team during professional practice	a) Works in line with others, contributes to group relationships and efficiency b) Relationships with others are in accordance with normal circumstances, but does not stand out c) Uncommunicative and withdrawn to the extent of negatively affecting the group		
Communication skills of a student during professional practice	a) Extremely clear, well-organized and convincing communication, written and spoken b) Satisfying skills of written and spoken communication c) Poor writing skills and speech communication		
Motivation and responsibility of a student during professional practice	a) High degree of motivation in work and collective and social responsibility b) Satisfactory motivation for work and accountability c) Poor motivated, uninterested and lack of sense of responsibility towards the job		

Computer aided design

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Create a virtual model of furniture and wood products by applying parameterization	exercise, project, seminar, exam	A1 B2, B8 C4, C8, C9
Create a rendered 3D model of the product using the scene	exercise, project, seminar, exam	B2, B8 C5, C8, C9

Apply Animation in product presentation	exercise, project, seminar, exam	B8 C8, C9
Define the features, advantages and disadvantages of virtual and physical 3D models	exercise, project, seminar, exam	B8 C4, C5, C8
Classify, analyze and select computer programs for design, construction and visualization according to given qualitative and quantitative criteria	exercise, project, seminar, exam	A1, A2 C4, C5, C9
Analyze the photorealistic quality of the rendered 3D model	exercise, project, seminar, exam	A2 B8 C4
Prepare a 3D virtual model for the further process of CAM production or the creation of a physical model using the additive technique	exercise, project, seminar, exam	A1 B8 C4, C5, C8, C9

Methods of grading

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	90 %	Partial understanding of the adopted material, weak student activity and quality of project assignment solutions.	Sufficient (2)	15	60	2,5
		Partial understanding of the adopted material, good student activity and the quality of the solution of the project assignment.	Good (3)			
		Very well applied and adopted material, very good student activity and the quality of the solution to the project assignment.	Very good (4)			
		Exceptional engagement, excellently applied and adopted material, excellent student activity and the quality of the solution to the project assignment.	Excellent (5)			
Written exam	10 %	60-70%	Sufficient (2)	1	14	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(V×90 + PI×10 / 100		46	74	4

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
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Lectures	The attendance is checked and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of the tuition.		
Excercises	The exercises are checked and recorded by the presence of students. The student can justifiably absent with a maximum of 10% of the exercise. The right to sign is acquired by the number of attendance classes and exercises. Exercises (project assignment) are submitted according to the given deadlines and are evaluated.		
Oral exame	Requirements for the oral part of the exams are devoted and positively evaluated exercises, ie the project assignment and all other tasks. The oral exam consists of verbal defense (presentation) of the project task solution and the understanding of all phases of designing the conceptual and execution solution in the project assignment as well as the understanding and adoption of knowledge in lectures and exercises. The final grade is obtained according to the formula: (E × 90 + WE × 10) / 100	Exam terms	

International market of wood products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
To analyze the impact of the macroeconomic policies of individual countries on growth and development of the timber economy.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To review the economic success of the wood industry in international wood products market with a view to achieving competitive advantages within the wood sector.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To analyze production, export and import of furniture and other wood products on the international market.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To calculate the consumption of furniture and other wood products on the international market using apparent consumption method	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To analyze information on employment trends, salaries, income and investments on the international furniture and wood products market.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To analyze criteria for monitoring the share of the wood economy in the entire economy.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To analyze the trade statistics regarding wood based European and world markets.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4
To investigate possible activities to increase the share of wood products in the international market.	Exercises evaluation, partial exams, final exam	A1, A2, A3, B3, B4, E1, E3, E4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	20%	Partly disordered and incomprehensible, with major corrections and on time	Sufficient (2)	15	30	1,5
		Neat, legible, with major corrections and on time	Good (3)			
		Neat, legible, with minor corrections and on time	Very good (4)			
		Neat, legible, accurate and on time	Excellent (5)			
Seminar paper (SP)	10%	Partially disordered, incomprehensible and illogically conceived text, with major corrections and on time	Sufficient (2)	-	15	0,5
		Orderly, legible and logically conceived text, with major corrections and on time	Good (3)			
		Orderly, legible and logically conceived text, with minor corrections and on time	Very good (4)			
		Orderly, legible and logically conceived text, without corrections and on time	Excellent (5)			
Test 1 (T1)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Test 2 (T2)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(Ex20 + SPx10 + T1x35 + T2x35) /100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam (FE) *	100%	60-70 %	Sufficient (2)	2	30	1
		71-80 %	Good (3)			
		81-90 %	Very good (4)			
		91-100	Excellent (5)			
TOTAL	100 %	(FEx80+Ex20)/100				

* If the student did not manage to achieve the minimum points for passing the tests, he is obliged to take the written and oral part of the exam. Only students who have met the conditions for signing (delivered exercises and seminar work) have the right to take the exam.

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	The attendance of the students are checked and recorded. Student may justifiably be absent with a maximum of 15 % of direct teaching hours.	semester (90 hours of direct lecturer)	-
Exercises	Exercises are attended in groups. For each exercise, students receive individual templates - tasks. The deadline for the exercise is two weeks and if the exercise is not timely submitted and the positive evaluation is not obtained, the student gets an additional task. The accuracy, tidiness and regularity of exercise are evaluated (time-honoured exercises).	in accordance with the agreed terms	Exceptionally, in the case of a justified reason.
Seminar /Project	Students choose the topic of the seminar paper from the proposed topics or receive a project assignment. The seminars are graded according to the attached criteria.	13 th and 14 th week	Students who submit and receive a positive evaluation of their seminar paper can take the exam.
Test 1	Students who have a positive assessment of the first half of exercises and who have not abstained from teaching more than 15% can access the first test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	9 th week	Students who pass the first test can access the second test.
Test 2	Students who have a positive assessment of all exercises and who have not abstained from teaching more than 15% can access the second test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	15 th week	Students who pass 1 st and 2 nd test are exempted from the exam.
Written exam (WE)	Students who have a positive assessment of all exercises can attend the exam. The exam consists of three computational and theoretical tasks. To pass, students must acquire a minimum of 60% of the points.	Exam terms	-
Oral exam (OE)	Students who pass a written exam are asked questions from different parts of the program. The final grade of the subject is obtained according to the formula: (Wax50+OEX50)/100	Exam terms	-

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	50%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	13	45	2
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			

		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	25%	51-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Partial exam 2 (PE2)	25%	51-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(E50 + PE1x25+PE2x25)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam (FE)	100 %	51-70%	Sufficient (2)	2	30	1
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100%	(FE100)/100				

