Curriculum at Lahti University of Applied Sciences 2019-2020

Bachelor of Engineering, Wood Technology

						ECTS			
Code	Name	1 y	2 y	3 y	4 y	total			
TEPUU19S-1000 CORE COMPETENCE 18									
TEPUU19S-1001 Common Core Competence									
LA00BE73	English for Work		3			3			
LA00BE74	Swedish language, Oral Communication	1				1			
LA00BE75	Swedish language, Written Communication	2				2			
LA00BE76	Professional communication	4				4			
LA00BE77	Developing professional competence 1	5				5			
LA00BQ87	Developing professional competence 2		2			2			
LA00BQ88	Developing professional competence 3			1		1			
LA00BE78	Research and Development		5			5			
LA00BE79	Anticipating Future Trends		5			5			
TEPUU19S-1002 Professional Core Competence 155									
TEPUU19S-1003 Digitalisation 10									
TE00BH08	Digitalisation of the Future	3				3			
TE00BH09	Networks, Data Security and Cloud Services	3				3			
TE00BH10	Digital Tools	4				4			
TEPUU19S-1004 Mechanics									
TE00BH11	Mathematical tools	5				5			
TE00BH12	Mechanical Applications	5				5			
TEPUU19S-1005 Electricity, Heat and Energy 15									
TE00BH13	Electricity		6			6			
TE00BH14	Heat and Energy		6			6			
TE00BH15	English for Engineers		3			3			
TEPUU19S-1006 Introduction to Design 15									
TE00BF38	Introduction to Materials	5				5			
TE00BF40	Digital Design Tools	5				5			
TE00BF41	Digital Modelling	5				5			
TEPUU19S-1007 Preliminary Studies in Wood Technology									
TE00BF45	Work Safety and Safe Use of Machines	5				5			
TE00BF46	Wood as Raw Material	5				5			
TE00BF47	Product Manufacturing Project	5				5			
TEPUU19S-1008 Furniture Industry						15			

Furniture Industry		5			5				
Production and Process Planning		5			5				
Product Development Project		5			5				
TEPUU19S-1009 Sawmill and Joinery Industry									
Sawmilling and Further Processing		10			10				
Joinery Technology		5			5				
TEPUU19S-1010 Wood-based Panels Industry									
Wood-based Panels Technology			10		10				
Research and Development Project			5		5				
TEPUU19S-1011 Practical Training									
Practical Training	2,5	2,5	2,5	2,5	10				
Practical Training 2	2,5	2,5	2,5	2,5	10				
Practical Training 3	2,5	2,5	2,5	2,5	10				
TEPUU19S-1012 Thesis 15									
Thesis planning			2,5	2,5	5				
Thesis research and writing			2,5	2,5	5				
Thesis publication			2,5	2,5	5				
	Production and Process Planning Product Development Project Sawmill and Joinery Industry Sawmilling and Further Processing Joinery Technology Wood-based Panels Industry Wood-based Panels Technology Research and Development Project Practical Training Practical Training Practical Training 2 Practical Training 3 Thesis Thesis planning Thesis research and writing	Production and Process Planning Product Development Project Sawmill and Joinery Industry Sawmilling and Further Processing Joinery Technology Wood-based Panels Industry Wood-based Panels Technology Research and Development Project Practical Training Practical Training 2,5 Practical Training 3 2,5 Thesis Thesis planning Thesis research and writing	Production and Process Planning Product Development Project Sawmill and Joinery Industry Sawmilling and Further Processing Joinery Technology Wood-based Panels Industry Wood-based Panels Technology Research and Development Project Practical Training Practical Training Practical Training 2 2,5 2,5 Practical Training 3 2,5 2,5 Thesis Thesis planning Thesis research and writing	Production and Process Planning Product Development Project Sawmill and Joinery Industry Sawmilling and Further Processing Joinery Technology Wood-based Panels Industry Wood-based Panels Technology Research and Development Project Practical Training Practical Training Practical Training 2 2,5 2,5 2,5 Practical Training 3 2,5 2,5 2,5 Thesis Thesis planning 2,5 Thesis research and writing 2,5 Thesis research and writing 2,5	Production and Process Planning Product Development Project Sawmill and Joinery Industry Sawmilling and Further Processing Joinery Technology Wood-based Panels Industry Wood-based Panels Technology Research and Development Project Practical Training Practical Training Practical Training 2 2,5 2,5 2,5 2,5 Practical Training 3 2,5 2,5 2,5 Thesis Thesis planning Thesis research and writing 5 Description Development Project D				

