

LAUREA UNIVERSITY OF APPLIED SCIENCES

Degree Programme in Sustainable Development (Laurea Hyvinkää, luova), LKB06SN

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

The principle of sustainable development derives from awareness of the environmental problems caused by human activity. Some of the major themes in the field of Natural Resources and the Environment are energy issues, the sufficiency of natural resources, the efficient use of renewable resources, the efficient use and recycling of materials, water resource management and opportunities for sustainable construction of societies. In future, environmental issues will become increasingly important in business, as a condition for financially viable operations and as an image question. Topics related to human welfare, spiritual renewal, ethical growth, social justice and equality are gaining significance in the area of sustainable development. In our globalised society, understanding cultural diversity and accepting difference means we have to take local values into account.

The information society emphasises the importance of acquiring, transmitting, presenting and assimilating information. Future challenges include not only using new information technology, but also finding the right kind of information and applying it to environmental planning. Living in a networked society, environmental planners must participate in various clusters and fields of activity in the sector. Depending on the field of specialisation, the work of a Bachelor of Natural Resources can be linked very broadly to the business world and to public sector organisations such as waste management, rural, forestry and water resource management networks, as well as to education and cooperation networks in various other sectors.

In Uusimaa, metropolisation and social dispersion mean that environmental issues must be taken into account in many contexts. The necessary conditions for sustainable social development cannot be found by simply applying facts acquired from the natural sciences; instead we must also examine social changes and community values. The meeting of rural and urban environments creates a lot of opportunities in Uusimaa, but also poses obstacles to sustainable development.

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 to operate in the area. For residential environments to be inviting, systematic community, landscape and town planning must be carried out, while the attractiveness, 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.

Workplace demands on future Bachelors of Natural Resources will be related to issues including independently gathering and applying information, competence in project work, spatial data competence, quality management, communication, social skills, networking, creative thinking and specialist expertise.

Graduates of the degree programme find employment in environmental management and development. They can work as independent entrepreneurs, as company managers with environmental responsibility, in rural development tasks or in the public sector. Graduates can also take care of institutional, consulting or educational services.

Expertise

The knowledge base of Bachelors of Natural Resources is founded in the natural sciences. Knowledge of nature, the ecological state of the environment, the use of natural resources, and the factors affecting all of these issues makes up an important part of the graduates' competence. The ability to apply technological solutions to various environmental restoration projects is also important.

In addition to a scientific viewpoint, graduates must have views on social change and its significance in environmental management and the sustainable use of natural resources. The social science approach is complemented by a humanist approach, which provides Bachelors of Natural Resources with information on human behaviour, values and attitudes, and their significance in promoting sustainable development.

In environmental planning, a regional approach signifies observing global interconnections and understanding the significance of regional and local activity in promoting sustainable development. Rural and urban societies alike make up important fields of operation for environmental planners.

Also important are general work and customer-related skills. These include applying and developing new service innovations; customer relationship management; entrepreneurship; and knowledge of administration and law. Planning process and project working skills also form part of the expertise of a Bachelor of Natural Resources.

Competences

Bachelors of Natural Resources graduating from the Degree Programme in Sustainable Development know the principles of sustainable development and the basic concepts of the environmental field. They understand the workings and current state of the natural environment and can manage, develop and plan environmental changes in accordance with the requirements of sustainable development in both rural and densely built societies. Graduates can handle information gathering, analysis and presentation tasks in environmental planning. They can use spatial data software as well as other planning methods, and apply these methods to environmental planning work. They can also use other software and handle consulting and training tasks in the field. Graduates have an understanding of the legislation affecting the field and can work as environmental experts in companies, organisations or public bodies while taking into account legal, financial and ethical principles.

The competences of a Bachelor of Natural Resources can be summarised as follows, in accordance with the ECTS competence analysis (2005–2006):

1. Knowing the workings of the natural environment and improving its state
 - Students are familiar with the basic mechanisms of the natural environment and can identify and improve its state.
2. Generating operations in sustainable development
 - Students can promote sustainable development by influencing people's attitudes and behaviours, and can identify and organise alternative operating models for supporting the sustainability of environments and societies.
3. Managing planning processes and methods
 - Students know the principles of planning and development work and can use various planning methods in practice.
4. Applying financial control methods
 - Students know the legal aspects of the economy and can apply this information to the operations of companies and organisations.