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (60 hours of direct lecturer)	-
	Exercises are made individually. Within the exercise, 4 individual tasks are performed, which eventually merge into the whole and form a project assignment (the project task is presented in the last term of the course, before the 2nd semester) At the beginning of the first exercise, students are provided with instructions on how to perform the exercises and the appearance of the collar, liner and insertion sheet in which they will print in the form. The accuracy, regularity and regularity (time-honored exercises). Exercises carry 50 points.	According to a time schedule	

Partial exam I	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises. The I. Partial exam is 50 points and it covers the issues regarding until the time of partial exam.	8th. week	
Partial exam II	Second partial exam can be attended by students who did not miss more than 15% of lectures and exercises and have obtained more than 25 points in the Partial exam I. The II. Partial exam is 150 points.	13th. week	
Written exam	Students who did not receive a positive assessment from the exercise and the partial exams (less than 51% of the total score) or are not satisfied with a final grade will approach the written exams according to certain examination deadlines. The written exam consists of 2 assignments (depending on the complexity of the assignment, with each assignment max number of points)	Exam terms	
Oral exam	The requirement for the oral exam is 51 % on the written exam. The score obtained on the oral exam is the final grade in the 100% ratio. Note: The person who passed the exam via partial exams and obtained the right to a final grade, and is not satisfied with the final grade, can access the oral exam, but in that case may score a grade higher than the grade obtained by passing the exam through a partial exam. The grade given on oral exam is final and it makes 100% of the grade.	Exam terms	

Exotic wood and its identification

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Recognize, distinguish and explain specific diagnostic macroscopic and microscopic wood properties of commercial exotic wood species.	Exercises, seminar, oral exam	B9, E1, E2
Know the materials and implement methods and procedures in wood identification.	Exercises, seminar, oral exam	A2, B9, E1, E2
Distinguish commercial exotic wood species using modern identification software (keys).	Exercises, seminar, oral exam	A2, B9, E1, E2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECT S
Lectures (L)	-	-	-	30	10	1,5

Exercises (E)/seminar(S)	40%	Mostly inaccurate, with major corrections and on time	Sufficient (2)	14	28	2
		Mostly accurate, with corrections and on time	Good (3)-			
		Exact, with minor corrections and on time	Very good (4)			
		Accurate and error-free	Excellent (5)			
Oral exam (OE)	60%	60-70%	Sufficient (2)	1	17	0,5
		71-80%	Good (3)-			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
UKUPNO	100%	(E-Sx40 + OEx60)/100		45	55	4

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures (L)+ exercises (E)	The attendance is checked and recorded. The student can justifiably be absent with a maximum of 20% of classes.	Semester (45 hours of direct teaching)	-
Exercises (E)/seminar(S)	Exercises are attended in a group, but drawn up individually. The accuracy, tidiness and regularity of performance are evaluated. Students submit the entire exercises/seminar at the end of the semester, and individual parts are reviewed during the exercises themselves.	Semester	-
Oral exam (OE)	The exam can be taken by students whose exercises/seminar have been positively evaluated. The exam is graded and participates in the final course grade according to the formula $(E-Sx40 + OEx60)/100$	Exam terms	-

Finishing of wood products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	
To explain the meaning of color and distinguish color measurement systems.	Laboratory work, partial exam, exam	A2, C3
To measure the color and gloss of coated wood and interpret the result.	Laboratory work, partial exam, exam	A2,C3
To recommend finishing systems for wood products in the interior and exterior and to plan wood finishing process in craftsmanship and in industrial production.	Laboratory work, partial exam, exam	C3
To explain the surface phenomena on wood-coating interface and relate their mutual influence (wetting, spreading, surface tension, surface energy, adhesion, penetration).	Laboratory work, partial exam, exam	C3
To analyze the causes of internal stresses in wood coatings.	Laboratory work, partial exam, exam	C3
To analyze the factors affecting the performance of wood-coating system.	Laboratory work, partial exam, exam	C3

To assess the causes of wood staining failure and coating failures.	Laboratory work, partial exam, exam	C3
To distinguish the materials and processes for imitation of wood and wood products.	Laboratory work, partial exam, exam	C3
To rank quality of wood finishing based on laboratory testing of aesthetic properties, mechanical properties, resistance to chemical influences and heat, resistance to weathering.	Laboratory work, partial exam, exam	B1, B10, C3
Collect information about the professional topic, synthesize and present them.	seminar	A2, E3

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	15 %	1,5 points for each task (worksheet) that was submitted on time	-	30	15	1,5
Partial exam (PE)	30 %	Students can achieve a maximum of 30 points. To gain access to the second partial exam must achieve a minimum of 15 points.	-	1	27	0,9
Partial exam (PE)	30 %	Students can achieve a maximum of 30 points.	-	1	27	0,9
Homeworks	5 %	1 point for each homework that was submitted on time	-	-	5	0,2
Seminar paper or project task	20 %	The maximum possible number of points scored is 20	-	-	45	1,5
TOTAL	100%	From all the elements of monitoring and checking the student can achieve a maximum height of assessment of 100 points, which makes 100 % of the grade. For the passing grade, the student must have a minimum of 60 points or 60 % of the grades. Scale rating is as follows:		62	119	6
		60 % - 70 %	Sufficient (2)			
		71 % - 80 %	Good (3)			
		81 % - 90 %	Very good (4)			
		91 % - 100 %	Excellent (5)			

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
		60-70 %	Sufficient (2)			
Final exam (FE)*	100 %	71-80 %	Good (3)	2	48	1,6
		81-90 %	Very good (4)			
		91-100 %	Excellent (5)			
UKUPNO	100%					

* A student who failed to pass an examination by continuous collection of points during the semester has the right to attend the exam. The exam consists of a written and oral part. Prior to exam seminar paper and exercise worksheets must be submitted for review.

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and excercises	The attendance of the students is recorded. Students are allowed 20 % absence from lectures and 10 % from excercises. Excercises are attending in groups. Excercises tasks are submitted within a predefined time limit, and timely delivery of the correct work sheets is scored.	semester	-
Submission of worksheets from laboratory work (excercises)	Excercises are attended in groups. Students must submit worksheets in a predefined period of time and timely submitted worksheets are scored.	According to weekly class schedule	-
Partial exams	There are two partial exams. Each brings 30 points. At the first partial exam a student must achieve at least 50 % to gain access to second partial exam.	VIII week XV week	-
Homeworks	Each on-time delivered homework brings 1 point	According to weekly class schedule	-
Seminar paper/project task	Students choose the theme of the seminar work from the proposed themes in MERLIN. Seminars are scored according to the given criteria.	XIII; XIV week week	-
Written exam	A student who failed to pass an examination by continuous collection of points during the semester has the right to attend the exam. Prior to exam seminar paper and exercise worksheets must be submitted for review.	Exam terms	-
Oral exame	Prerequisite for oral exam is minimum score of 60 in written exam	Exam terms	-