TEPUU19S-1013 COMPLEMENTARY COMPETENCE

60

TEPUU19S-1000 CORE COMPETENCE: 180 ECTS

TEPUU19S-1001 Common Core Competence: 25 ECTS

LA00BE73 English for Work: 3 ECTS

Learning outcomes

The student is able to

- recognise the different sources and tools to help them improve their English skills
- gain confidence and manage in written and oral communication situations required in professional studies and in the work life
- describe their education and qualifications
- understand the terminology and concepts of their own field

LA00BE74 Swedish language, Oral Communication: 1 ECTS

Learning outcomes

- express and justify their opinions
- use the key terminology of their own field
- tell about their education, work experience and duties e.g. in job-seeking situations
- present a company of their own trade

LA00BE75 Swedish language, Written Communication: 2 ECTS

Learning outcomes

The student is able to

- use the key terminology of their own field
- tell about their education, work experience and duties e.g. in job-seeking situations
- write a job application
- obtain information related to their own field of studies in Swedish e.g. on the Internet
- use online dictionaries

LA00BE76 Professional communication: 4 ECTS

Learning outcomes

The student is able to

- plan and produce grammatically correct texts
- write an article or an essay that fulfils the criteria of a scientific text related to their own field of studies
- perform actively in professional group communication situations
- retrieve information from a variety of sources and evaluate it critically

LA00BE77 Developing professional competence 1: 2 ECTS

Learning outcomes

The student is able to

- plan their own learning and cooperate in situations related to their own field of studies
- recognize their own competence and the needs to develop them further and to plan their career path observing them
- act as a group member
- operate in the learning environments of Lahti UAS
- picture their own field of studies and its future skills
- give feedback on tuition and services and thus participate in the development of education

LA00BQ87 Developing professional competence 2: 2 ECTS

Learning outcomes

The student is able to

- utilize various learning opportunities in curriculum
- recognize and aim their own competences to be in level with the future career requirements
- create a study plan that supports the future career goal
- give feedback on tuition and services and thus participate in the development of education

LA00BQ88 Developing professional competence 3: 1 ECTS

Learning outcomes

- identify themselves as a learner and develop their own learning skills
- evaluate innovative or alternative future competences required in their own field
- recognize and aim their own competences to be in level with the future career requirements

- masters the professional concepts of their own field and is able to point out their competencies during job recruitment processes
- give feedback on tuition and services and thus participate in the development of education

LA00BE78 Research and Development: 5 ECTS

Learning outcomes

The student is able to

- obtain, utilise and assess R&D-related information and their sources critically
- follow the rules of ethical principles applied in all research activities
- use the most typical research and development methods of their own field
- write a scientific report and is familiar with the requirements for language and style and how to document the sources

LA00BE79 Anticipating Future Trends: 5 ECTS

Learning outcomes

The student is able to

- anticipate the changes in their own operational environment
- utilise the futures research materials produced by national and international societies in their own field of studies
- use the terminology and methods of futures research in the research and development of their own field

TEPUU19S-1002 Professional Core Competence: 155 ECTS

TEPUU19S-1003 Digitalisation: 10 ECTS

TE00BH08 Digitalisation of the Future: 3 ECTS

Learning outcomes

The student is able to

- describe the significance of digitalisation in the work life and its changes
- utilise digital data storages and social media in professional contexts
- utilise the field's new technologies, such as IoT, big data, GIS, robotics and AI

TE00BH09 Networks, Data Security and Cloud Services: 3 ECTS

Learning outcomes

- operate in digital environments in a responsible way, taking data security into account
- describe the basic structure and operation of the Internet
- describe the principles of IP addresses and sub-networking
- implement a secure data network (SOHO) and connect it to an operator network
- utilise cloud services in their own work

