

LAUREA UNIVERSITY OF APPLIED SCIENCES

Degree Programme in Business Information Technology (Laurea Kerava, tiko), NTE07KA

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

In future, the operating environment for business information systems will focus on applied technology. The change is evident in company investments, which are increasingly directed towards research and development, training, organisational development, customer relationship management, marketing and software. Information and communication technology is utilised more widely and innovations in the field take on a key role.

The operating environment for business information systems requires skills in managing and developing a company's functions and processes using IT services and solutions. Applied research and its realisation through development work are essential in competence development. These tasks overlap and meet in product development.

Data networks are constantly needed and used more than before in our networked society. Those working in IT build and develop online services and data network solutions. New mobile services bring challenges for the developers of networks and their services. The capacity to change and learn new things is essential in order to innovatively identify novel IT-based services and systems that can arise from existing technologies and software.

Laurea forms part of a business information systems value network and operating environment. Laurea's learning environments are development units that form part of the labour market's business information systems operating environment, and act as meeting places for employment and education. Close interaction with the labour market produces new operating models and systems, and helps to document and analyse research and development. At the same time, the network generates knowledge reserves and application methods. The network develops competence as part of the regional innovation system, by merging R&D into teaching and learning activities. Thus students acquire the necessary competence for acquiring certification in the workplace.

The focal point of applied R&D aiming towards new services in business information systems is applied product development in networks, service systems and security. Major development areas lie in improving operating and production environments; improving recognition of service processes and customer demands; developing service process and service chain control systems; improving information management in service networks; and creating new work and operating methods.

Expertise

The knowledge base of business information systems is multidisciplinary. The main sciences involved are computer science, mathematics, engineering, behavioural science, business, linguistics and communications. Computer science is a methodological science that looks at the technology, methods, opportunities, effects and applications of systematic data processing and its development in businesses and organisations. Computer science examines the algorithms that describe and modify data, i.e. the theory, analysis, planning, implementation and application of algorithmic processes.

The development and application of business information systems involves not only computer science but also

engineering, linguistics, labour science and communications. The significance of behavioural science grows as processes become more interactive. At Laurea, the subject of business information systems relates to applying the results of the abovementioned sciences in multidisciplinary practical solutions.

Bachelors of Business Administration graduating from the Degree Programme in Business Information Systems may obtain employment as IT service experts, system experts, system designers, IT designers, software architects, technical designers, web application developers, network developers, programmers, micro support or online support people, IT trainers or consultants. As their experience grows, their careers may take them towards increasingly demanding IT jobs.

Graduates of Business Information Systems can work in companies that develop IT services and solutions or any other businesses or organisations that use these services and solutions. Employment opportunities lie in developing or maintaining IT services and solutions in trade, industry, social services, health care, education or public administration. They also have the necessary competence for becoming entrepreneurs.

Work in business information systems usually takes place in project-related teams. Cooperation, communication and social skills are important, while interaction skills are needed for internal and external customer contacts, and for meeting and working with various operators in the field.

Graduates work in making IT services and solutions usable for organisations and employees. This work requires consistency and planning; the ability to complete tasks from start to finish; persistence; accuracy; attention to detail and the ability to handle things as a whole; logical reasoning; and creative problem-solving skills. Experts in the field have to be prepared to continue learning and applying new things.

Graduates in Business Information Systems have the necessary practical skills for participating in developing, implementing and adopting information management solutions for organisations. The aim is to achieve a level of expertise that combines professional skills and a strong theoretical basis. Practical skills are acquired during the programme through projects, job placements and the thesis, which are carried out in authentic workplace situations in partnership with companies and other organisations.

At Laurea Leppävaara, students develop competences in planning and implementing information systems based on IT networks, which support business processes and comply with data protection regulations. Students can build, maintain and develop data networks, network solutions and service products with a basis in research and development. They can create information systems, data-intensive services and service products founded on applied R&D. They acquire skills in promoting and developing an organisation's data protection, security practices and information security solutions and services.