Designing of wooden products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Preparing the content of the project task based on the needs of the customer and the prescribed standards.	excercises (project assignment)	B2, B3 C4
Planning of designing, and constructing activities.	excercises (project assignment)	B2, B3, B4 C5

Design furniture and wood products according to functional, safety, mechanical, aesthetic, production and economic requirements	exercises (project assignment)	A2 B2, B3, B4 C4, C5
Recommend an optimally constructive version with variants.	exercises (project assignment)	B2, B3 C4, C5E
Design a product in a 3D model using all the knowledge acquired from design, and other courses in which construction and calculation are studied.	exercises (project assignment)	B2, B3, B4, B5, B6, B7 C4,C5 D1
Evaluate different product variants in individual stages of product development using a multi-criteria approach	exercises (project assignment)	B2, B3, B4, B5 C4,C5,C6,C7
Analyzing products, assortments, production programs.	exercises (project assignment)	B2, C4,
Presentation of an Argumented Own Solution (Written and Oral)	exercises (project assignment)	A1, A3 C5

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	0			30	0	1
Exercises (E)	90%	Partial understanding of the adopted subject, poor student activity and the quality of the project task solution.	Sufficient (2)	30	75	4
		Partial understanding of the adopted subject, good student activity and quality of the project task solution.	Good (3)			
		Very well applied and adopted material, very good student activity and quality of the project task solution.	Very good (4)			
		Exceptional engagement, excellent applied and adopted material, excellent student activity and the quality of the project task solution.	Excellent (5)			
Oral exam (OE)	10%	60-70%	Sufficient (2)	0	15	1
		71-80%	Good (3)			
		81-90%	Very good (4)			

		91-100%	Excellent (5)			
TOTAL	100%	(E×90 + OE×10) / 100		60	90	6

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures	The attendance is checked and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of the tuition.	semester (15 hours of direct lecturer)	
Excercises	The excercises are checked and recorded by the presence of students. The student can justifiably absent with a maximum of 10% of the exercise. The right to sign is acquired by the number of attendance classes and excercises. Excercises (project assignment) are submitted according to the given deadlines and are evaluated.	Accordin g the syllabus	
Oral exame	Requirements for the oral part of the exams are devoted and positively evaluated excercises, ie the project assignment and all other tasks. The oral exam consists of verbal defense (presentation) of the project task solution and the understanding of all phases of designing the conceptual and execution solution in the project assignment as well as the understanding and adoption of knowledge in lectures and excercises. The final grade is obtained according to the formula: $(E \times 90 + OE \times 10) / 100$	Exam terms	

Furniture and Health

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
to relate furniture ergonomics and human psychophysical health i.e. potential effects caused by (poorly constructed furniture, use of harmful materials or use of a quality, natural materials...) furniture to a human health and potential adverse or positive consequences.	presentation, seminar paper, exercise, final examination	A2 B7, B10 C6
to formulate the impacts of environment (such are: rhythm of life, environmental pollution, technological innovations...) on human health.	presentation, seminar paper, exercise, final examination	A1, A2 B7 C6
to apply principles of furniture design for healthy, functional, cost effective and eco furniture.	presentation, seminar paper, excercises	A1, A2 B7, B8, B9, B10

					C6
to collate interdisciplinary of new findings in modelling healthy furniture, on new technologies and materials, human needs for changes and improvement of a living quality.	final examination				A1, A2 B7, B8, B9, B10 C6
to apply ergonomics and anthropometry in design and construction of healthy furniture.	presentation, seminar paper, exercises				A2 B7 C6
to valorise and apply available materials and exercise importance of the ecological parameters (utilization of materials in the service of human health, wood and wooden materials and the composite combinations, effects of harmful materials, environmental protection...).	presentation, seminar paper, exercises				A1 B5, B6, B7 C6
to design and construct the concept of upholstered furniture for sitting and lying in the service of human health for household, professional and public use.	presentation, seminar paper, exercises				A1, A2 B2, B7 C6 D2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	80 %	Partially applied teaching materials, well structured, substantially acceptable, not submitted on time	Sufficient (2)	15	60	3,5
		Partially applied teaching materials, well structured, substantially acceptable, submitted on time	Good (3)			
		Entirely applied teaching materials, excellently structured, complete and submitted on time	Very good (4)			
		Entirely applied teaching materials of excellently structured, substantially, complete and submitted on time	Excellent (5)			
Oral exam (OE)	20 %	60-70%	Sufficient (2)	0	15	0,50
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(E×80 + OE×20) / 100		45	75	5

Detailed description of evaluation elements for lecturer, exercises, partial or final examinations:

Evaluation elements	Description	Deadline	Compensation
Lectures (L)	Student' attendance is checked and recorded. Student may be absent from no more than 20% of lectures.	according to syllabus	-
Exercises (E)	Student' attendance is checked and recorded. Student may be absent from no more than 10% of exercises. Assignments are examined, and the seminar paper graded and presented to everyone.	according to syllabus	-
Oral exams (OE)	Students whose exercises have been given positive grades take the examination Students' comprehension and knowledge acquired at lectures and practical sessions will be examined The final grade will be calculated by the formula: $(E \times 80 + OE \times 20) / 100$	exam terms	-

Applied statistics

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Identify, implement and perform a statistical test based on sample for testing population mean	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test based on sample for testing population proportion	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test based on sample for testing population variance.	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test for testing difference between two population proportions (test of proportions)	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test for testing difference between two population variances (F test)	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test for testing difference between two population means (t test, Mann Whitney test)	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test for testing equality more than two population means (ANOVA)	Partial exams, written and oral exam	A2
Identify, implement and perform a statistical test for testing two dependent population means (t paired test)	Partial exams, written and oral exam	A2
Calculate population correlation and estimate coefficient of the correlation and perform	Partial exams, written and oral exam	A2

statistical test (Pearson's and Spearman rank correlations) with computer support..		
Analyze and interpret the results of univariate and multivariate linear regression with the help of computer support.	Partial exams, written and oral exam	A2
Analyze the contingency table implement the chi2 test	Partial exams, written and oral exam	A2

Methods of grading

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures	-		-	30	30	1
Exercies	-	-	-	15	40	2
Partial exams	100%	65-74	Sufficient (2)	4	30	1
		75-84	Good (3)			
		85-94	Very good (4)			
		95-100	Excellent (5)			
Final exam	100%	60-70	Sufficient (2)	3	30	1
		71-80	Good (3)			
		81-90	Very good (4)			
		91-100	Excellent (5)			
TOTAL	100%			52	130	5