TE00BH10 Digital Tools: 4 ECTS

Learning outcomes

The student is able to

- make reports and analyses with the help of wordprocessing and spreadheet calculation software
- make a presentation of a practical project where they utilise elements of digital media
- carry out electronic publishing

TEPUU19S-1004 Mechanics: 10 ECTS

TE00BH11 Mathematical tools: 5 ECTS

Learning outcomes

The student

- has the basic mathematical skills needed in engineering
- is able to describe the mechanical phenomena behind the developments in technology
- can solve mechanical problems using mathematics

TE00BH12 Mechanical Applications: 5 ECTS

Learning outcomes

The student is able to

- apply mechanics in practice
- apply digitalisation in mechanical phenomena
- apply vector mathematics in mechanical phenomena

TEPUU19S-1005 Electricity, Heat and Energy: 15 ECTS

TE00BH13 Electricity: 6 ECTS

Learning outcomes

The student is able to

- describe the electrical phenomena behind developments in technology
- solve electricity-related problems using mathematics
- apply electrical phenomena in practice
- apply digitalisation in electricity-related phenomena

TE00BH14 Heat and Energy: 6 ECTS

Learning outcomes

The student is able to

- describe the significance of heat behind the development of technology
- solve heat- and energy-related problems using mathematics
- apply heat phenomena in practice

TE00BH15 English for Engineers: 3 ECTS

Learning outcomes

The students is able to

- use the terminology of their field and understand professional texts
- discuss topics related with their field
- communicate in job application situations
- present their own project orally and in writing
- write a professional report and a thesis abstract

TEPUU19S-1006 Introduction to Design: 15 ECTS

TE00BF38 Introduction to Materials: 5 ECTS

Learning outcomes

The student

- knows different materials and their mechanical properties
- is able to describe the chemical structures and properties of materials
- is able to define end uses for different materials
- is able to select materials for different applications

TE00BF40 Digital Design Tools: 5 ECTS

Learning outcomes

The student

- knows the basics of technical drawing
- knows the basics of CAD and is able to read, edit and produce technical drawings
- knows the basics of 3D modelling
- is able to make technical drawings in a 3D environment and to visualise assembly drwings

TE00BF41 Digital Modelling: 5 ECTS

Learning outcomes

The student

- knows the central concepts and features of CNC technology
- knows the central concepts of CAD/CAM software
- is able to plan CNC machining tool paths using CAM software
- is able to make a 3D model of a design and to print a scale model using a 3D printer

TEPUU19S-1007 Preliminary Studies in Wood Technology: 15 ECTS

TE00BF45 Work Safety and Safe Use of Machines: 5 ECTS

Learning outcomes

The student

- is able to describe regulations in work safety legislation on the safety and health of the work environment
- knows how to find and use notices concerning safe use of harmful and dangerous substances

- knows how to use the machines in the workshop according to safety regulations
- is able to use a CNC router in a correct and safe way

TE00BF46 Wood as Raw Material: 5 ECTS

Learning outcomes

The student

- can describe the properties and special features of wood
- is able to assess the use of wood as a renewable natural resource
- is able to assess the use of wood for energy and the ecological impact of the use of wood
- knows how to take the special features of wood into account when designing products

TE00BF47 Product Manufacturing Project: 5 ECTS

Learning outcomes

The student

- is able to use measuring devices
- is able to work in a design team
- knows how to use the basic machinery of the woodworking industry and is able to work with them
- is able to make wooden products according to technical drawings

TEPUU19S-1008 Furniture Industry: 15 ECTS

TE00BF56 Furniture Industry: 5 ECTS

Learning outcomes

The student

- can describe the environment where the furniture industry operates and analyse the practices of companies
- can describe the products of the furniture industry and the techniques used to produce them
- can compare the glues used in the furniture industry based on their properties
- is able to name surface treatment substances used in the furniture industry, as well as methods used to apply them

TE00BF57 Production and Process Planning: 5 ECTS

Learning outcomes

The student

- is able to discuss product qualities with machine and tool suppliers
- is able to select suitable machining techniques for different stages of product manufacture
- can calculate production costs and commands different investment calculation methods
- is able to make layout plans and utilise CAD software when making them

