

LAUREA UNIVERSITY OF APPLIED SCIENCES

Degree Programme in Rural Economics (Laurea Hyvinkää, luova), LMB07KAA

CURRICULUMS AT LAUREA

Learning Concept at Laurea

Universities of applied sciences have three tasks set by law: research and development, regional development, and pedagogy. The integration of these tasks has led Laurea to seek solutions that optimise our ability to respond to challenges. The aim is to produce graduates who are investigative developers of their work and of the workplace. We also hope to produce research-based development initiatives for the competence required at work, with visible effects in our operating environments.

As members of an information society, we are caught in a flood of information. Information no longer has to be provided; the most important thing is to learn to process and filter it to obtain important data to use and apply to one's own learning and development projects. Laurea also places importance on ensuring that students grow into skilled experts. Participation in development projects allows students to handle real work processes and to learn to use tools as concepts and skills. The work-oriented development projects provide learning for individuals and for the target community. They also generate new knowledge for developing and reforming the labour market.

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Learning environment

Laurea's learning environment facilitates competence development for learners, organizations, region and partners. The learning environment is a physical and psychological space that expresses the current culture, nature, time, community and practices of development work. Thus, it forms a comprehensive operating environment for competence development. The aim of the learning environment is to facilitate the achievement of learning results while supporting the generation of new know-how and interaction within the operating environment. The learning environment is an implementation of Laurea's target-oriented development.

The learning environment utilizes internal and external networks and is in constant interaction with the world of work. New knowledge and skills are acquired in authentic problem-solving and development tasks, which make the complexity of the real world an object for competence development. Regional influence increases through enriching communities and the networks that they form. Students use projects to learn the basics of networking, social skills and communication with experts in the field. The meeting points between the industry and the study units are significant in terms of the growth of expertise and competence development. Students grow into developers by carrying out development tasks and by interacting in competence networks.

Students make use of diverse information sources and tools in their studies. Interactive learning environments are used to create a framework for structuring learning so that it offers situations, challenges and tools that help learners to utilize their own thought resources. The learning process becomes a continuous problem-solving process, with a focus on research, development and generating new competence. Conscious and systematic development work is used to formulate ideas and practices that boost development, and to generate new know-how. The result is a creation, a new operating method, a model or a product.

The creation of innovative processes is easier in structures that allow space for informal creativity, innovation and the promotion of things that motivate different participants internally. This work is characterised by communality and a socio-cultural environment for learning. It is important to create a spirit of development.

Development work takes place in projects that combine competences from various fields of study. Project teams consist of students, trainees, lecturers and workplace experts whose competences interact at the practical level. Students use projects to complete study units, job placements or theses. Lecturers do not organize and set targets for the project teams' activities in advance; instead, the team members take joint responsibility for this. Students

receive experience of the culture of expertise and of working as equal experts. They increase their self-management and set their own targets. Thus projects facilitate an unlimited learning process, where no glass ceilings are set by curricula, textbooks or instruction. Learning by Developing enables individuality in learning.

Practical applications of innovative learning environments include initiatives and projects carried out as innovative environments in networks, as well as various operating spaces designed for learning and development, skill hubs and development labs. Work consists of collaboration based on shared expertise, which is supported by methods of sharing competence, such as tutoring, lecturing sessions, demonstrations, team meetings, feedback events and seminars.

Students

In Laurea's work-oriented research and development projects, the concept of partnership implies cooperation between lecturers, experts from the labour market and students. The cooperation is based on responsible commitment to the project. All participants are seen as learners, because the development projects aim to produce change and generate new things. Partnership also means mutual respect and appreciation for diverse skills. The progress of the development project depends on sharing competence and building new competence out of different areas of expertise. Students participate as partners who increase their competence by learning how to use new tools and by taking part in various research and development initiatives. Competence is founded on research-based knowledge, understanding the professional context, handling the necessary tasks and managing various workplace situations, to the extent that these skills are needed for each student's degree. In the development projects, students learn as individuals while also participating in shared learning and in producing new know-how.

Lecturers

The role of lecturers in development projects can be described as that of an expert, a participant and a pedagogical leader, who facilitates the students' growth and development into experts in their fields. Laurea's lecturers are in other words researchers and developers, influential players in regional development and teachers.

Published reports by those teachers that work as researchers demonstrate the effectiveness of development projects as reformers and developers of competence in the labour market. Some teachers act as developer and are responsible for identifying and refining the processes of development projects. The third role of lecturers is in workshops, which transmit and share cultural knowledge, and provide students with tools. Lecturership also involves partnerships with the labour market. The industry experts participating in development projects contribute the knowledge contained in workplace competence, while lecturers ensure that evidence-based data are available for explaining this competence. They join forces to produce new know-how for developing and reforming the labour market.

Competence evaluation

The evaluation of competence in Learning by Developing directs future choices and demonstrates how well targets have been met. Competence is seen on the one hand as knowledge of information, skills and values, and on the other hand as experiential competence, which includes individuals' and their community's know-how. Evaluation in a development project looks at individuals' and the project community's learning, the progress and significance of different processes, and the results achieved.

Evaluation is based on the objectives provided in the competence-based curriculum. These objectives define the requirements that students have to meet to achieve their degrees. The generic competences describe the competences shared by all Laurea students as meta-competence placed in a professional context. Themes, on the other hand, define the substance of subject-specific competence, which is deepened by the generic competences. The generic competences build a level of education needed at a higher education institution and at work; meanwhile, the themes build competence needed for employment. The generic competences are defined on three levels. Students choose the level they wish to achieve in each generic competence together with their tutors, and these desired levels are used as a basis for the study plan. Progress in the generic competences is measured qualitatively through portfolios. The study units are graded on a scale of 1 to 5. These grades are shown on the students' degree certificates.

LAUREA'S GENERIC COMPETENCES

Laurea's generic competences

In addition to core competence in the field, five general areas have been defined at Laurea which are important for professionals in all areas to master. These are called generic competences. The generic competences are developed during the studies, and the level of competence is also evaluated. The curriculum's generic competences have been determined by analysing shared competences needed in different employment sectors in the future. The shared generic competences for all degree programmes are:

- ethical competence
- globalisation competence
- innovative competence
- reflective competence
- network competence

Generic competences are closely linked to the contents of the study units.

The generic competences are structured through levels. Each competence has been categorized further, comprising the personal competence level, organisational competence level and social reform level. The targeted generic competence levels have been defined in the curriculum for each degree programme. All Laurea BA students must reach at least the personal competence level in all generic competences. In the case of many generic competences, the social reform level cannot be achieved until in connection with a Master's degree.

Ethical competence

Morals refers to an individual's conception of right and wrong, whereas ethics refers to moral choices to which the individual is consciously committed. Ethics is a systematic attempt to understand moral conceptions. It consists of ethical rules and principles, virtues and values. In the generic competence of ethical competence, morals and ethics are fundamentally linked together, because students' moral competence forms a basis for their ethical competence. Ethical competence consists of four components: (1) ethical sensitivity; (2) ethical motivation; (3) moral-ethical problem-solving; and (4) ethical implementation skills.

In order for student activities to be ethical, they must be sensitive to ethical problems contained in different situations. Ethical sensitivity refers to the ability to recognise the special characteristics, needs, rights and responsibilities of each party. It includes awareness of how one's own actions affect other people's well-being, and involves envisaging and anticipating various action plans and their consequences for each party. Empathy and the ability to put oneself in another's position form the core of ethical sensitivity. Students also need knowledge of the special characteristics of major customer groups and ethical problems in the sector. Ethical sensitivity is characterised by professional interaction skills, which are a target for active development throughout each degree.