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and excercises	The attendance of students on lectures and excercises is checked. The student may not attend a maximum of 4 hours of lecture classes and 4 hours of. Exercies.	semester (45 hours of direct lecturer)	-
Partial exams	During the course, students write two partial exams each with 5 tasks total 100 (2 * 50) points. The minimum number of points that can be obtained by the partial exam is 20. If they collect at least 65 points in two partial exams they can pass exam without the final exam.	During the semester	
Written exam	Exams can be accessed by students who have received a signature. The written part of the exam consists of 5 tasks totaling 100 points.	Exam terms	
Oral exame	Students who have passed the written part of the exam access the oral exam.	Exam terms	

Computer aided wood processing

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Investigate and explain the influence of CNC technology factors on the possibilities of application in wood processing	exercises reports, project assignment, final exam	A2, B2
Collect and process information related to technology capabilities from machine manufacturers and users in the wood industry	project assignment, final exam	A2, B8
Distinguish and categorize NC and CNC machines based on collected data on their capabilities and limitations	exercises reports, corrections, and exercises evaluation	A2, B2, D1
Propose the application of different CNC machines and methods of production preparation (programming) based on the construction of the product or group of products	project assignment, exercises reports, corrections, and exercises evaluation	B2, B4, D1
Know the ways of using different tool constructions in simple machining operations and multi-axis machining	project assignment, exercises reports, corrections, and exercises evaluation	B2, C10
Explore the possibilities and plan the optimal way of fixing the workpiece of different (simple and complex) shapes on the CNC machining center	exercises reports, final exam	A2, B2, D2
Lead the process of harmonizing the technology and construction of the product to ensure the most economical production process	project assignment, corrections, and exercises evaluation, final exam	B2, B4, B8, D1, D2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	5%	-	-	30	0	1
Exercises (E)	15%	Partly neat and partially accurate, corrected twice and not delivered at time	Sufficient (2)	15	0	0,5
		Neat, partially accurate, twice corrected and delivered on time	Good (3)			
		Neat, accurate, completed but not delivered on time or Neat, with minor corrections, completed and delivered on time	Very good (4)			
		Neat, accurate, completed and delivered on time	Excellent (5)			

Field work (FW)	Within the exercises	Reports are graded as well as exercises	From Sufficient (2) to Excellent (5)	8	4	0,25
Project assignment (PA)	20%	Partially incomplete, incomprehensible, and illogical with major corrections, submitted with delay	Sufficient (2)	3	18	0,75
		Partially incomplete, illogical with major corrections, delivered on time	Good (3)			
		Partially incomplete, with minor repairs, delivered on time	Very good (4)			
		Complete, no repairs, delivered on time	Excellent (5)			
1 st Partial exam (PE1)	30%	51-64%	Sufficient (2)	1	20	0,75
		65-77%	Good (3)			
		78-89%	Very good (4)			
		90-100%	Excellent (5)			
2 nd Partial exam (PE2)	30%	51-64%	Sufficient (2)	1	20	0,75
		65-77%	Good (3)			
		78-89%	Very good (4)			
		90-100%	Excellent (5)			
TOTAL	100%	(L*5 + E*15 + PA*20 + PE1*30 + PE2*30)/100		58	62	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam* (FE)	60 %	51-64% 65-77% 78-89% 90-100%	Sufficient (2) Good (3) Very good (4) Excellent (5)	2	43	1,5
TOTAL	100%	(FE*60+L*5+E*15+PA*20)/100				

*** Students that don't pass the partial exam during the semester have to take final exam, which makes up 60% of the grade, and the remaining 40% is made up of grades from participation in classes, exercises, field classes and project assignments**

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Lectures (L)	The attendance is checked, and the presence of students is recorded. The student can justifiably be absent with a	semester (30 hours of	-

	maximum of 20% of classes. Each active lecture students are monitored and evaluated by the preparedness and skills of using the software. Final grade is the arithmetic mean of the grade of all attended active lectures.	direct lecturer)	
Exercise report (ER)	The attendance is checked, and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of exercises. Each exercise is reviewed and evaluated. Final grade is the arithmetic mean of the grade of all evaluated exercises and field work report.	Immediately upon completion	Two terms for after deadline delivery
Field work (FW)	Students' attendance is checked and recorded during field work. The student independently or in a group prepares a report that is evaluated and as such is included in the average of the grades for the exercises.	Accordingly, to field work plan	Independent visit to the company and delivery of the report
Project assignment (PA)	The student solves the project task independently or in a group. Learning outcomes are evaluated through the completeness of the processed assignment, the accuracy of the selection of machines and tools, the logic of the processing schedule, the ingenuity in the application of the learned processing methods, and the solutions for fixing the workpiece.	15. week	-
1 st Partial exam	The 1 st Partial exam has 10 questions, for each question student collect 5 points (50 in total), so it needs to collect 26 points (51%) to pass.	8. week	-
2 nd Partial exam	Students who have passed the 1st Partial exam can take the 2nd one. It is scored in the same way as the first, and together they bring a maximum of 100 points in total. A total of 51 points are required to pass (51%). Students who collect enough points from both Partial exams do not have to take the Final Exam. Students can improve their grade by additionally attending the oral part of the exam.	15. week	-
Written exam (WE)	The exam can be taken by students who have graded exercises, a report from the field work and who is regularly attended all classes. The written exam is graded and participates in the final grade of the course. It consists of 3 tasks, each of which is scored with 5 points. To pass, it is necessary to have 8 points out of 15 points in total (54%).	Exam terms	-
Oral exam (OE)	A condition for attending the oral part of the exam is a positive grade on the written part of the exam. Theoretical knowledge is checked, as well as understanding and linking of thematic entities.	Exam terms	It is possible to catch up at the next exam terms, the positive result of the exam written at the previous exam term is acceptable

Research of adhesively bonded joints

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Distinguish and categorize the basic groups of glued joints (width, thickness, length, ...);	partial or final exam	B2

Know and control the factors of forming the bonded joint (adhesive factors, substrates, environmental conditions, processing, ...);	partial or final exam	B2
Propose to use the specific construction of the glued joint in the wood products;	laboratory exercises, corrections, and exercises evaluation	B2, D2
Formulate the importance of strength and durability of the joint on product quality;	partial or final exam	B2, D2
Evaluate the quality of adhesive joint by standard ISO and EN test methods;	laboratory exercises, corrections, and exercises evaluation	B1, D2
Analyse and evaluate the importance of factors affecting the strength and durability of adhesive joint;	exercises reports, corrections, and exercises evaluation	B2, B8, D2
Recommend methods for determining the strength of the bonded joints (methods for structural and non-structural joints);	partial or final exam	B2, D2
Recommend methods for determining the durability of glued compounds (methods for structural and non-structural joints);	partial or final exam	B2, D2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	30%	Partly neat and partially accurate, corrected twice and not delivered at time	Sufficient (2)	15	30	1,5
		Neat, partially accurate, twice corrected and delivered on time	Good (3)			
		Neat, accurate, completed but not delivered on time or Neat, with minor corrections, completed and delivered on time	Very good (4)			
		Neat, accurate, completed and delivered on time	Excellent (5)			
1 st Partial exam (PE1)	35%	51-64%	Sufficient (2)	1	21,5	0,75
		65-77%	Good (3)			
		78-89%	Very good (4)			
		90-100%	Excellent (5)			
2 nd Partial exam (PE2)	35%	51-64%	Sufficient (2)	1	21,5	0,75
		65-77%	Good (3)			
		78-89%	Very good (4)			
		90-100%	Excellent (5)			