At Laurea Kerava, students develop competences in digital media and interface usability. They can develop and build customer-oriented, interactive, visual and usable digital media solutions. They can model and build databases and information structures utilising media elements. Students have mastered the methods of applied user culture and usability studies, and can apply their results to customer-driven planning. They acquire skills in promoting and developing various operating units' digital media solutions and services at different stages of the production chain, such as market research, product concepts, customer-driven planning, information structure design, visualisation, and image, video and sound production for media elements.

Competences

The competence produced by the Degree Programme in Business Information Systems is based on developing and promoting solutions and the field as a whole. The swift development of the business information systems sector and its competences, as well as the need for interaction with organisations operating in the society, pose challenges for the students' competence development. Students learn to evaluate the bases of their own learning and to plan their own development processes, as well as to work in groups and to identify needs for development in the field.

In the Degree Programme in Business Information Systems, competence development is based on developing the field and the region. This perspective enriches learning and the generation of new competence. Anticipatory examinations of the competences and technologies needed in the field facilitate the renewal of content in learning environments and in the curriculum's themes. Enriched skills and dynamic content production develop based on the principles for developing the sector, increasing the students' motivation and enthusiasm for acquiring and utilising new competence.

Students learn to become developers, using appropriate development methods for business information systems and acquiring an applied, investigative approach to work. They obtain skills in cooperating with organisations and other operators in the field. A part of this interaction process is founded in the skill to communicate in Finnish, Swedish and English.

Students of the Degree Programme in Business Information Systems also receive business skills, learning to recognise basic business functions, define business processes and understand the significance of their own work in terms of business operations. Business competence requires multidisciplinary understanding of the sector from the point of view of creating new services and new business. To be experts, students need comprehensive skills in finance and in developing practical solutions and applications. This, in turn, stresses the need for skills in marketing and sales.

Leadership competence is based on self-management, but the management of networks, groups and individuals is also important. General competence in human relations is essential, as are skills in interaction, cooperation and teamwork.

Some of the core competences in the Degree Programme in Business Information Systems relate to information systems, data processing infrastructures, data networks, digital communications, usability development, databases, information structures and applied research and development. Innovative competence is often emphasised in the multidisciplinary development of new solutions and services.

A further aim of the degree programme is to promote the implementation of ethical solutions in business information systems, a critical approach to solutions and their consequences, a global perspective to development, and the ability to act in multicultural environments.

Competence development process

Growth to be an expert in business information systems is a lifelong professional development process. Students develop by learning within a competent professional community, and by researching and developing chosen areas. Students act as investigative developers in development teams, with the aim of generating new competence in line with a given target. The objective of the learning process is the purposeful generation of data and the development of related social customs. Mastery of professional information and skills and knowledge of influencing mechanisms are essential requirements for development work. In the competence development process, the individual's skills, knowledge, beliefs and values develop and change.

The students' professional growth progresses through the stages of professional identity, which could be described as: committing to being a student at the university of applied sciences (settling); becoming socialised in the professional culture and working customs of the sector; and developing as an expert while engaging in professional development and lifelong learning.

Continuous learning is based on development work. The learning process requires and improves critical thought strategies and skills in justifying solutions and evaluating evidence. In other words, work consists of a continuous problem-solving process, with a focus on research, development and generating new competence. The result is a creation, a new operating method, a model or a product. During the process students continuously learn new things and increase their expertise.

Development work takes place in shared-expertise teams. When participating in communities, students interact with other learners, with lecturers and with partners from the employment market, adopting ways of operating that are characteristic to a culture of expertise. A build-up of culture-related information on the area of expertise, the nature of skills, techniques and teaching methods is necessary for competence development.

The chosen development projects put students into contact with actual developers of the world of work. Interaction facilitates competence development, skills in participating in employment networks and flexible transfers into working life. Students use their projects to learn the basics of networking, social skills and communication with experts in the field. Cooperation with diverse groups of experts teaches students to understand the principle of networking – i.e. dividing work sensibly between different areas of expertise.