Ethical motivation refers to committing to moral-ethical values and taking responsibility for one's own actions. The students' responsibility grows from the personal level to the communal and social levels. In order to develop their ethical motivation, they must also know the value bases of their fields and participate in discussions on values.

Moral-ethical problem-solving refers to the ability to solve ethical problems through critical argumentation. It requires consideration of various possible solutions, as well as knowledge and application of the ethical norms and approaches of the field. Continuously developing competence includes the skill to solve problems in interpersonal relationships, work communities, communities and the global environment, and the ability to justify these solutions.

Moral implementation skills refer to the ability to take target-oriented action to solve ethical problems (negotiation and conflict-solving skills), as well as the courage to act in accordance with ethical values, even in complex situations. In order for professional activities to be ethically sustainable, competence must be developed in all these areas of ethical competence..

Levels of ethical competence

At the personal competence level, students are able to:

- reflect on their own values and the consequences of their actions on other people's well-being
- work with a basis in the profession's values, following ethical principles
- apply the field's ethical norms to problem-solving

- examine situations from different parties' perspectives
- work in a tolerant and understanding way in multicultural networks
- apply ethical principles to R&D projects

At the organisational development level, students are able to:

- take into account the special characteristics, needs and rights of major customer groups in their work
- build customer-oriented interactions and work dialogically
- assume responsibility for the welfare of the community and the ethics of the work done
- examine ethical issues from the point of view of the organisation and the community
- develop fair methods of proceeding in their work

At the social reform level, students are able to:

- critically reflect on their own attitudes and prejudices
- actively participate in social debates on values
- assume responsibility at social and global levels
- make arguments in favour of fair social and global changes
- solve conflicts and influence issues

Globalisation competence

Globalisation refers to series of events and processes that cause the world to merge into a single, all-encompassing social system. In other words, globalisation refers to the processes by which things acquire worldwide scope. 'Globalised' refers to worldwide phenomena and the results of the globalisation process: a fully integrated world. Sustainable development in relation to globalisation is a globalised political programme, whose aim is to increase welfare with environmental responsibility, within the limits of environmental capacity.

Global interaction can be classified as **financial, cultural, political or social interaction**. The science of globalisation also includes questions of **ecology and biology**. Sustainable development brings all these dimensions together, with the aim of observing economic growth, cultural diversity, social welfare and ecology in politics and practice.

Levels of globalisation competence:

At the personal competence level, students are able to:

- make use of international sources of information in the field
- take into account the effects and opportunities of multiculturalism and internationalisation on their fields
- recognise the significance of their professional actions in relation to global interactions and sustainable development
- evaluate their own value bases from the point of view of sustainable development and globalisation, and apply them to their work

At the organisational development level, students are able to:

- take into account the effects of their own sector and its organisations on sustainable development, responsibility and international connections
- promote the values of environmental and social responsibility in organisations in the sector, taking into account global interactions
- apply responsibility for sustainable development to an organisation in the sector
- work in international networks

At the social reform level, students are able to:

- recognise the global nature of social issues and the characteristics of sustainable development
- critically evaluate social values and practices from the point of view of sustainable development, taking into account global interactions

- make arguments at social level, applying the principles of sustainable development and taking into account global effects

Innovative competence

All of the processes of our modern society are undergoing constant changes. Laurea has followed the examples of the EU and Finland in choosing a positive attitude towards change as one of its strategic operating methods. The aim is not just to cope with change but also to see it as an opportunity, which requires constant innovation in order to be embraced. According to these strategies, future professionals must have abilities in innovation, so it is essential to include innovative competence in Laurea's generic competences.

Innovation refers to a novelty that is implemented to generate added value productively. There are three separate elements to this definition: 1) novelty; 2) implementation; and 3) added value. In other words, an idea by itself is not an innovation, nor does a wealth of ideas make a person an innovator.

The innovation process can be divided into three stages: continuous evaluation of the situation; generating innovative ideas; and carrying out an implementation project. Innovation can take place on five levels: individual, team, organisation, network and societal level.

At the personal innovation competence level, students learn to be innovative reformers at individual and professional group levels. In addition, they should be able to participate in the implementation of change initiatives in their immediate work environments.

At the organisational innovator level, students can start up innovation work in their own teams and use all the innovation tools that exist in the organisation's framework. In the increasingly network-oriented operating models of the future, organisational innovators should also support active reforms as part of an informal network.

At the social innovator level, students can complete the tasks of the previous levels as well as continuously monitor and analyse the operation of networks and the society. They can take larger frameworks into account in all change processes and motivate people to work towards shared goals.

Levels of innovative competence:

At the personal competence level, students are able to:

- analyse their own thought processes, knowledge and actions
- plan, organise and develop their own work
- set targets and turn them into appropriate, concrete actions
- come up with new ideas, working creatively, expressing their thoughts and convincing others to participate in developing them
- use various ideation methods
- manage themselves, work during change and in diverse projects
- conduct intermediate and final evaluations of a project

At the organisational development level, students are able to:

- monitor and analyse an organisation's work processes and results
- use benchmarking in developing their work
- use diverse teamwork methods
- lead projects, processes and networks or participate in leading them in ways that inspire commitment in others
- link innovation to an organisation's strategic targets
- take into account the nature and demands of innovation work

At the social reform level, students are able to:

- gather ideas from a network, convince others of them and link them to the social framework
- ensure that participants in innovation work are sufficiently committed (guidance, encouragement)
- create and commercialise innovations
- participate productively in innovation networks, and identify and investigate innovation mechanisms

Reflective competence

Reflection constitutes critical analysis of the principles, starting points and consequences of one's actions. Reflection can target the present moment or the past.

In the reflection of earlier experiences, an individual gives meaning to events. A new meaning makes development possible. As cognitive skills and concepts develop, an individual is able to deal with broader entities, differentiate phenomena and observe new ones more clearly.

In reflection of the present moment, simple, previously unconscious routine actions become conscious activity. In critical reflection, an individual's whole meaning-producing perspective changes as tacit knowledge becomes visible, transforming learned matters into action. Critical reflection implies a relationship with communities, concepts and theories.

Thus reflection is a thought process. Reflection is dialogue and problem-solving based on proven arguments. In open dialogue between people, different perspectives provide new challenges. Learners participating in dialogue can look at different perspectives in order to create shared meanings. Deep thought gives time and space for solving encountered problems by examining and investigating them using research methods.

In order to extend their understanding of themselves in relation to other students, customers, work communities or writers, students need skills in self-examination, critical peer evaluation and analysis of their own resources. Self-management emphasises communality and shared participation. Critical awareness helps students to identify their own learning opportunities and the factors that affect them. Shared reflection on their own activities allows students to test their thoughts and share them with others. Reflection means professional growth and competence led by human metacognitive abilities. In the process of becoming an expert, reflection forms part of an investigative and developmental approach towards work.