Ethical competence

Bachelors of Natural Resources know the value base of sustainable development and can justify their actions ethically. They understand the principles of environmental and social responsibility thinking and can apply them at work. They evaluate the effects of their own, the community's and the society's actions on social justice, the sustainable use of natural resources and financial competitiveness.

Reflective competence

Bachelors of Natural Resources can evaluate and develop their own actions from the point of view of sustainable development. They can also evaluate the operating models used by others and analyse a community's actions as part of a broader context. When necessary, they can constructively share information with others and modify their own ways of working and thinking in accordance with the values of sustainable development.

Innovative competence

Bachelors of Natural Resources can question prevalent operating models and justify their comments constructively

with a basis in human welfare, ecology and financial competitiveness. They participate in developing new environmental management methods and can apply the latest innovations in practice.

Network competence

Bachelors of Natural Resources can participate in the sector's clusters and identify their most important strategic partners. They can become networked with private and public-sector operators and participate in environmental networks as active opinion leaders.

Globalisation competence

Bachelors of Natural Resources understand the global nature of environmental issues and see the causes and effects of their own actions at different regional levels. The global concept of sustainable development refers to understanding ecological processes as well as the global connections and local interpretations of social, cultural and economic phenomena. Bachelors of Natural Resources can participate in international operating environments and multicultural communities, communicating in Finnish and foreign languages.

Competence development process

Learning in the Degree Programme in Sustainable Development takes place through the development of knowledge and skills using various methods. 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. Learning takes place in research and development projects carried out in cooperation with employers. Lab work and self-study are used to support the application of information and the development of skills.

The degree programme is built on knowledge-based competence and practical application skills in natural resources, the environment and sustainable development. The degree programme increases the students' ability to develop environmentally friendly, sustainable production methods, to implement development projects and to participate in the environmental efforts of businesses. Students learn to participate in various regional development projects and in expert tasks related to developing rural and built-up areas.

The aim of the education is to provide students with sufficient knowledge and skills on the different local and global elements and action plans of sustainable development. Students develop skills in understanding the diversity of the natural environment and identifying factors affecting its operation and state. They also learn to improve the state of the environment, particularly in the countryside. The degree programme also improves interaction skills needed for project management and teamwork, and looks at new IT applications and other common skills needed for work.

The competence of a Bachelor of Natural Resources develops from knowing the principles of sustainable development and the workings and state of the environment, to applying this knowledge in practical environmental planning tasks. Some of the major areas of expertise covered in the degree programme are understanding global relationships and implementing environmental development and planning regionally.

Description of the Degree Programme

The scope of the Degree Programme in Sustainable Development is 240 credits, consisting of compulsory studies (145 cr), elective studies (30 cr), job placements (50 cr) and a thesis (15 cr). In their compulsory studies, students choose to specialise in one of the following areas: rural industries; environmental issues and sustainable rural development; or environmental restoration and monitoring methods and the sustainable development of environments.

Studying in the Degree Programme

The Degree Programme in Sustainable Development progresses from basic studies to professional studies. Basic studies include knowledge of the workings of nature and the state of the environment, and how to manage factors that influence these issues. The background, concepts and principles of sustainable development are also included in basic studies. Professional (subject-specific) studies deepen and apply the knowledge acquired in basic studies. Students specialise in either rural industries and managing rural environmental issues or in environmental restoration, applying monitoring methods and planning methods that promote the safety, health and enjoyment of the environment. Some of the main skills of a Bachelor of Natural Resources lie in managing and recycling materials, developing rural areas sustainably, managing change in built-up environments, controlling the environmental effects of farming, improving the state of waterways, organising waste management,

entrepreneurship and responsible business operations. Sustainable regional development, knowledge of planning processes and methods, and applications of environmental technology all form part of the graduates' expertise. Competence in a specific field is acquired through development projects carried out for employers by applying basic theoretical knowledge. Graduates also have general workplace skills in areas such as information gathering and processing, use of IT, communication, interaction, foreign languages and project work.