TOTAL	100%	(E x 30 + PE1 x 35+ PE2 x 35)/100	47	73	4
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Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
		51-64%	Sufficient (2)			
Final exam (FE)	80 %	65-77%	Good (3)	2	43	1,5
		78-89%	Very good (4)			
		90-100%	Excellent (5)			
TOTAL	100%	(FE x 80 + E x 30)/100				

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercise	The attendance is checked, and the presence of students is recorded. The student can justifiably be absent with a maximum of 20% of classes.	semester (30 hours of direct lecturer)	-
Exercise report	Each exercise is reviewed and evaluated. Final grade is the arithmetic mean of the grade of all evaluated exercises. Requirements for accessing the written part of the exams are positively evaluated exercises.	according to Syllabus	Two terms for after deadline delivery
1 st Partial exam	The partial exam has a total of 50 points, so 26 points (51%) have to be collected for the passage.	8. week	-
2 nd Partial exam	Only students that passed first Partial exam can access to second one. Each of the 10 questions is scored with 5 points. The two partial exams are scored with a total of 100 points, each with 50 points. A total of 51 points is required for the passage (51%). Students who get enough points from both exam parts get the final subject grade. In that case, they can fix the grade by additional access to the oral part of the exam. The final grade is the average score from both partial exams. Oral verification is not mandatory.	15. week	-
Written exam	Examinations can be attended by students who have evaluated exercises and attended classes. The written exam is evaluated and participates in the final grade of the subject. It consists of 10 questions, each scored with 5 points. For passage it is necessary to have 26 points out of a total of 50 points (51%).	Exam terms	-
Oral exam	The requirement for the oral part of the exam is sufficient number of points collected on the written part of the exam. Theoretical knowledge (from the script) is checked, as well as understanding and linking thematic entities.	Exam terms	It is possible to catch up at the next exam terms, the positive result of the exam written at the previous exam term is acceptable

Integrated management systems in wood industry

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
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Identify and understand the basic concepts and theories of quality management in the field of quality management.	Exercises evaluation, partial exams, seminars, final exam	D2
Interpret management system development, standards, and system integration.	Exercises evaluation, partial exams, seminars, final exam	B8
Understand the certification, accreditation and supervision of integrated systems.	Exercises evaluation, partial exams, seminars, final exam	D2
Distinguish and define management systems in the wood industry.	Exercises evaluation, partial exams, seminars, final exam	D2
Design the development of a quality management system and integration with other certification systems for the wood processing and furniture manufacturing company.	Exercises evaluation, partial exams, seminars, final exam	D4

Methods of grading=Taking exam

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	20%	Partly disordered and incomprehensible, with major corrections and on time	Sufficient (2)	15	30	1,5
		Neat, legible, with major corrections and on time	Good (3)			
		Neat, legible, with minor corrections and on time	Very good (4)			
		Neat, legible, accurate and on time	Excellent (5)			
Seminar paper (SP)	10%	Partially disordered, incomprehensible and illogically conceived text, with major corrections and on time	Sufficient (2)	-	15	0,5
		Orderly, legible and logically conceived text, with major corrections and on time	Good (3)			
		Orderly, legible and logically conceived text, with minor corrections and on time	Very good (4)			
		Orderly, legible and logically conceived text, without corrections and on time	Excellent (5)			
Test 1 (T1)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Test 2 (T2)	35%	60-70%	Sufficient (2)			

		71-80%	Good (3)	1	15	0,5
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(Ex20 + SPx10 + T1x35 + T2x35)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
		60-70 %	Sufficient (2)	2	30	1
Final exam (FE) *	100%	71-80 %	Good (3)			
		81-90 %	Very good (4)			
		91-100	Excellent (5)			
TOTAL	100 %	(FEx80+Ex20)/100				
* If the student did not manage to achieve the minimum points for passing the tests, he is obliged to take the written and oral part of the exam. Only students who have met the conditions for signing (delivered exercises and seminar work) have the right to take the exam.						

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	The attendance of the students are checked and recorded. Student may justifiably be absent with a maximum of 15 % of direct teaching hours.	semester (90 hours of direct lecturer)	-
Exercises	Exercises are attended in groups. For each exercise, students receive individual templates - tasks. The deadline for the exercise is two weeks and if the exercise is not timely submitted and the positive evaluation is not obtained, the student gets an additional task. The accuracy, tidiness and regularity of exercise are evaluated (time-honoured exercises).	in accordance with the agreed terms	Exceptionally, in the case of a justified reason.
Seminar /Project	Students choose the topic of the seminar paper from the proposed topics or receive a project assignment. The seminars are graded according to the attached criteria.	13 th and 14 th week	Students who submit and receive a positive evaluation of their seminar paper can take the exam.
Test 1	Students who have a positive assessment of the first half of exercises and who have not abstained from teaching more than 15% can access the first test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	9 th week	Students who pass the first test can access the second test.
Test 2	Students who have a positive assessment of all exercises and who have not abstained from teaching more than 15% can access the second test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	15 th week	Students who pass 1 st and 2 nd test are exempted from the exam.
Written exam (WE)	Students who have a positive assessment of all exercises can attend the exam. The exam consists of three computational and theoretical tasks. To pass, students must acquire a minimum of 60% of the points.	Exam terms	-
Oral exam (OE)	Students who pass a written exam are asked questions from different parts of the program. The final grade of the subject is obtained according to the formula: (Wax50+OEX50)/100	Exam terms	-

Project management

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
To establish position and project activities within the management system;	Exercises evaluation, partial exams, final exam	D1
To establish time components of a project by using Gantt charts and network diagrams;	Exercises evaluation, partial exams, final exam	D1
To establish the resources for quality project implementation;	Exercises evaluation, partial exams, final exam	D1
To establish the parameters of business plan for given project;	Exercises evaluation, partial exams, final exam	D4
To make technical-technological analysis, location analysis of the business plan;	Exercises evaluation, partial exams, final exam	D4
To make financial preparation of a project with important time milestones;	Exercises evaluation, partial exams, final exam	D4
To make a project of management system in a company	Exercises evaluation, partial exams, final exam	D4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teachinghours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	40%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	13	35	2
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	20	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Partial exam 2 (PE2)	30%	61-70%	Sufficient (2)	1	20	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			

		91-100%	Excellent (5)			
TOTAL	100%	(Ex40 + PE1x30+PE2x30)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
		61-70%	Sufficient (2)			
Final exam (FE)	100 %	71-80%	Good (3)	2	28	1
		81-90%	Very good (4)			
		91-100%	Excellent (5)			

TOTAL	100%	(Fex100)/100				
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* students who don't pass the partial exams during the semester have to attend the final exam which is 100% of the grade.