Levels of reflective competence:

At the personal competence level, students are able to:

- evaluate their own learning and competence and formulate a personal development plan
- identify development challenges and understand problems
- develop their competence independently and with others, and share what they have learnt in a work community
- assume a role in a group/team
- acquire and analyse information systematically

At the organisational development level, students are able to:

- work dialogically, collaboratively and with self-evaluation
- evaluate their self-management and professional competence as part of a community
- evaluate their own work as part of a group, community or professional field
- work during change, identifying and making use of various opportunities for learning and action
- critically justify the principles of their work
- apply the concepts of development challenges appropriately

At the social reform level, students are able to:

- analyse their own actions in relation to social and historical backgrounds
- evaluate and develop the functionality of regional operating methods and models
- evaluate systematic information that has been structured, produced and written, and develop social activities on the basis of it

Network competence

The generic competence of network competence encompasses a broad range of competences, from individual communication skills to organisation networking and strategic network leadership. Communication is essential to communality and a functioning society. Only with communication can we create shared meanings. Networking and the development of network processes are fuelled by interpersonal and interorganisational communication. In order for social and economic structures to become networked, new kinds of skills and attitudes are needed in the network's participants. Dialogue and interaction are essential resources of a networked society. Laurea's aim is to promote and develop its students' network competence in diverse ways, creating innovative network competence models.

Network competence refers to time-based management of internal and external efficiency in order to significantly increase the efficiency of common practices. Network competence can include networking and network leadership. Network competence and strategic networks are often synonymous. **Networking**, on the other hand, is a cooperation model for companies and organisations, and may involve operators from various fields. **Network leadership** is the model used to manage a network.

Network competence is largely based on the communication skills of the people participating in the networks in question. Without communication and interaction, there can be no functioning networks. Organisations must be able to operate flexibly in a changing operating environment and also to influence the development of the environment. A learning organisation has communication and interaction skills as a central tool for creating functioning networks and developing network competence.

The generic competence examines network competence on three levels. **The personal competence level** (basic level) focuses on developing communication skills and participation in networks. This is the basic level of network competence, which must be mastered by all Laurea students. It is important for students to obtain good communication skills in order to communicate effectively in various situations. Students must also be able to take on active, target-oriented roles in networks.

The organisational developer level (intermediate level) centres on understanding the strategic significance of network competence and partnerships, as well as on analysing and reflecting on his or her own actions from the point of view of the company. Graduates must be able to identify strategic partnerships, promote the organisation's networking with their actions and create new network relationships. The most important thing is a proactive, developmental approach towards network operations.

The social reformer level (advanced level) requires the ability to analyse the operation of entire strategic networks in relation to their environment. This level is achieved by top experts in network competence. Graduates have the ability to lead strategic networks (orchestration) and to anticipate complex social development trends (visioning).

Levels of network competence:

At the personal competence level, students are able to:

- present things in writing, verbally and visually using various communication styles
- act in situations requiring professional communication and interaction
- identify various team work models and work in teams
- participate collaboratively and actively in a network
- take into account cultural differences and work with people with different cultural backgrounds

At the organisational development level, students are able to:

- participate in and manage negotiations
- participate in group communications
- communicate on topics related to their specialist fields to a lay audience
- develop the networked operations of a professional organisation
- take initiatives in developing a network

At the social reform level, students are able to:

- work as experts in communication situations
- plan communications from a strategic point of view, and work with the media

- initiate networked operations and lead a strategic network
- adopt a developmental and predictive approach to work, and influence the work environment
- monitor and analyse networks' operating models

European higher education area

LAUREA'S COMPETENCE-BASED CURRICULUM FORMS PART OF THE EUROPEAN HIGHER EDUCATION AREA

Finnish higher education institutions have reformed their curricula in accordance with the Bologna Process, i.e., the creation of the European Higher Education Area. The EU's strategic targets for education also apply to Finnish education. Each country has its own education system; this diversity is still taken into account, but cooperation and mobility are also needed to allow the citizens of different countries to benefit from the diversity, rather than turning it into a restriction. The Bologna Process started in 1999 at a conference of ministers responsible for higher education. After that, Ministerial Conferences have been arranged regularly, with the latest one in Leuven in 2009. Currently the process involves 46 countries, some from outside the EU. The aim of the Bologna Process is to establish a consistent, compatible and attractive Higher Education Area in Europe by 2010.

The objectives of the process are:

- adoption of easily readable degree structures
- adoption of comparable degree structures
- establishment of a system of credits
- promotion of European cooperation in quality assurance
- increasing mobility
- participation of higher education and students
- lifelong learning
- promotion of European dimensions in higher education
- cooperation between higher education and research

To promote the adoption of easily readable, comparable degrees, the process has created a system based on two main cycles: undergraduate (Bachelor level) and graduate (Master level). Finland has adapted its degree structure to align it with this European objective. In universities of applied sciences, the two-cycle degree is implemented in a way that students obtain a Bachelor's degree, after which they have the opportunity of obtaining a Master's degree. The requirement for Master's degrees is an undergraduate degree plus three years' work experience. The long-term objective is that approximately 20 per cent of Bachelor's-degree graduates will take a Master's degree.

The establishment of a system of credits refers to the ECTS (European Credit Transfer and Accumulation System). Most European countries are adopting this credit system based on the amount of work in each academic year. In the ECTS, one year of study produces 60 credits. The ECTS was adopted more than ten years ago; initially it applied primarily to student exchanges, but now all credit accumulation (previously *transfer*) measurements are made according to the system. Finnish universities of applied sciences adopted ECTS credits in 2005.

The ECTS is a student-centric system, based on the *student workload* needed to achieve the targets set for each degree. The students' learning process is intended to be the focal point of curricula, which define *learning outcomes* and *competences*. Curricula should move away from a focus on individual subjects and the starting points of teaching towards a model that observes the holistic development of students and supports professional growth. This model is referred to as the competence-based curriculum.

From the point of view of promoting mobility, curricula must be internationally understandable. The aim of standardising the structures and learning targets of degrees is to improve the conditions for mobility within and between higher education institutions during the studies, and also in the workplace, after graduation. In terms of the recognition and comparability of degrees taken in different countries, it is important to link learning outcomes to concrete competence requirements and definitions in the labour market. These are the objectives of the "Tuning Educational Structures in Europe" project. It has defined a number of shared *generic competences* that are independent of subjects and fields of study, as well as *subject-specific* (professional) *competences* for certain degrees.

Laurea's competence-based curriculum takes into account the demands of the Common European Framework. Studies are accumulated in the form of credits, while study units are larger entities. Competence is defined in terms of the students' learning outcomes. The generic competences defined at Laurea correspond with the national and European learning outcomes considering the generic competencies and the objectives set for Bachelor-level degrees in the "Joint Quality Initiative" -network. Comparisons have shown globalisation and innovative competence in particular to be unique, so they are well suited to describing the competence produced at Laurea from the point of view of an international university of applied sciences specialising in service innovations. Laurea's innovative efforts in relation to the competence-based core curriculum are a proactive response to the challenges of international competitiveness in the Helsinki metropolitan area. Currently resources are being directed towards further enhancing the quality of the curriculum's implementations in generating new competence and innovations for Laura's operating environment.

Bologna Process

<http://www.minedu.fi/OPM/Koulutus/artikkelit/bologna/index.html>

Tuning Educational Structures in Europe

http://europa.eu.int/comm/education/policies/educ/tuning/tuning_en.html

Operating environment

Major dynamics affecting the operating environment for rural economics in Finland are the simultaneous globalisation and localisation of the market, the liberalisation of the global market for agricultural produce, the consumer, environmental and rural focus of agricultural policies, and the increasing role of technology in production and marketing. The most obvious change is the growing size and decreasing number of farms.