Studying in the Degree Programme

Students of the Degree Programme in Business Information Systems progress towards expertise in their fields. Studies are staggered so as to allow a gradual deepening of expertise.

At the initial stage of their studies, students learn to use learning tools and to apply them, particularly in the context of LbD. Other skills are related to, for example, project work and an investigative approach. At the same time, students start to become familiar with the substance of business information systems, seeing the significance of the field in the social context.

In addition to specialist competence in business information systems, students develop skills in business and leadership. These competences are linked to the sector's operating environment and are studied from the first year.

In their second year, students develop their expertise in the field. They build the foundations of their ability to work in various operating environments of the sector. This is supported by job placements, whose content can be chosen by the students themselves.

The distribution of job placements over the degree programme is set in each student's personal study plan. The first placement is carried out towards the beginning of the degree, and is used to build a bridge to the employment sector. The second placement, towards the end of the studies, deepens the students' practical competence and helps them to become profiled as developers of the field.

Third-year students continue to develop their expertise in business information systems. The objective of the themes in the third year is to help students apply what they have learnt and grow into developers of their field. The thesis works towards these same aims, giving students opportunities for refining their career paths. Competence and expertise increase and deepen throughout the studies through optional and specialisation studies.

		1. year	2. year	3. year	4. year
OP	STUDIES	30	60	60	60
036	BUSINESS INFORMATION SYSTEMS AND PROFESSIONAL GROWTH				
00099	Becoming a Business Information Systems Professional	10			
00100	Swedish in the IT field	5			
00635	Written skills in Swedish	0			
00634	Oral skills in Swedish	0			
040	USER INTERFACES IN DIGITAL MEDIA				
00111	Developing User Interfaces	10			
00112	Visual Design and Media Elements	10			
041	DIGITAL MEDIA PRODUCTION PROCESS				
00113	User-Centred Design	15			
00114	From Design to Implementation in a Web Environment		10		
042	DIGITAL MEDIA SERVICES				
00119	Component-Centred Software Development		15		
00120	Advanced Internet Services		10		
046	WORKPLACE COMPETENCE IN BUSINESS INFORMATION SYSTEMS				
00121	Job placement in Business Information Systems		15		
019	THESIS				
		30	60	60	60

036 BUSINESS INFORMATION SYSTEMS AND PROFESSIONAL GROWTH, 15 cr

Description:

Opiskelija osaa työelämälähtöisen tutkivan toiminnan perusteet, ennakoivan, tutkivan ja kehittävän työtavan sekä alan tarpeelliset työmenetelmät ja työkalut. Opiskelija suorittaa toisen kotimaisen kielen virkamiestutkinnon.

The student will be able to:

- hahmottaa itsensä kehittämisen tavoitteita ja valita kehittämisen kohteita
- luoda henkilökohtaisen oppimisen tavoitteet ja suunnitelmat
- hahmottaa ja arvioida alan osaamista ennakoivan tutkimuksen avulla
- luoda sisältöjä ja hahmottaa käsitteistöä englanninkielisestä aineistosta
- toimia sosiaalisessa arvoverkostossa ja osaamista rikastavassa yhteisössä
- havaita uusien ratkaisujen ja palvelujen merkityksiä menestymisen edellytyksinä
- sitoutua ja motivoitua vaikuttavaan toimintaan työyhteisössä ja toimialueen arvoverkostossa
- tarpeelliset työmenetelmät ja työvälineet
- perustella asiat kirjallisesti
- toimia työyhteisössä ruotsin kielellä

Content:

Teeman opintojaksot muodostavat kehittämisen kokonaisuuden, jonka lähtökohdat määräytyvät opiskelijan omista lähtökohdista ja alalla menestymisen edellytyksistä. Alalla tarvittavan ydinosaamisen ja tulevaisuuden tutkimuksen avulla hahmotetaan tärkeitä kehittämiskohteita ja muodostetaan kestävä pohja motivoitumiselle ja kehittäjäksi oppimiselle. Opintojaksoissa tarkastelunäkökulmana on osaamisen yhdistäminen ja osaamisen tuottaminen arvoverkostoon. Opintojaksot kiinnittävät opiskelijan valitseman oppimisen kohteellisuuden, toiminnan ja motivaation. Osa opinnoista toteutetaan ruotsinkielisenä, mikä tuottaa toisen kotimaisen kielen virkamiestutkinnon.