		1. year	2. year	3. year	4. year
OP	STUDIES				
081	STATE AND OPERATION OF THE ENVIRONMENT				
00231	Operation of the Natural Environment	15			
00232	Identifying and Managing the State of the Environment	15			
00168	Forest Management	10			
00233	Recognising Species and Mapping Natural Values	10			
082	SUSTAINABLE DEVELOPMENT AND SOCIAL INFLUENCING METHODS				
00237	Expertise of a Bachelor of Natural Resources	10			
00239	Principles and Applications of Sustainable Development	10			
00448	Professional English				
083	RURAL ECONOMICS AND SUSTAINABILITY				
00242	Farm Production		20		
00243	Farm Processes and Development		10		
00329	Farm work		30		
00244	Rural Environmental Management Planning		10		
00254	Developing Domestic Animal Farming		10		
00255	Organic Production		10		
00152	Developing Crop Farms		10		
084	APPLYING ENVIRONMENTAL RESTORATION AND MONITORING METHODS				
00245	Environmental Technology and Monitoring Methods		15		
00246	Environmental Restoration and Landscape Preservation		15		
00247	Environmental Health And Safety			10	
00248	Material and Energy Flows		10		
00328	Practical work to promote professional development -job placement		30		
085	ENTREPRENEURSHIP AND RESPONSIBILITY				
00249	Entrepreneurship Skills			20	
00250	Environmentally Responsible Business Operations			10	
00331	Innoplaza, Study Unit in Entrepreneurship			15	
086	WORKING AS A PLANNER AND DEVELOPER				
00154	Rural Development			10	
00257	Managing a Built-Up Environment			10	
00258	Innovations			10	
00259	Implementing Business Projects in Farming			10	
00164	Familiarisation with the profession - job placement			20	
00018	Developing Service Innovations			10	
00449	Swedish				5
019	THESIS				

00043	Thesis				15
125	ELECTIVE STUDIES				
047	LAUREA'S COMMON STUDIES				
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				
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			
00387	Go abroad				
00388	Preparatory Studies in Finnish (as Mother tongue)	3			
00392	Work and Development in a Community of Experts				
080	ELECTIVE LANGUAGE STUDIES				
		0	0	0	0

Annual themes and competences

Study		Extent	Competences
00231	Operation of the Natural Environment	15	Globalisaatio-osaamisen kuvaus (H)
00232	Identifying and Managing the State of the Environment	15	Verkosto-osaamisen kuvaus (H)
00237	Expertise of a Bachelor of Natural Resources	10	Globalisaatio-osaamisen kuvaus (H), Reflektio-osaamisen kuvaus (H)
00239	Principles and Applications of Sustainable Development	10	Eettisen osaamisen kuvaus (H), Globalisaatio-osaamisen kuvaus (H)
00242	Farm Production	20	Eettisen osaamisen kuvaus (H), Reflektio-osaamisen kuvaus (O)
00243	Farm Processes and Development	10	Eettisen osaamisen kuvaus (O), Reflektio-osaamisen kuvaus (H)
00329	Farm work	30	Eettisen osaamisen kuvaus (H), Globalisaatio-osaamisen kuvaus (H), Innovaatio-osaamisen kuvaus (H), Reflektio-osaamisen kuvaus (H), Verkosto-osaamisen kuvaus (H)
00244	Rural Environmental Management Planning	10	Globalisaatio-osaamisen kuvaus (O), Innovaatio-osaamisen kuvaus (O)
00245	Environmental Technology and Monitoring Methods	15	Globalisaatio-osaamisen kuvaus (O), Verkosto-osaamisen kuvaus (O)