Agriculture in the Helsinki metropolitan area is characterised by a focus on crop farming and a comparatively large proportion of secondary income sources. Rural areas face many specific problems. High costs, particularly in terms of high land prices, slow down the structural development of agriculture. Population growth makes it difficult to practise traditional agriculture close to towns, as these areas may be earmarked for new residential planning initiatives.

Forests in the metropolitan area are used as raw material sources and refreshment areas, and, increasingly, as sources of bioenergy. A challenge faced by forestry is how to keep up forest owners' interest in forests and maintain their knowledge levels high in future, to ensure that forests in the area are looked after and used as best possible. The metropolitan area offers its residents a variety of living environments, ranging from large, densely populated cities to villages and rural settings. In order for nationally valuable landscapes and cultural heritage sites to maintain and develop their characteristics, rural businesses must be allowed to continue operating in the area. For residential environments to be inviting, systematic community and town planning must be carried out, and the services, water supplies and waste management of villages must be improved. Water quality deteriorates due to scattered loading from agriculture, forestry and sparsely populated areas.

The development of rural regions in the metropolitan area shares many of the challenges of the rest of the country, because although most municipalities in the area have gained population through migration from the rest of the country, rural regions have clearly fewer jobs and services than before. The large population of the metropolitan area makes it an important area in terms of the development of interaction between rural and urban sites. The metropolitan area is well suited to innovative rural development initiatives (e.g. new forms of service, marketing and entrepreneurship) as well as solutions to the environmental pressures caused by the large population.

Expertise

Bachelors of Natural Resources are mainly involved with consulting, administration and commerce in relation to basic agriculture. Their expertise lies in their willingness to develop themselves, their work environments, their professions and the countryside as a business and living environment. Bachelors of Natural Resources can solve biological, technical and financial problems in rural economics. They are able to develop and renew professional customs. They know the rural operating environment and its organisations, and have the main skills needed in development work – i.e. IT, languages, project management, consulting and communications.

The professional competence of a Bachelor of Natural Resources is based on the comprehensive mastery of practical competences as well as related leadership and development skills. One of the core competences of the field is the management of agricultural processes. Bachelors of Natural Resources understand the operations of a farm as a whole. They have mastered tasks related to crop and animal husbandry, and can also handle machines. They have a comprehensive understanding of farming, forestry and other rural operations and can plan production

e.g. in investment situations. Quality control and environmental know-how are also important. Bachelors of Natural Resources must understand their operating environment, its opportunities and its threats. Rural development requires a comprehensive approach, combining innovation, knowledge of development programmes and methods, and project management skills. Many graduates work in customer services, having acquired good skills in the area. Bachelors of Natural Resources demonstrate initiative and can plan and manage their own work. Good graduates are entrepreneurial, marketing-oriented, open to change and flexible.

Competences

The competences of a Bachelor of Natural Resources are examined on the basis of the ECTS project for the Degree Programme in Rural Economics:

Agricultural and forestry production

- comprehensive knowledge of farms and their functions and tasks
- ability to cultivate fields appropriately and profitably
- ability to care for, feed and breed farm animals profitably, taking into account their health and welfare
- ability to use farming machines and equipment effectively and safely
- ability to look after and use forests in economically and ecologically sustainable ways

The countryside as an operating environment

- knowledge of the operator networks in rural areas and ability to participate in them
- knowledge of international and national rural policies as well as their effects on the operational principles and development of rural areas and agriculture

Business competence and entrepreneurship

- knowledge of the basic principles and elements of business
- ability to manage and develop rural businesses in planned, financially sound ways

Environmental competence

- knowledge of the environmental effects of the field
- understanding of the interaction between rural businesses and the environment
- ability to develop businesses with environmental responsibility

Competence development process

The content of the learning consists of generic competences and themes defined in the curriculum, selected on the basis of skills required in the industry. The studies emphasise the need for an investigative approach to work, with a focus on authentic work situations and projects carried out in accordance with the LbD method.

Students build their expertise in the biological, technical and financial competences of rural economics gradually, progressing from the basic to the advanced level. At the beginning they acquire skills related to practical tasks and create a framework for later theoretical content. At the same time, students learn to internalise the operating environment of the profession. In the second year, studies progress with modelling and developing processes, integrating theory and practice into one entity. In the third year, students learn about business and environmental management in rural economics, trading in agricultural products and developing rural areas as a whole. Towards the end of their studies, students become familiar with and participate in innovation work in the area. Theses are used to demonstrate the students' expertise in their chosen areas.

Description of the Degree Programme

The degree consists of 240 credits (cr). As specified in the Polytechnics Act (423/2005), it comprises basic, professional and elective studies, practical work to further professional development, and a thesis.

The aim of basic studies is to provide students with a broad understanding of the status and significance of rural economics in the society, the workplace and the international context; to give them experience of general theoretical principles and communication; and to supply them with the necessary language skills. Professional studies are designed to familiarise students with the main problems and applications of rural economics and their bases in science and competence. Graduates should be able to work independently as experts or entrepreneurs, and participate in developing the work community. The objective of practical work is to provide a guided introduction to

the most important practical aspects of work, particularly in rural economics, and to the application of skills and knowledge in the workplace. The aim of the thesis is to develop and demonstrate the students' ability to apply their skills and knowledge (cf. 423/2005).

		1. year	2. year	3. year	4. year	5. year
OP	STUDIES					
055	BASIC AGRICULTURAL PRODUCTION					
00147	Basic Farm Production	35				
00150	Basic Farm Production- job placement	30				
056	SOCIAL COMPETENCE OF A BACHELOR OF NATURAL RESOURCES					
00148	Expertise of a Bachelor of Natural Resources	10				
00448	Professional English	5				
057	FARM PRODUCTION					
00151	Farm Processes		25			
00152	Developing Crop Farms		10			
00153	Developing Cattle Farms		10			
059	BUSINESS OPERATIONS					
00155	Business Operations and Processes		10			
058	RURAL DEVELOPMENT					
00154	Rural Development			10		
00450	Swedish			5		
061	MANAGING A RURAL BUSINESS					
00157	Business Planning			10		
00158	Environmental Management Planning			10		
00159	Farm Performance Analyses			5		
060	TRADE AND LOGISTICS					
00156	Agricultural Trade and Logistics			10		
047	LAUREA'S COMMON STUDIES					
00194	Preparatory Studies in English	3				
00195	Preparatory Studies in Swedish	3				
00202	Initial Test in English Skills	0				
00203	Initial Test in Swedish Skills	0				
00189	Preparatory Studies in Mathematics	3				
00190	Student tutoring					
00191	International Student Tutoring					
00192	Introduction to the Spanish- and Portuguese-Speaking World					
00193	Introduction to Studies in the Baltic Sea Region					
00331	Innoplaza, Study Unit in Entrepreneurship					
00387	Go abroad					
00388	Preparatory Studies in Finnish (as Mother tongue)					
00392	Work and Development in a Community of Experts					
062	INNOVATIONS					
00160	Production and Use of Bioenergy				10	
00161	Developing Technology				10	
00163	Crop Farming Development Methods				5	
063	ORGANIC FARMING					

00165	Organic Crop Production				5	
00166	Organic Animal Production			5		
064	OPPORTUNITIES IN FORESTRY					
00167	Utilising Forests			10		
00168	Forest Management			10		
065	OTHER ANIMAL FARMING					
00169	Pig Farming			10		
00170	Horse Farming			5		
00171	Other Farm Animals			5		
019	THESIS					
00043	Thesis				15	
		0	0	0	0	0

055 BASIC AGRICULTURAL PRODUCTION, 65 cr

00147 Basic Farm Production, 35 cr

The student is able to:

- farm crops
- use and maintain farm machinery and equipment
- care for cattle and pigs
- carry out and plan forestry work
- carry out practical work in accordance with the principles of sustainable development
- take into account occupational safety
- use information technology

Contents of the study unit:

- studying in the field of Natural Resources and the Environment
- socialising motivation
- familiarisation with different learning structures and systems
- operating cultures
- different study practices
- study-related social issues and everyday support for students
- software tools
- memos, reports, analyses
- use and maintenance of farm machinery
- cleaning and feeding farm animals, milking and milk handling
- crop sowing, care, harvesting and storage
- forestry work
- sustainable use of natural resources
- work legislation and occupational safety

Study unit description:

The competence gained in the study unit relates to practical tasks. By following the seasonal changes in farm work, students acquire an understanding of the big picture.