TE00BF58 Product Development Project: 5 ECTS

Learning outcomes

The student

- is able to utilise the product development process in their own design work
- is able to use technical drawing tools in design
- knows how to integrate technical aspects to design
- is able to contribute their knowledge and skills to the work of a design team

TEPUU19S-1009 Sawmill and Joinery Industry: 15 ECTS

TE00BH79 Sawmilling and Further Processing: 10 ECTS

Learning outcomes

The student knows

- the manufacturing processes of different sawmills
- the drying techniques of sawn timber
- the grades of sawn timber and their end uses
- the further processing methods for sawn timber

TE00BH80 Joinery Technology: 5 ECTS

Learning outcomes

The student

- can describe the products, production techniques and applications of the joinery industry
- is able to select the right raw material and machining technique for joinery products
- is able to choose a suitable glue for different uses and analyse the properties of glues
- can take into account construction regulations and guidelines connected with the use of joinery products

TEPUU19S-1010 Wood-based Panels Industry: 15 ECTS

TE00BF54 Wood-based Panels Technology: 10 ECTS

Learning outcomes

The student is able to:

- describe the manufacturing processes of different board products
- knows the main end uses of each board type
- define the technical properties of different board types
- knows the further processing possibilities of different board types

TE00BF55 Research and Development Project: 5 ECTS

Learning outcomes

- make a project plan
- search for literature to support the project
- perceive the goals of a research and development project
- report on the project results and analyse them

TEPUU19S-1011 Practical Training: 30 ECTS

LA00BO03 Practical Training: 10 ECTS

Learning outcomes

The student is able to

- describe work-related phenomena and use related concepts
- act in a productive way, following the practices of the workplace and the ethical principles of the profession
- use the techniques, work methods, models and processes that they have learnt
- act in a customer-oriented way in interactive situations in the workplace and in the cooperation network
- evaluate and develop their own competence int the work done in practical training

LA00BO04 Practical Training 2: 10 ECTS

Learning outcomes

The student is able to

- describe work-related phenomena and use related concepts
- act in a productive way, following the practices of the workplace and the ethical principles of the profession
- use the techniques, work methods, models and processes that they have learnt
- act in a customer-oriented way in interactive situations in the workplace and in the cooperation network
- evaluate and develop their own competence int the work done in practical training

LA00BO05 Practical Training 3: 10 ECTS

Learning outcomes

The student is able to

- describe work-related phenomena and use related concepts
- act in a productive way, following the practices of the workplace and the ethical principles of the profession
- use the techniques, work methods, models and processes that they have learnt
- act in a customer-oriented way in interactive situations in the workplace and in the cooperation network
- evaluate and develop their own competence int the work done in practical training

TEPUU19S-1012 Thesis: 15 ECTS

LA00BN99 Thesis planning: 5 ECTS

Learning outcomes

- apply the acquired theoretical knowledge to the problems and phenomena of the working life
- solve problems, organise and perceive wholes
- work interactively, tenaciously and systematically

- work according to the practices of their own line of trade
- gather information and evaluate sources critically report their work orally, in writing and visually

LA00BO00 Thesis research and writing: 5 ECTS

Learning outcomes

The student is able to

- apply the acquired theoretical knowledge to the problems and phenomena of the working life
- solve problems, organise and perceive wholes
- work interactively, tenaciously and systematically
- work according to the practices of their own line of trade
- gather information and evaluate sources critically report their work orally, in writing and visually

LA00BO01 Thesis publication: 5 ECTS

Learning outcomes

The student is able to

- apply the acquired theoretical knowledge to the problems and phenomena of the working life
- solve problems, organise and perceive wholes
- work interactively, tenaciously and systematically
- work according to the practices of their own line of trade
- gather information and evaluate sources critically report their work orally, in writing and visually

TEPUU19S-1013 COMPLEMENTARY COMPETENCE: 60 ECTS

Courses included in the study module

You can find Complementary Competence courses in a separate curriculum called "Complementary Competence Courses Taught in English, Bachelor's Degree, 17S-".

In addition, you can choose Professional Core Competence courses of other Bachelor's Degree Programmes as your Complementary Competence Courses.