00246	Environmental Restoration and Landscape Preservation	15	Verkosto-osaamisen kuvaus (O)
00247	Environmental Health And Safety	10	Eettisen osaamisen kuvaus (O), Globalisaatio-osaamisen kuvaus (O)
00328	Practical work to promote professional development -job placement	30	Eettisen osaamisen kuvaus (H), Globalisaatio-osaamisen kuvaus (H), Innovaatio-osaamisen kuvaus (H), Reflektio-osaamisen kuvaus (H), Verkosto-osaamisen kuvaus (H)
00249	Entrepreneurship Skills	20	Globalisaatio-osaamisen kuvaus (O)
00250	Environmentally Responsible Business Operations	10	Eettisen osaamisen kuvaus (O), Reflektio-osaamisen kuvaus (Y)
00154	Rural Development	10	Globalisaatio-osaamisen kuvaus (O), Innovaatio-osaamisen kuvaus (O)
00257	Managing a Built-Up Environment	10	Reflektio-osaamisen kuvaus (O)
00258	Innovations	10	Globalisaatio-osaamisen kuvaus (O), Innovaatio-osaamisen kuvaus (O)
00164	Familiarisation with the profession - job placement	20	Eettisen osaamisen kuvaus (H), Globalisaatio-osaamisen kuvaus (H), Innovaatio-osaamisen kuvaus (H), Reflektio-osaamisen kuvaus (H), Verkosto-osaamisen kuvaus (H)

H - Personal competence level

O - Organisational development level

Y - Social reform level

081 STATE AND OPERATION OF THE ENVIRONMENT, 30 cr

00231 Operation of the Natural Environment, 15 cr

The student is able to:

- examine the environment as a biological and ecological entity and apply ecological data in practice
- know the basic concepts of hydrology and water circulation
- specify a water system's catchment area and assess the effect of the catchment area on water quality and movements
- know the factors affecting atmospheric and weather-related processes and the climate
- recognise important geological and geomorphological formations and their characteristics, knowing the main rock and soil types of Finland
- interpret maps

Contents of the study unit:

- environmental ecology and biology
- geological processes and human effects
- hydrology and limnology
- meteorology and climatology

Study unit description:

The competence gained in the study unit is based on understanding the basic facts of the field and examining phenomena statistically and cartographically.

Previous studies:

None.

00232 Identifying and Managing the State of the Environment, 15 cr

The student is able to:

- know the causes and effects of global and Finnish environmental problems and propose ways of influencing them
- assess the state of the environment using various indicators
- know the principles of material and energy flows and process thinking
- know the opportunities for the sustainable use of natural resources
- identify the most common organisms and biotopes of their living environment
- know the different levels of natural diversity
- know the basic processes of farming
- understand the opportunities for using spatial data in the field

Contents of the study unit:

- global environmental problems
- state of the Finnish environment
- material and energy flows
- process thinking
- natural resources and their sustainable use
- natural diversity and how to protect it
- basic processes of farming
- spatial data in natural resources and the environment

Study unit description:

The competence gained in the study unit is based on knowledge of global environmental problems, of the state of the Finnish environment and of rural industries. The study unit provides students with skills for evaluating the state of the environment.

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.

00233 Recognising Species and Mapping Natural Values, 10 cr**The student is able to:**

- identify the most common vascular plants, vertebrates and invertebrates in Finland
- identify Finland's biotopes
- know Finland's weeds
- map natural values

Contents of the study unit:

- vascular plants
- vertebrates and invertebrates
- weeds
- most common mapping methods for Finland's flora and fauna
- mapping natural values
- field work

Study unit description:

The study unit provides skills in recognising, mapping and valuing species.

Previous studies:

None.

082 SUSTAINABLE DEVELOPMENT AND SOCIAL INFLUENCING METHODS, 20 cr**00237 Expertise of a Bachelor of Natural Resources, 10 cr****The student is able to:**

- act as opinion leaders in the environmental field and use various communication methods
- know the operating environment for an environmental planner
- use basic IT programs
- know the practices of studying in a university of applied sciences
- communicate in English in their fields

Contents of the study unit:

- use of IT
- communication skills

- expertise of a Bachelor of Natural Resources
- socialising motivation
- familiarisation with different learning structures and systems
- different study practices
- study-related social issues and support for students
- English language

Study unit description:

Students learn about the concepts of sustainable development and the environmental field. They also become familiar with the field of work and IT tools of an environmental planner.

Previous studies:

None.

00239 Principles and Applications of Sustainable Development, 10 cr

The student is able to:

- know the content of sustainable development and understand its significance in their fields
- examine the relationship between humans and nature
- know the prevalent trends and change management methods in society
- know the action plans, meters and indicators used in sustainable development
- know the principles of environmental law
- apply research and development work methods

Contents of the study unit:

- concept and environmental dimension of sustainable development
- sustainable development action plans
- local agenda
- sustainable development indicators
- meters for ecological efficiency
- environmental values and philosophy
- environmental policy
- basic legal concepts and constructs, law of obligations
- research and development work

Study unit description:

The competence gained in the study unit is based on understanding the dimensions of sustainable development. Knowledge of the frameworks for sustainable development, social activity and the legal system forms the foundations for learning. Understanding of environmental values and the ability to apply various environmental programmes and meters are also emphasised.