Previous studies:

None.

00150 Basic Farm Production- job placement, 30 cr

The student is able to:

- independently carry out tasks related to field husbandry and other production work at the farm
- have knowledge of practices of the farm's production lines
- manage the farm's production buildings and machinery , and their use
- assess the financial result of the farm's production
- consider work safety in his/her own work and act accordingly
- assess farm production's environmental impacts and find ways to minimise negative impacts

Contents of the study unit:

- crop husbandry tasks
- use, care and maintenance of farm machinery
- tasks involving the care of domestic animals
- forestry tasks
- construction tasks
- horticultural tasks
- written tasks related to farming and reporting on the job placement

Study unit description:

Farm internship is recommended to take place during the first summer of studies, after completing the Basic

Agricultural Production course. The student obtains a suitable farm for internship from home country or abroad, taking the objectives of personal study plan into account. The internship can be carried out continuously or divided between more than one summer or farms. During the internship the student establishes skills obtained earlier in theme studies and gains new knowledge of the farm's work and production. He / she also has to apply theory knowledge to practical work and find ways to develop the farm's work practices and production.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

056 SOCIAL COMPETENCE OF A BACHELOR OF NATURAL RESOURCES, 10 cr

00148 Expertise of a Bachelor of Natural Resources, 10 cr

The student is able to:

- hahmottaa metsä- ja elintarviketalouden osana suomalaista ja eurooppalaista yhteiskuntaa
- arvioida EU:n toiminnan vaikutuksia metsä- ja elintarviketalouteen
- osaa käyttää keskeisiä tutkimusmenetelmiä
- laatia seminaariesityksen

Contents of the study unit:

- maa- ja metsätalous Suomessa ja Euroopassa
- elintarvikeketjun organisaatiot
- kansantalouden keskeiset käsitteet
- yhteiskunnan ja toimintaympäristön muutos
- Euroopan Unionin toiminta
- vuorovaikutustaidot
- tutkiva ja kehittävä toiminta oppimisessa
- tutkimusmenetelmät
- juonnearviointi

Study unit description:

Opintojaksolla tutustutaan elintarvike- ja metsäklusterin toimijoihin ja toimintatapoihin Suomessa ja Euroopassa.

Previous studies:

Ei ole

00448 Professional English, 5 cr

The student is able to:

- communicate fluently both in spoken and written English
- engage in meaningful and logical dialogue and debate in their own professions
- discuss different agricultural and rural issues in English
- develop their language skills in order to succeed in multicultural working life
- acquire skills for professional presentations

Contents of the study unit:

- conversational skills
- presentation skills
- discussion of agricultural and rural issues
- effective reading techniques
- process writing
- advanced grammar

Study unit description:

Students' skills in both spoken and written language are evaluated during the course.

057 FARM PRODUCTION, 25 cr

00151 Farm Processes, 25 cr

The student is able to:

- model and develop farm processes

Contents of the study unit:

- process modelling
- growth factors
- feed production and use
- grain and rape production and use
- use of planning software
- internal production accountancy
- farm animal welfare
- ethics of production
- building professional growth
- language studies

Study unit description:

The competence gained in the study unit relates to biological and production processes in farming.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

00152 Developing Crop Farms, 10 cr

The student is able to:

- participate in a multidisciplinary team to plan and develop the production of a farm which specialises in crop husbandry.

Contents of the study unit:

- crop production and use
- optimising production input at a crop farm
- balances and operating efficiency
- organising water management for a field
- implementing plant protection
- profitability in crop farming
- ethics of production

Study unit description:

This study unit extends skills acquired previously in crop farming. It is carried out in parallel with Farm Processes.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

00153 Developing Cattle Farms, 10 cr

The student is able to:

- participate in a multidisciplinary team to plan and develop the production of a farm which specialises in animal husbandry.

Contents of the study unit:

- purchasing feed
- planning and implementing feeding
- requirements for animal production environments and the production technology used

- product quality
- profitability of production
- animal health
- developing animal material

Study unit description:

This study unit extends skills acquired previously in animal farming. It is carried out in parallel with Farm Processes.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

059 BUSINESS OPERATIONS, 10 cr

00155 Business Operations and Processes, 10 cr

The student is able to:

- model businesses' core and support processes
- carry out small-business accounting tasks
- evaluate the business opportunities of a small rural enterprise

Contents of the study unit:

- basic business functions
- commitments and liabilities in business
- process thinking
- external finances of a small business
- applicable operational management systems

Study unit description:

The competence gained in this study unit relates to understanding business operations as a whole, comprehending the significance of each element and the relationships between them as part of a customer-oriented business. Students learn the basics of financial management and corporate law.

058 RURAL DEVELOPMENT, 15 cr

00154 Rural Development, 10 cr

The student is able to:

- use various methods and tools for developing rural areas.

Contents of the study unit:

- planning, implementing and evaluating development projects
- various consulting situations
- main rural legislation
- village development
- professionally required Swedish

Study unit description:

Students apply previously acquired skills to rural development and learn new work methods in the area.

Previous studies:

None.

00450 Swedish, 5 cr

The student is able to:

- klara sig muntligt och skriftligt i vardagliga situationer
- kommunicera på svenska i de vanligaste situationerna i arbetslivet
- utveckla sina språkliga färdigheter så att han/ hon kan arbeta i jord- och skogsbruk

Contents of the study unit:

- svenska på arbetslivet
- svenska i studielivet och på fritiden
- färdigheter att skriva arbetsansökningar och meritförteckningar
- färdigheter att förstå och använda fackterminologi

061 MANAGING A RURAL BUSINESS, 20 cr

00157 Business Planning, 10 cr

The student is able to:

- formulate business plans for rural businesses, evaluate the profitability and liquidity of farm functions on the basis of given production and financial data

Contents of the study unit:

- farm taxation
- creating a business plan
- investment calculations
- agricultural policy and subsidies
- risks and insurance
- daily monetary transactions

Study unit description:

Students acquire an understanding of the business opportunities in farming and of the financial requirements related to running a farm.