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	Students attendance is checked and notified. Student can miss 15% of the classes justifiably the most.	semester (30 hours of direct lectures)	-
Exercise project	Exercises are given in groups and student make exercise project individually. Each project is complex (1 project) and it is been made in parts corresponding to teaching parts. Student presents the whole project at the end of semester, and each part is evaluated on lectures during the semester. The project is 40 points and together with partial exams points it makes 100 points (100%).	At the end of semester	
Partial exam 1	First partial exam can be attended by students who did not miss more than 15% of lectures and exercises. Partial exam 1 is 30 points and it covers the subject lectured until the time of partial exam.	7 th week	
Partial exam 2	Partial exam 2 can be attended by students who did not miss more than 15% of lectures and exercises. Partial exam 2 is 30 points and it covers the subject between partial exam 1 and time of partial exam 2. Students who collect enough points in two partial exams and in exercise project pass the subject and get the final grade.	13 th week	
Oral exame	Students who did not pass the subject through partial exams and exercise project (less the 61% of points), or who are not satisfied with the grade, can attend the final oral exam in given exam periods. The grade given on oral exam is final and it makes 100% of the grade.	In given exam periods	

Professional project

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Interdisciplinary solve a given problem in defined conditions	Project evaluation	A2, B1, B2, B4 C2, C4, C5, C6 D1, D2, D3, D4, E1, E2, E3
Solve design-technical-technological larger problems independently or as a team by applying multicriteria decision-making (choose the optimal shape, wood and non-wood materials, construction, technological process) and propose variants of rationalization-innovation of products or processes	Project evaluation	A2, B1, B2, B3, B4 C2, C3, C4, C5, C6 D1, D2
Develop self-awareness and self-criticism and motivation in the form of assessing their abilities and weaknesses in the team	Project evaluation	C2, C5 A2, D4
Test your own abilities for an analytical or holistic approach to work and develop a sense of constructive criticism of colleagues and superiors and a sense of personal and collective responsibility for the execution of assigned tasks in compliance with deadlines	Project evaluation	C2, A2, D4
Prepare and defend all documentation for product production and promotion	Project evaluation	A3, B2, B4, C2, C4, C5,
Create a presentation and present a project for the professional public and popularize the profession (virtual, oral, written, material)	Project evaluation	A2, A3, B2, B3, B4 C2, C4, C5,
Improve visualization and presentation CAD presentation skills with the application of digital technology in design	Project evaluation	A3, B2, B4 C2, C4, C5, E3

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Total:				60	60	4

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
The work performance of a student during professional project	a) High work performance b) Satisfactory work performance c) Weaker performance than expected without justified reasons		
Application of theory in practical work during professional project	a) It demonstrates the extraordinary skill of applying the theory in practical work b) Recognizes the theoretical framework in practical work c) Does not link the theoretical framework with practical work		
The students' skill of solving problems	a) Very skilled in solving problems, innovative and creative b) It is possible to solve the default problem in		

during professional project	a familiar way c) Does not show satisfactory problem solving skills		
Ability of a student to make decisions during professional project	a) Decides independently, based on thorough analysis of (changing) circumstances b) Decisions are satisfactory in known situations c) It often makes wrong decisions without analysis of the situation		
Ability to collaborate in the team during professional project	a) Works in line with others, contributes to group relationships and efficiency b) Relationships with others are in accordance with normal circumstances, but does not stand out c) Uncommunicative and withdrawn to the extent of negatively affecting the group		
Communication skills of a student during professional project	a) Extremely clear, well-organized and convincing communication, written and spoken b) Satisfying skills of written and spoken communication c) Poor writing skills and speech communication		
Motivation and responsibility of a student during professional project	a) High degree of motivation in work and collective and social responsibility b) Satisfactory motivation for work and accountability c) Poor motivated, uninterested and lack of sense of responsibility towards the job		

Diploma work – Design of Wood Products

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods
apply the current knowledge to define a scientific and professional problem in choosing the topic of work	Master thesis
create a schedule of work in accordance with the deadlines of making the graduate thesis in stages	Master thesis
independently devise a methodology of research work	Master thesis
apply the methodology of writing a professional and scientific work	Master thesis
present their work in written and oral form, using skills succinct interpretation of the results and conclusion of these guidelines to predict the future development of the topics of work	Master thesis, public defense of master thesis

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Master thesis (MT)	70%	See description	Sufficient (2)		390	13
			Good (3)			
			Very good (4)			

			Excellent (5)			
Public defense of master thesis (PD)	30%	See description	Sufficient (2)		30	1
			Good (3)			
			Very good (4)			
			Excellent (5)			
TOTAL	100%				420	14

Evaluation elements	Description	Deadline	Compensation
Master thesis (MT)	<p>sufficient (2) - There are substantial deficiencies in the work, the basic concepts are superficial and no deeper knowledge of the subject</p> <p>good (3) - Only some of the relevant aspects of the topic are presented in this paper, the literature is processed correctly but only partially. The scientific and professional vocabulary is basic</p> <p>very good (4) - The work is well-structured with facts, relevant theories and up-to-date data are presented, the literature is correctly elaborated, but the approach lacks creativity.</p> <p>excellent (5) - The work is logically well structured factually correct and conceptually well-defined, the entities are related, the relevant and recent literature is used and the approach to the topic from different perspectives is visible.</p>		-
Public defense of master thesis (PD)	<p>sufficient (2) - The presentation is a retelling of the read text, the answers to the questions are scarce.</p> <p>good (3) - The presentation is clear and informative, but without the ability to link theory to practice. Ability to answer only simple questions.</p> <p>very good (4) - The presentation is clear and substantive, the answers to the questions are just correct and do not indicate a deeper reflection on the topic.</p> <p>excellent (5) - The presentation is clear, highly informative, answers the questions right and creative.</p>		