Previous studies:

None.

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.

083 RURAL ECONOMICS AND SUSTAINABILITY, 70 cr

00242 Farm Production, 20 cr

The student is able to:

Students are able to:

- understand the national significance of agriculture and other rural industries
- know the processes involved in farming
- carry out farm work
- utilise modern farming technology
- evaluate farming from the point of view of sustainable development
- know the basic principles of agricultural policy and the different levels of agricultural administration

Contents of the study unit:

- rural industries and their national significance
- principles and tasks of crop farming
- principles and tasks of animal farming
- principles, tasks and main legislation of forestry
- farm economics
- rural entrepreneurship
- agricultural policy and agricultural administration

Study unit description:

The competence gained in the study unit focuses on knowing the basic processes involved in rural industries. Students learn the basic concepts and production methods of agriculture and forestry. They learn to see the countryside as an operating environment from different perspectives and can use this knowledge as a basis for interactive planning in the countryside.

Previous studies:

None.

00243 Farm Processes and Development, 10 cr

The student is able to:

Students can model and develop farm processes.

Contents of the study unit:

- process modelling and machine chains
- growth factors
- feed production and use
- grain and rape production and use
- use of planning software
- profitability of production
- farm animal welfare
- ethics of production

Study unit description:

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

Previous studies:

Farm Production or equivalent knowledge.

00329 Farm work, 30 cr

The student is able to:

- carry out tasks related to farm production
- learn the production practices of their host farm
- assess the financial results of production operations
- take into account occupational health and safety as well as ethics
- examine the environmental effects of their host farm and make development proposals

Contents of the study unit:

- familiarisation with the rural operating environment
- tasks related to the host farm's production operations
- identifying the environmental, social and financial effects of production
- reporting on the placement

Study unit description:

Farm placements should be completed in the summer of the second year of study, after completion of the other compulsory study units in the Rural Economics and Sustainability theme. The host farm can be in Finland or abroad, and must take into account the targets set in each student's personal study plan.

Placements help students to consolidate skills they have acquired in earlier studies and to learn new things about farm work and production. Students must apply their theoretical knowledge in practice and find ways to develop work and production methods.

Previous studies:

Compulsory study units of the Rural Economics and Sustainability theme or equivalent knowledge.

00244 Rural Environmental Management Planning, 10 cr

The student is able to:

- identify the positive environmental impacts 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 socio-cultural impacts of rural businesses
- estimate the value of farm property in various situations
- know methods for gathering spatial data

Contents of the study unit:

- environmental impacts of agriculture and forestry
- creating an environmental management programme for a farm
- plans related to special aid applications of environmental state aid
- evaluating the impacts of other forms of rural economics
- change in state of environment
- evaluating property
- methods for gathering spatial data

Study unit description:

The competence gained in the study unit is based on knowledge of rural economics. 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 impacts of production and taking them into account in planning.

Previous studies:

Farm Production or equivalent knowledge.

00254 Developing Domestic Animal Farming, 10 cr

The student is able to:

Students can 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

00255 Organic Production, 10 cr

The student is able to:

Please refer to theme 063 Organic Farming in the Degree Programme in Rural Economics.

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.

084 APPLYING ENVIRONMENTAL RESTORATION AND MONITORING METHODS, 70 cr

00245 Environmental Technology and Monitoring Methods, 15 cr

The student is able to:

- know the processes of producing and using environmental monitoring data
- know the basic methods of water and soil sampling
- work in labs and interpret results
- identify problems related to water and soil system restoration

Contents of the study unit:

- producing and using environmental monitoring data
- sampling methods

- water quality analyses
- safe use of a laboratory
- authorities and main legislation
- water resource management

Study unit description:

The competence gained in the study unit relates to applying knowledge acquired previously to improving the state of the environment.

Previous studies:

State and Operation of the Environment theme or equivalent knowledge.