00158 Environmental Management Planning, 10 cr

The student is able to:

- identify the positive environmental effects of agriculture and forestry in terms of maintaining and adding to the diversity of the landscape and nature
- assess the environmental loads caused by rural businesses through land evaluations, calculations and indicators, and plan reduction measures
- create an environmental management programme for a farm
- assess the environmental, financial and sociocultural effects of rural businesses
- estimate the value of farm property in various situations
- know methods for gathering spatial data

Contents of the study unit:

- environmental effects of agriculture and forestry
- creating an environmental management programme for a farm
- plans related to special environmental subsidy applications
- assessing the effects of other rural operations
- environmental changes
- valuing property
- methods for gathering spatial data

Study unit description:

The competence gained in the study unit relates to knowledge of rural economics and practical experience of the rural operating environment gained from a job placement at a farm. Environmental management planning takes into account the different dimensions of sustainable development in farming and rural functions. The study unit emphasises knowledge of the environmental effects of production and taking them into account in planning.

00159 Farm Performance Analyses, 5 cr

The student is able to:

- use various calculation methods to assess the profitability, liquidity and solidity of farms during growth, changes in production focus or generation changes

Contents of the study unit:

- calculation methods
- farm growth
- generation changes
- changes in production focus

Study unit description:

Students increase their competence in relation to the financial operating requirements of farms.

Previous studies:

Business Planning or equivalent knowledge.

060 TRADE AND LOGISTICS, 10 cr

00156 Agricultural Trade and Logistics, 10 cr

The student is able to:

- carry out customer service and expertise tasks in the operating environment for agricultural trade
- assess the effect of their own actions on customer relationships and business
- assess the effect of the global market on agricultural trade

Contents of the study unit:

- commercial operations
- legislation related to seed trading
- Product Liability Act
- product know-how
- logistics and storage
- social responsibility
- business to business
- contracts
- customer service
- marketing

Study unit description:

The competence gained in this study unit relates to understanding the agricultural trade as a whole, comprehending the significance of each element and the relationships between them as part of customer-oriented trading. Competence is based on analysing the interest groups, operations and processes of agricultural trade

047 LAUREA'S COMMON STUDIES, 0 cr

00194 Preparatory Studies in English, 3 cr

The student is able to:

- master basic English vocabulary and grammar
- use various methods for improving their language skills

Contents of the study unit:

- main structures of the English language
- basic English vocabulary

Study unit description:

Students improve their skills in communicating in English as preparation for completing actual studies in the language.

00195 Preparatory Studies in Swedish, 3 cr**The student is able to:**

- master basic Swedish vocabulary and grammar
- use various methods for improving their language skills

Contents of the study unit:

- main structures of the Swedish language
- basic Swedish vocabulary

Study unit description:

Students improve their skills in communicating in Swedish as preparation for completing actual studies in the language.

00202 Initial Test in English Skills, 0 cr**Study unit description:**

At the beginning of their studies, all students who have English and/or Swedish qualifications on prior certificates required for studies at Laurea, or who have received previous instruction in English and/or Swedish take initial tests in these languages. The initial tests are the same for all fields of study and may only be taken once. Students who transfer between degrees within Laurea do not have to retake the test. The test is used to check the students' starting level before language studies begin. Students who fail the test must take preparatory studies in the language at the start of their studies. Having passed the preparatory studies, students obtain credits for inclusion in elective studies.

00203 Initial Test in Swedish Skills, 0 cr**Study unit description:**

At the beginning of their studies, all students who have English and/or Swedish qualifications on prior certificates required for studies at Laurea, or who have received previous instruction in English and/or Swedish take initial tests in these languages. The initial tests are the same for all fields of study and may only be taken once. Students who transfer between degrees within Laurea do not have to retake the test. The test is used to check the students' starting level before language studies begin. Students who fail the test must take preparatory studies in the language at the start of their studies. Having passed the preparatory studies, students obtain credits for inclusion in elective studies.

00189 Preparatory Studies in Mathematics, 3 cr**The student is able to:**

- demonstrate the basic skills of mathematical applications required by his / her field of study

Contents of the study unit:

- recapitulation of upper secondary school mathematics

Study unit description:

Student practices his / her mathematic skills and develops preparedness to complete studies in mathematical applications within the main courses.

00190 Student tutoring, 5 cr

The student is able to:

- understand the objectives and operating methods of the university of applied science and their degree programme
- plan ways of encouraging and motivating new students
- orientate new students in the local learning environment and culture
- market Laurea and its opportunities for studying
- use the communicating and marketing skills needed in marketing Laurea
- act as mentors for students who need special support
- actively promote well-being in a work community

Contents of the study unit:

- intensive training shared by all Laurea student tutors
- planning of the tutoring process at each unit
- orientation of new students
- marketing Laurea's studying opportunities
- acting as a student tutor
- developing competence in personal guidance and counselling

Study unit description:

The competence gained in the study unit relates to orientating new students and to behaving responsibly in typical situations requiring student tutoring at Laurea or one of its units. Competence is based on understanding Laurea's objectives and the basic principles of its operating culture.

00191 International Student Tutoring, 5 cr**The student is able to:**

- understand the objectives and operating methods of the university of applied science and their degree programme
- understand the content of their culture
- plan operating methods related to grouping international students
- familiarise international students with Finnish learning environments and cultures
- actively promote well-being in a work community

Contents of the study unit:

- intensive international student tutor training
- planning of the tutoring process at each unit
- orientation of new international students
- tutoring of exchange students throughout the exchange; participation in exchange student orientation and in coordinated leisure activities
- developing competence in personal guidance and counselling

Study unit description:

The competence gained in the study unit relates to helping international degree and exchange students become settled in Finland, and to behaving responsibly in typical international situations at Laurea or one of its units. Competence is based on understanding Laurea's objectives, the basic principles of its operating culture, and the Finnish culture.

00192 Introduction to the Spanish- and Portuguese-Speaking World, 3 cr**The student is able to:**

- outline the typical operational characters of the region's cultures
- analyse the region as an operating environment in their own fields
- integrate their competence in the region into their professional growth process

Contents of the study unit:

- students' experiences of the Hilu path
- typical operational characters of the region's cultures
- description and analysis of selected companies/organisation/associations operating in Spain, Portugal or Latin America

Study unit description:

The study unit consists of contact sessions, written assignments and a book exam.

The study unit is an introduction to Laurea's "Hilu" (the Spanish- and Portuguese-speaking world) -studies. Laurea offers international study modules focused on specific regions for students who wish to expand their international expertise. The aim is to provide basic knowledge of the target area as an operating environment, to coach students in working there in their own fields and to aid students in finding jobs. The studies are multidisciplinary. Students who complete a whole international module receive a separate certificate. Studies can also be taken as smaller modules. In addition to "Hilu"-studies Laurea offers Baltic Sea Region studies. Asian competence can be developed in the national East and Southeast Asia cooperation network. (More information at www.laurea.fi.)

The studies are taken as part of normal degrees. During the introduction students draft a personal study plan with their responsible tutor, defining the progress of the study path. The scope of the international study paths is 60 credits, with 15 credits each of language and cultural studies, subject-related studies, job placement and thesis.

- The language and cultural studies provide functional competence related to the target region.
- Subject-specific studies are offered with a focus on a specific area, or constructed out of study units and topics that students would take in their normal studies anyway. The perspective agreed with the tutor helps to focus "normal" study units in the direction of the target region.
- Job placements must be related to the target region.
- The Bachelor's thesis is also linked to the target region.