Basics of wood restoration

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO

Based on the obtained wooden object, independently determine the production style and propose a method of dating the object's age.	Excercise 1, Seminar paper, Final exam	A1, E2 i E4
Independently identify the wood species from which the product is made and, if necessary, determine alternative species.	Excercise 2, Seminar paper, Final exam	B2, B9 i E2
Independently identify biological and abiological damage and the risk of the speed of further decomposition and spread of infection.	Excercise 3, Seminar paper, Final exam	B1 i E2
Independently propose the decontamination procedure.	Excercise 4, Seminar paper, Final exam	C6, E2 i E4
Independently propose the appropriate protective agent and procedure for a given product (in a given hazard class), respecting the ecological principles of wood protection and describing the proposed advantages and disadvantages.	Excercise 4, Seminar paper, Final exam	C6, E2 i E4
For the selected product and the conditions in which the wood product is used, recommend adequate physical, structural (and chemical) protection.	Excercise 4, Seminar paper, Final exam	B2, E2 i E4
Recommend remediation steps (consolidation and restoration), adequate preventive or repressive protection procedure and select acceptable means for consolidation and protection depending on the type of wood, place of use and degree of destruction of the wood product.	Excercises 1-4, Seminar paper, Final exam	B10, C7, D2, E2 i E4
Individually or in a team, do a project (expert opinion) and present it to a group of people.	Seminar paper	A1, B2, B10, C7, D2, E2 i E4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	–	–	–	15	15	1
Excercises (E)	20%	Correct exercises with less than 15 % of acceptable deficiencies	Sufficient (2)	15	15	1
		Correct exercises with less than 10 % of acceptable deficiencies	Good (3)			
		Correct exercises with less than 5 % of acceptable deficiencies	Very good (4)			
		Correct exercises with less than 1 % of acceptable deficiencies	Excellent (5)			
Seminar paper – SEM*	40%	Seminar with less than 15 % of acceptable deficiencies	Sufficient (2)	14	31	1,5
		Seminar with less than 10 % of acceptable deficiencies	Good (3)			
	80%	Seminar with less than 5 % of acceptable deficiencies	Very good (4)			
		Seminar with less than 1 % of acceptable deficiencies	Excellent (5)			

Final exam – oral exam (OE)	40%	60-70%	Sufficient (2)	14	0,5	
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
or Seminar paper – SEM*	80%	Seminar paper with less than 5 % of acceptable deficiencies	Very good (4)	1		
		Seminar paper with less than 1 % of acceptable deficiencies	Excellent (5)			
UKUPNO	100%	(E×20 + SEM×40 + OE×40) / 100		45	75	4
iii (E×20 + SEM×80) / 100						
* students who prepare and defend semester paper with the grade of very good or excellent (80 % of final grade) don't need to complete the final exam; the defended seminar paper changes the final oral exam.						

Tracking elements	Maximum points ar grading share	Score scale / Grading	Grade	Number of Direct Teaching Hours	Number of working hours of an average student beside direct teaching	ECTS credits
		60-70%	Sufficient (2)			
Final exam	40 %	71-80%	Good (3)		14	0,5
Oral exam (OE)		81-90%	Very good (4)			
		91-100%	Excellent (5)			
UKUPNO		100%	(E×20 + SEM×40 + OE×40) / 100			
* students who prepare and defend seminar paper with the grade of sufficient and/or good (makes 40 % of final grade) have to take final oral exam that makes another 40 % of final grade						

Advanced reasoned rules of preparation, implementation and taking colloquia, seminar papers, partial exams, written and oral exams:

Tracking elements	Description	Deadline	Recoupment
Lectures + Exercises (laboratory work) + Field work	The presence of students is checked and recorded during the lectures. A student may justifiably be absent with a maximum of 15% of direct teaching hours.	semester (61 direct teaching hours)	-
Making Exercises (E)	Exercises are attended by groups. As part of the exercise, 5 practical exercises are carried out. At the beginning of the first exercise, students will receive templates with the look of the file, inserts and worksheets on which the students will handle and teach their exercises. Each exercise is reviewed twice. If the grade is inadequate or not reviewed, it can be submitted within the probationary period (the student has the right to submit a maximum of two exercises within the probationary period, otherwise the right to sign the course is lost).	according to the agreed delivery dynamics	One probationary period for submitting the exercises for revision.

Seminar paper	<p>Seminar work is mandatory part of the student activity in the course. The topics of the seminar papers are shared in the second lesson, and one topic is worked on by teams of two students each. The seminar paper is handed in for review by agreement with the course teacher during the entire semester. The final version is submitted to the 14th week and defending in the 14th or 15th week of the semester. A written part of the seminar and oral presentation are evaluated (defence in front of the whole group of students). Overall grade of the seminar paper should not be less than very good (4) in order to replace the oral exam.</p> <p>The final grade is the sum of Exercises (E) and Seminar (SEM)</p> $(E \times 20 + SEM \times 80) / 100$	14 th and 15 th week	-
Final exam – Oral exam (OE)	<p>The condition for attending the oral part of the exam is submitted and graded exercises and a written seminar paper that is graded as sufficient or good. Practical knowledge of dating and recognition of the style of making a given wooden product as well as abiological / biological decomposition of wood are checked, which are a condition for continuing the oral part of the exam.</p> <p>After successfully recognizing the style and damage of the wooden product, the student is asked theoretical questions about the steps of rehabilitation and restoration of the given wooden product.</p> <p>The final grade is obtained according to the formula:</p> $(E \times 20 + SEM \times 40 + OE \times 40) / 100$	examination periods	-

Selected methods in wood anatomy

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Explain and apply different microscopy techniques in identifying wood, wood cells, and wood materials, as well as evaluating wood quality.	Exercises, seminar, oral exam	B9, E1, E2
Know, explain and apply techniques of histological wood preparations for microscopy.	Exercises, seminar, oral exam	A2, B9, E1, E2
Know the diagnostic features in wood identification.	Exercises, seminar, oral exam	B9, E1, E2
Identify wood types using modern software (keys) for wood identification.	Exercises, seminar, oral exam	A2, B9, E1, E2

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECT S
Lectures (L)	-	-	-	30	10	1,5
Exercises (E)/seminar (S)	40%	Mostly inaccurate, with major corrections and on time	Sufficient (2)	14	28	2
		Mostly accurate, with corrections and on time	Good (3)-			
		Exact, with minor corrections and on time	Very good (4)			

		Accurate and error-free	Excellent (5)			
Oral exam (OE)	60%	60-70%	Sufficient (2)	1	17	0,5
		71-80%	Good (3)-			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
UKUPNO	100%	(E-Sx40 + OEx60)/100		45	55	4

Detailed description of evaluation elements for lecturer, excercises, partial or final exams:

Evaluation elements	Description	Deadline	Compen sation
Lectures (L)+ exercises (E)	The attendance is checked and recorded. The student can justifiably be absent with a maximum of 20% of classes.	Semester (45 hours od direct teaching)	-
Exercises (E)/seminar(S)	Exercises are attended in a group, but drawn up individually. The accuracy, tidiness and regularity of performance are evaluated. Students submit the entire exercises/seminar at the end of the semester, and individual parts are reviewed during the exercises themselves.	Semester	-
Oral exam (OE)	The exam can be taken by students whose exercises/seminar have been positively evaluated. The exam is graded and participates in the final course grade according to the formula (E-Sx40 + OEx60)/100	Exam terms	-

Business communication in English

Entrepreneurship in wood industry

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
Identify Difference between a basic concepts related to entrepreneurship, entrepreneurs and entrepreneurial spirit.	Exercises evaluation, partial exams, seminars, final exam	D1
Recognize the legal environment in the wood industry and legal forms of entrepreneurship.	Exercises evaluation, partial exams, seminars, final exam	D1
Distinguish organizational factors in the wood industry.	Exercises evaluation, partial exams, seminars, final exam	D1
Define types of entrepreneurs and analyse and select key competencies of entrepreneurs in the wood industry.	Exercises evaluation, partial exams, seminars, final exam	D2
Identify different aspects of the entrepreneurial climate and entrepreneurial behaviour.	Exercises evaluation, partial exams, seminars, final exam	D2
Describe and select opportunities for entrepreneurial venture in the wood industry with respect to the environment, strategic and institutional framework.	Exercises evaluation, partial exams, seminars, final exam	D2
Apply the necessary knowledge and skills from different areas of business communication, such as making presentations, sales communication,	Exercises evaluation, partial exams, seminars, final exam	D2

negotiation, conducting meetings, interviewing, electronically mediated communication, etc.

Distinguish and review the phases of the life cycle of an organization and an entrepreneurial venture. Exercises evaluation, partial exams, seminars, final exam

D3

Methods of grading=Taking exam

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	20%	Partly disordered and incomprehensible, with major corrections and on time	Sufficient (2)	15	30	1,5
		Neat, legible, with major corrections and on time	Good (3)			
		Neat, legible, with minor corrections and on time	Very good (4)			
		Neat, legible, accurate and on time	Excellent (5)			
Seminar paper (SP)	10%	Partially disordered, incomprehensible and illogically conceived text, with major corrections and on time	Sufficient (2)	-	15	0,5
		Orderly, legible and logically conceived text, with major corrections and on time	Good (3)			
		Orderly, legible and logically conceived text, with minor corrections and on time	Very good (4)			
		Orderly, legible and logically conceived text, without corrections and on time	Excellent (5)			
Test 1 (T1)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Test 2 (T2)	35%	60-70%	Sufficient (2)	1	15	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
TOTAL	100 %	(Ex20 + SPx10 + T1x35 + T2x35)/100		45	75	4

Evaluation elements	Maximum points or Share in evaluation	Grade rating scale	Grade	Direct teaching hours	Number of average students workload outside the direct teaching	ECTS
Final exam (FE) *	100%		Sufficient (2)	2	30	1
		60-70 %	Good (3)			
		71-80 %	Very good (4)			
		81-90 %	Excellent (5)			
		91-100				

TOTAL	100 %	(FEx80+Ex20)/100
* If the student did not manage to achieve the minimum points for passing the tests, he is obliged to take the written and oral part of the exam. Only students who have met the conditions for signing (delivered exercises and seminar work) have the right to take the exam.		

Detailed description of evaluation elements for lecturer, exercises, partial or final exams:

Evaluation elements	Description	Deadline	Compensation
Attendance of lectures and exercises	The attendance of the students are checked and recorded. Student may justifiably be absent with a maximum of 15 % of direct teaching hours.	semester (90 hours of direct lecturer)	-
Exercises	Exercises are attended in groups. For each exercise, students receive individual templates - tasks. The deadline for the exercise is two weeks and if the exercise is not timely submitted and the positive evaluation is not obtained, the student gets an additional task. The accuracy, tidiness and regularity of exercise are evaluated (time-honoured exercises).	in accordance with the agreed terms	Exceptionally, in the case of a justified reason.
Seminar /Project	Students choose the topic of the seminar paper from the proposed topics or receive a project assignment. The seminars are graded according to the attached criteria.	13 th and 14 th week	Students who submit and receive a positive evaluation of their seminar paper can take the exam.
Test 1	Students who have a positive assessment of the first half of exercises and who have not abstained from teaching more than 15% can access the first test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	9 th week	Students who pass the first test can access the second test.
Test 2	Students who have a positive assessment of all exercises and who have not abstained from teaching more than 15% can access the second test. Test 50% comprise the knowledge acquired in lectures (theory), and 50% on the knowledge acquired exercises (tasks).	15 th week	Students who pass 1 st and 2 nd test are exempted from the exam.
Written exam (WE)	Students who have a positive assessment of all exercises can attend the exam. The exam consists of three computational and theoretical tasks. To pass, students must acquire a minimum of 60% of the points.	Exam terms	-
Oral exam (OE)	Students who pass a written exam are asked questions from different parts of the program. The final grade of the subject is obtained according to the formula: (Wax50+OEX50)/100	Exam terms	-

Human Resources Management

Learning outcomes and evaluation methods

Learning outcomes (LO)	Evaluation methods	Connection with the study program LO
To establish position and activities of human resources management within the management system;	Exercises evaluation, partial exams, final exam	D1
To establish the plan and demands for human resources within the company;	Exercises evaluation, partial exams, final exam	D4
To establish the methods of recruiting, education and development of human resources within the company;	Exercises evaluation, partial exams, final exam	D4
To make the work place systematisation, and structure and demands for work posts;	Exercises evaluation, partial exams, final exam	D4
To make the work evaluation system, success awarding system, motivation and stimulation system;	Exercises evaluation, partial exams, final exam	D4

To make the conflict solving system, and human relationship system within the company;	Exercises evaluation, partial exams, final exam	D4
To make a project of human resources management model within the company	Exercises evaluation, partial exams, final exam	D4

Methods of grading

Evaluation elements	Share in evaluation	Grade rating scale	Grade	Direct teachinghours	Number of average students workload outside the direct teaching	ECTS
Lectures (L)	-	-	-	30	0	1
Exercises (E)	40%	Partly orderly and understandable, with major improvements required and on time	Sufficient (2)	13	35	2
		Orderly, readable, with major improvements required and on time	Good (3)			
		Orderly, readable, with minor improvements required and on time	Very good (4)			
		Orderly, readable, accurate and on time	Excellent (5)			
Partial exam 1 (PE1)	30%	61-70%	Sufficient (2)	1	20	0,5
		71-80%	Good (3)			
		81-90%	Very good (4)			
		91-100%	Excellent (5)			
Partial exam 2 (PE2)	30%	61-70%	Sufficient (2)	1	20	0,5
		71-80%	Good (3)			