00246 Environmental Restoration and Landscape Preservation, 15 cr

The student is able to:

- know the methods for water system and soil restoration
- provide advice to owners of real estate in sparsely populated areas with regard to water resource management
- evaluate the effects of specific measures
- know the main permit application methods and legislation
- know the practices of landscape preservation

Contents of the study unit:

- water system and soil restoration
- authorities and main legislation in relation to, for example, restoration and environmental permit issues
- water resource management
- landscape analyses and planning landscape preservation

Study unit description:

The competence gained in the study unit relates to learning and using technical environmental management and restoration methods.

Previous studies:

State and Operation of the Environment theme or equivalent knowledge.

00247 Environmental Health And Safety, 10 cr

The student is able to:

- know the effects of the environment on human organs and well-being
- analyse the quality of environmental hygiene
- know the methods of microbiological sampling
- know environmental risks and how to prepare for them
- know the factors affecting environmental safety

Contents of the study unit:

- human organism and its interaction with the environment
- living environments and well-being
- microbiology
- environmental risks
- environmental safety

Study unit description:

The competence gained in the study unit relates to environmental health, safety and hygiene. Students learn the main characteristics of microbiological sampling and research methods.

Previous studies:

State and Operation of the Environment theme or equivalent knowledge.

00248 Material and Energy Flows, 10 cr

The student is able to:

- evaluate product life cycle models
- know the principles of managing material and energy flows
- know the principles of waste management and recycling

Contents of the study unit:

- life cycle models
- logistics
- consumerism
- waste management
- recycling
- incineration processes
- energy issues

Study unit description:

The study unit deepens the students' competence in the sustainable use of natural resources.

Previous studies:

State and Operation of the Environment theme or equivalent knowledge.

00328 Practical work to promote professional development -job placement, 30 cr

The student is able to:

- apply information from their fields in practical tasks
- work in the field of natural resources and the environment
- evaluate their own inputs as members of a work community
- develop their competence and work methods
- take into account the effects of the workplace on ecological, financial and social sustainability
- report on their work to Laurea and make development proposals

Contents of the study unit:

- tasks in the field in accordance with the personal study plan
- evaluating work and making reports

Study unit description:

In the basic job placement, students develop their workplace skills and become familiar with a company or public sector body in the environmental field. Students are recommended to complete the basic placement in their first year of study. Placements can be completed in Finland or abroad, in one or two stages.

Previous studies:

None.

085 ENTREPRENEURSHIP AND RESPONSIBILITY, 30 cr

00249 Entrepreneurship Skills, 20 cr

The student is able to:

- interpret phenomena in the economy from a business perspective
- recognise their entrepreneurial skills
- model core and support processes of businesses
- apply laws and norms regulating business to their work
- carry out the bookkeeping of a small company
- know the main principles of the VAT system and taxation of individuals, companies, agriculture and forestry
- understand the significance of values in business
- find and assess business opportunities in the environmental field

- formulate business models and earnings logics in line with a business idea
- create a realistic, customer-driven business plan and start up operations

Contents of the study unit:

- economic structures and processes
- basic business functions
- process thinking in business (company core, control and support processes)
- external financial administration of small businesses
- taxation
- ERP systems to support business
- responsible business operations
- business ideas, business models and business plans
- planning the finances and funding of a company
- managing business risk

Study unit description:

The competence gained in the study unit develops from general knowledge of basic economic mechanisms to practical application skills. Having completed the study unit, students are able to start up a business in the environmental field.

Previous studies:

None.

00250 Environmentally Responsible Business Operations, 10 cr

The student is able to:

- act as managers with environmental responsibility
- formulate and develop an organisation's quality and environmental policy as part of business operations
- participate in planning and implementing internal and external evaluations, reviews and audits of an organisation's quality and environmental management

Contents of the study unit:

- responsible business operations
- developing an environmental management system
- developing a quality management system
- environmental and quality communications
- social and environmental policy-related management methods for companies
- acting as an opinion leader

Study unit description:

Students receive skills in working as environmental experts in companies. They learn about the content of environmental and social responsibility plans and about the legal background of environmental issues.

Previous studies:

Sustainable Development and Social Influencing Methods theme or equivalent knowledge.

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.