El mundo hispano-lusoparlante means the Spanish- and Portuguese-speaking world. Some of the factors leading to the implementation of the Hilu study path are the increasing interest of Finnish industry and commerce towards Latin America and increased cooperation within the EU. Students on the study path focus on the Spanish- and/or Portuguese-speaking world. The study path offers opportunities to develop specialist competence and expertise in the target region, particularly with a view to obtaining employment. Studies can be chosen from the study offer of Laurea's partner institutions as well.

00193 Introduction to Studies in the Baltic Sea Region, 3 cr**The student is able to:**

- sketch the political, economic, social and ecological special features of the Baltic Sea region
- analyze the Baltic Sea region as an operating environment in relation to own field of study
- integrate the competence concerning the Baltic Sea region as a part of own professional growth

Contents of the study unit:

- Orientation to Baltic Sea region studies
- Students' experiences on the study path
- Cultures in the Baltic Sea region
- Baltic Sea region as a political, economic, social and ecological operating environment

Study unit description:

The study unit consists of contact sessions, a study trip and learning assignments. The study unit consists of contact sessions, a study trip and learning assignments.

The study unit is an introduction to Laurea's Baltic Sea Region studies. Laurea offers international study modules focused on specific regions for students who wish to expand their international expertise. The aim is to provide basic knowledge of the target area as an operating environment, to coach students in working there in their own fields and to aid students in finding jobs. The studies are multidisciplinary. Students who complete a whole international module receive a separate certificate. Studies can also be taken as smaller modules. In addition to Baltic Sea Region studies Laurea offers "Hilu"-studies (the Spanish- and Portuguese-speaking world). Asian competence can be developed in the national East and Southeast Asia cooperation network. (More information at www.laurea.fi.)

The studies are taken as part of normal degrees. During the introduction students draft a personal study plan with their responsible tutor, defining the progress of the study path. The scope of the international study paths is 60 credits, with 15 credits each of language and cultural studies, subject-related studies, job placement and thesis.

The language and cultural studies provide functional competence related to the target region. Subject-specific studies are offered with a focus on a specific area, or constructed out of study units and topics that students would take in their normal studies anyway. The perspective agreed with the tutor helps to focus "normal" study units in the direction of the target region.

Job placements must be related to the target region.
The Bachelor's thesis is also linked to the target region.

Laurea's Baltic Sea Region studies are based on the EU's expansion in the area. Studies are designed so that students can specialise geographically within their own fields of competence (e.g. Business in Russia, Baltics). Another option is to select a topic within the Baltic Sea region (e.g. the environment), which allows for cooperation in different geographical areas and sectors. Studies are partly completed through multidisciplinary projects, partly online and partly in English. Studies are planned and implemented together with partner institutions from the Baltic Sea region, and studies can be chosen from the study offer of partner institutions as well. Other study units related to competence in the Baltic Sea region can be found in different units' selections of elective studies. For further information visit the Laurea website and check its implementation plans. Examples:

- Promoting Intercultural Management for Working Life in the Baltic Sea Region
- Introduction to Russian Competence Russian Cultural History
- Russia as an Operating Environment
- "Family in Kikerino" Project
- Inledning till Nordastudier
- Samhället och arbetsmarknaden i Norden
- Lev och må bra

00331 Innoplaza, Study Unit in Entrepreneurship, 15 cr

The student is able to:

- assess their own qualities and their ability to become entrepreneurs
- work in teams of students with diverse backgrounds
- develop business ideas
- evaluate business opportunities
- investigate and analyse markets and target customer groups
- create business models and earnings principles that suit their business ideas
- come up with realistic business plans, including budgets, on the basis of their business ideas
- present their business plans in a concise manner

Contents of the study unit:

- innovation process and systems
- internal and external company analyses and positioning on the market
- business ideas, business models and business plans
- customer orientation, competitiveness, sales and marketing
- planning the finances and funding of a company
- regulations governing business

Study unit description:

Students develop the ability to create a business plan for a start-up, on the basis of an innovative business idea. Students from different institutions and fields of study work in teams at agreed times over several months, producing business plans. The study unit consists of three modules. The diversity of the students' skills in creating a business plan is supported by the opportunity to attend courses at some of the other participating universities of applied sciences. Each institution grants 15 cr for completing the unit. The study unit's coordinators are Jussi Järvi and Teppo Leppälahti.

00387 Go abroad, 3 cr

The student is able to:

- work successfully in a foreign country's learning and work environment.

Contents of the study unit:

- process of cultural encounters
- target country and target higher education institution, company or organisation
- Finnish culture and education system
- practical arrangements related to exchanges

Study unit description:

In order to apply for the Erasmus grant awarded by the EU or for a grant awarded by Laurea, students departing for international exchanges or job placements must generally complete preparatory international studies.

The studies include the online studies, contact sessions and learning exercises, which vary by unit/region.

Previous studies:

Acceptance onto an international exchange or job placement.

00388 Preparatory Studies in Finnish (as Mother tongue), 3 cr**The student is able to:**

- compose varied factual and functional texts
- make use of different writer's tools and grammar aid
- take on the communicative responses of team work

Contents of the study unit:

- creating a personal communicative profile
- using dictionaries and other tools for language aid
- providing the student for oral and written challenges of study time

Study unit description:

Students improve their skills in speech communication and writing in order to be able to successfully complete their studies in Laurea.

00392 Work and Development in a Community of Experts, 3 cr**Study unit description:**

The Work and Development in a Community of Experts study unit is implemented through genuine development and innovation activities. Students can analyse the core phenomena of development and quality in practice. They can systematically look for solutions related to functions and problems in the expert organisation on which the development project is focused.

Students learn the principles of development work and form a development team. The members of the development team participate in a specific Laurea development work group or project for one academic year.

Thus students receive experience of working as equal experts. They learn to develop their own influencing skills, as well as to evaluate their work as opinion leaders in diverse innovation environments and as collaborative network players.

They evaluate their activities as modifiers, developers and influencers of practices.

062 INNOVATIONS, 10 cr**00160 Production and Use of Bioenergy, 10 cr****The student is able to:**

- identify opportunities for new energy production models
- know the main characteristics of various bioenergy production models
- know the production and purchasing chains for bioenergy raw materials
- know the main regulations affecting the use and production of bioenergy

Contents of the study unit:

- rural innovations
- energy production models
- consumption calculations

- financial comparison of different alternatives

Study unit description:

This study unit takes place in the third or fourth year of study. Students acquire comprehensive knowledge of various energy production alternatives. The study unit ponders opportunities for using farms' own raw materials in bioenergy production.

00161 Developing Technology, 10 cr

The student is able to:

- utilise existing technologies
- apply the possibilities of new technologies

Contents of the study unit:

- technological innovations
- comparing technological alternatives

Study unit description:

This study unit takes place in the third or fourth year of study. Students acquire comprehensive knowledge of ways of applying new technologies.

Previous studies:

Farm Production theme or equivalent knowledge.

00163 Crop Farming Development Methods, 5 cr

The student is able to:

- observe and optimise the use of production inputs
- identify and manage risks related to crop farming
- know the main legislation affecting seed trading

Contents of the study unit:

- growth models
- plant enemies
- pesticides
- pesticide and seed trade legislation
- risk management
- crop production studies and field testing techniques

Study unit description:

This study unit takes place in the third or fourth year of study. Students increase their competence in managing factors which affect crop growth.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

063 ORGANIC FARMING, 0 cr

00165 Organic Crop Production, 5 cr

The student is able to:

- evaluate organic production
- look after the fertility of the land
- create crop rotation, fertilisation and plant protection plans
- know organic crop farming techniques
- know the rules of organic plant protection

- calculate the profitability of production
- assess the quality and marketing outlook of products

Contents of the study unit:

- rules of organic production
- managing land fertility
- planning crop rotation
- managing nutrients in organic farming
- plant protection
- organic crop farming
- profitability of production
- product quality and marketing

Study unit description:

The competence gained in the study unit relates to internalising the principles of organic production in order to apply them to achieve ethical and environmentally sustainable crop production, and to meet consumers' expectations for organic products.