086 WORKING AS A PLANNER AND DEVELOPER, 35 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.

00257 Managing a Built-Up Environment, 10 cr**The student is able to:**

- know the factors affecting a built-up environment
- know the main legislation and planning methods related to planning
- know the effect assessment process and how to apply for environmental permits
- participate in planning processes as experts in their fields and as users of planning methods
- take into account natural values and circumstances in planning
- assess the opportunities for the society and different industries to influence the preservation of diversity

Contents of the study unit:

- changes in built-up environments
- town and land use planning
- Land Use and Building Act
- interactive planning and participation methods
- socially sustainable environments
- natural circumstances in planning
- evaluating and planning environmental effects
- communication and interaction skills
- spatial data systems in planning

Study unit description:

The competence gained in the study unit relates to information needed in environmental planning and the skill to apply this information in practical planning tasks. Competence is based on understanding the regional approach to environmental planning. Students learn to participate in information gathering, analysis and presentation tasks in environmental planning processes.

00258 Innovations, 10 cr**The student is able to:**

- identify needs for new operating methods and services in the environmental field
- participate in innovation processes
- evaluate new rural operating methods and opportunities
- evaluate alternative energy production and transfer methods

Contents of the study unit:

- innovations in the environmental field
- innovation processes
- new technologies
- energy

Study unit description:

Students can develop innovations and new operating methods, and apply new technologies.

Previous studies:

None.

00259 Implementing Business Projects in Farming, 10 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
- farm and business funding processes

Contents of the study unit:

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

Study unit description:

The study unit deepens the students' competence in the development of rural areas.

Previous studies:

None.

00164 Familiarisation with the profession - job placement, 20 cr**The student is able to:**

- apply information from their fields in practical tasks
- work in the field of natural resources and the environment
- evaluate their own inputs as members of a work community
- develop their competence and work methods
- take into account the effects of the workplace on ecological, financial and social sustainability
- report on their work to Laurea and make development proposals

Contents of the study unit:

- planning tasks
- expertise and development tasks
- evaluation
- reporting

Study unit description:

The job placement should be carried out in the third year. Placements can be completed in Finland or abroad, in one or several stages. Generally, practical work to promote professional development cannot be recognised as part of other studies.

In their job placements, students extend the knowledge they have acquired in previous studies and placements to include planning, evaluation and development of their own work. They improve their interaction skills and become familiar with the business of the employer.

Previous studies:

Other study units in the Practical Work theme or equivalent knowledge.

00018 Developing Service Innovations, 10 cr

The student is able to:

- describe development objectives from the perspectives of the labour market and regional development
- participate in a partnership network
- work effectively in a team and act as opinion leaders in a community of experts
- evaluate their own and others' competence, work and results in accordance with development objectives
- use the tools and methods of applied R&D in development work
- carry out and report on an objective-oriented development project

Contents of the study unit:

- determining development needs
- creating a context and knowledge base
- planning, implementing and evaluating the development process
- working in a shared expertise group

Study unit description:

The study unit forms an objective-oriented development project, where the competence gained is that of a developer using investigative research methods. The object of competence development is determined for each cluster by Laurea's research and development policy.

Previous studies:

Main professional competences minimum of 120 cr or equivalent knowledge.

00449 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 kunskaper så att han/ hon kan arbeta i miljöbranschen

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

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.

125 ELECTIVE STUDIES, 0 cr

Description:

Students use elective studies to deepen and broaden their competence in various themes and generic competences. Students should choose study units to align the content of their studies with their own personal

interests and career objectives.

Content:

Each curriculum contains a theme consisting of elective studies. In the students' personal study plans, the theme should be made up of the study units chosen by the student from Laurea's language studies, Laurea's shared studies or another degree programme's curriculum. Any studies completed at another higher education institution (university of applied sciences, university, Online University of Applied Sciences, foreign institution) that cannot be recognised for the degree programme but that the student wishes to include in the degree should be classified under this theme. The number of credits from elective studies can be set separately for each degree programme, taking into account recommendations for the field of study. The aim is to have at least 15 cr of elective studies in each degree programme

047 LAUREA'S COMMON STUDIES, 0 cr

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.)

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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

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.

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.

080 ELECTIVE LANGUAGE STUDIES, 0 cr