Previous studies:

Students of Degree Programme in Sustainable Development: Rural Economics and Sustainability theme or equivalent knowledge.

Students of Degree Programme in Rural Economics: Basic Agricultural Production or equivalent knowledge.

00166 Organic Animal Production, 5 cr

The student is able to:

- evaluate organic production
- select suitable animal material for organic production
- know the principles of organic farm animal feeding, care, veterinary care and breeding
- handle organic farm animal products
- assess the profitability of production

Contents of the study unit:

- animals on an organic farm
- general principles of organic farming, animal production regulations and supervision
- organic cattle farming
- organic monogastric farm animals
- transition to organic production

Study unit description:

The competence gained in the study unit relates to internalising the principles of organic production in order to apply them to achieve ethical and environmentally sustainable animal production, and to meet consumers' expectations for organic products.

Previous studies:

Students of Degree Programme in Sustainable Development: Rural Economics and Sustainability theme or equivalent knowledge.

Students of Degree Programme in Rural Economics: Basic Agricultural Production or equivalent knowledge.

064 OPPORTUNITIES IN FORESTRY, 0 cr

00167 Utilising Forests, 10 cr

The student is able to:

- plan and develop forestry as part of farming production
- plan and implement farms' forestry and logging operations
- evaluate the productivity and profitability of forestry

Contents of the study unit:

- forest evaluation methods and planning
- planning marked timber areas
- profitability of forestry
- other values of forests
- sustainable use of forests

Study unit description:

This study unit extends skills acquired previously in forestry.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

00168 Forest Management, 10 cr**The student is able to:**

- know the main legislation applicable to forestry
- know the recommendations for environmental management in forestry
- implement good forestry practices

Contents of the study unit:

- diversity of forests
- forestry legislation and programmes
- cooperation in forest management
- valuable forest living environments
- earth types and their protection
- effects of forestry on waterways; protection of waterways
- landscaping
- environmental management recommendations for forestry

Study unit description:

This study unit extends skills acquired previously in forestry.

Previous studies:

Basic Agricultural Production or equivalent knowledge.

065 OTHER ANIMAL FARMING, 0 cr**00169 Pig Farming, 10 cr****The student is able to:**

- know the issues related to the operating environment of pig farms
- know the feeds, nutritional needs, feeding and care of pigs
- know the requirements for a pig production environment
- know the principles of porcine veterinary care and the most important diseases
- know the objectives, methods and means of pig breeding
- evaluate and improve the profitability of pig farming

Contents of the study unit:

- pig farming in Finland and pig farming operating environment
- environmental demands of pigs, piggery fixtures, machinery and equipment, piggeries as workplaces
- pig feeds, digestion, nutritional needs and feeding
- piglet production
- rearing pigs for meat; pigs as slaughter animals
- pig breeding
- veterinary care in a piggery

- production economics

Study unit description:

The study unit teaches issues related to the care and feeding of different pig breeds. It also looks at specific issues in pig farming.

Previous studies:

Students of Degree Programme in Sustainable Development: Rural Economics and Sustainability theme or equivalent knowledge.

Students of Degree Programme in Rural Economics: Basic Agricultural Production or equivalent knowledge.

00170 Horse Farming, 5 cr**The student is able to:**

- know the different types of horse farming and the related business operations
- know the requirements for a horse production environment
- know the central issues affecting equine health
- know the principles of caring for and feeding different horse breeds
- know the issues related to developing equine material, breeding objectives and selection
- evaluate the financial results of horse farming

Contents of the study unit:

- horses in the Finnish countryside
- stables, their fixtures and equipment
- feed, nutritional needs and feeding
- horse breeding
- equine health
- profitability of horse farming
- business opportunities in horse farming

Study unit description:

The study unit looks at the care and feeding of different horse breeds, and at specific issues in pig farming.

Previous studies:

Students of Degree Programme in Sustainable Development: Rural Economics and Sustainability theme or equivalent knowledge.

Students of Degree Programme in Rural Economics: Basic Agricultural Production or equivalent knowledge.

00171 Other Farm Animals, 5 cr**The student is able to:**

- know the issues related to the production, products and significance of their chosen species in Finland
- know the demands placed by the species on the operating environment
- know the nutritional value, properties and use of feeds used for the species
- know the objectives and methods of breeding
- know the methods of preventive veterinary care
- assess the profitability of production

Contents of the study unit:

- main poultry types in Finland
- egg production and poultry meat production
- sheep farming
- (other species)

Study unit description:

Generally, students select three species for the study unit, but their weighting and distribution can be changed according to personal preferences. The main areas are sheep farming and poultry farming, but other species can also be chosen.

Previous studies:

Students of Degree Programme in Sustainable Development: Rural Economics and Sustainability theme or equivalent knowledge.

Students of Degree Programme in Rural Economics: Basic Agricultural Production or equivalent knowledge.

019 THESIS, 15 cr**Description:**

Students can apply an investigative approach to developing the workplace.

The student will be able to:

- cooperate with the workplace and other partners, and evaluate their own work and solutions critically
- work in persistent, target-oriented ways
- produce new information systematically, critically and creatively, and develop the workplace
- conceptualise the phenomena of the workplace with a basis in research data
- manage the big picture, presenting their ideas logically and with justifications
- present well-grounded, practical work development proposals

Content:

The bachelor's thesis is a systematic and logical investigation or practical development task based on research data on a subject that extends the student's professional skills. Theses help students to grow professionally and are linked to the employment sector and to regional development. They can also form part of Laurea's research and development work.

The process begins with familiarisation with the thesis process. After this, students come up with a subject and formulate a thesis plan. The process progresses from implementing the thesis plan to finishing and publishing the thesis. The thesis process includes guided independent work as well as seminars.

The thesis is based on a real-life development challenge. It emphasises interaction with the labour market and an investigative approach. Thesis reports are based around describing object-oriented activities and their results, as well as on theoretical and research-based analyses. Theses contain development proposals for the sector or the workplace, and, at best, broadly significant innovations.

The theme involves the completion of a maturity test, in which students must demonstrate mastery of the subject and good language skills.

Learning process:

In terms of professional growth, the thesis is related to deepening professional competence.

00043 Thesis, 15 cr**The student is able to:**

- present well-grounded work development proposals
- conceptualise the phenomena of the workplace with a basis in research data
- use appropriate research and development methods for generating new data
- participate in development projects, working responsibly in a team with employers and other partners
- evaluate their own work and solutions critically
- manage the big picture, presenting their ideas logically and with justifications

Contents of the study unit:

- familiarisation with the thesis and development project process, and coming up with a subject
- thesis plan describing the background and objectives of the thesis, main data from previous research on the subject, the research and development methods used and an implementation plan
- carrying out the work for the thesis
- reporting on and publishing the thesis
- maturity test

Study unit description:

Students learn to develop real work processes through research, producing new solutions in the form of products, operating models or work cultures.