Learning process:

Teema on aloitusteema ja sijoittuu ammatillisen kasvun alkuun ensimmäiseen opintovuoden aloitukseen. Oppijan kehittämisosaaminen ja motivaatio ilmenevät yhteisöllisenä tutkivana ja kehittävänä työtapana. Oppimisprosessin lähtökohta on alan- ja alueen kehittäminen sekä toimiminen arvoverkostossa. Opiskelijan omat tavoitteet ja kehittämisen kohteet laaditaan henkilökohtaiseksi opintosuunnitelmaksi.

00099 Becoming a Business Information Systems Professional, 10 cr

The student is able to:

- analyse future needs for competence in business information systems
- communicate efficiently using spoken and written Finnish
- use general methods, tools and devices of the sector
- make use of Finnish and English IT-information sources
- outline the core competences of the sector and their significance
- define, choose and evaluate personal competence development objects and targets
- implement their personal study plans
- know the principles of development work
- use the methods and tools of the sector
- promote interaction and cooperation with their work

Contents of the study unit:

- Laurea's learning model
- core competences of the industry
- main development strategies and targets in the industry and the region
- creating a personal study plan based on an analysis of R&D needs
- planning, implementing and evaluating an applied research and development process
- working independently, in groups and in networks
- competence in tools, work methods and work stations
- argumentative writing and oral presentation

Study unit description:

The competence gained in this study unit forms the basis of developmental competence. Students map the core competences of the business information systems sector, as well as its future needs for competence. The study unit describes the effect and importance of new competence in a value network and in regional development. Students assess the value of their own competence as a success factor and enabler.

00100 Swedish in the IT field, 5 cr

The student is able to:

- communicate in Swedish in IT-jobs
- communicate in an interactive, customer-orientated manner
- obtain and make use of information related to IT

Contents of the study unit:

- essential IT- and company terminology
- oral and written professional communication
- introducing oneself, education and work experience •

Study unit description:

Students attain at least skill level B1.2 as defined in the Common European Framework. In addition, students receive grades of good or satisfactory in oral and written language skills in accordance with the language skill requirements of civil servants.

Previous studies:

Kasvu tietojenkäsittelyn ammattilaiseksi -opintojakso tai vastaavat tiedot.

00635 Written skills in Swedish, 0 cr

Study unit description:

This study unit is for evaluating written skills in Swedish.

00634 Oral skills in Swedish, 0 cr

Study unit description:

This study unit is for evaluating oral skills in Swedish.

040 USER INTERFACES IN DIGITAL MEDIA, 20 cr

Description:

Opiskelija osaa suunnitella, toteuttaa ja kehittää toimeksiantajan strategisia tavoitteita tukevia, visuaaliselta ilmeeltään laadukkaita käyttöliittymiä soveltavan tutkimus- ja kehittämistoiminnan avulla.

The student will be able to:

- toimia kehittäjänä digitaalisen median käyttöliittymiä tuottavissa monipuolisissa ympäristöissä
- toimia joustavasti ja muutnoskykyisesti yhteistyössä eri toimijoiden kanssa
- analysoida, huomioida ja soveltaa asiakkaan tarpeita ja toiveita kehityksen lähtökohtana kulttuuriset erot huomioiden
- soveltaa työskentelyssään visuaalisen suunnittelun perusperiaatteita
- suunnitella, tuottaa ja yhdistää eri mediatyyppejä tarkoituksenmukaiseksi kokonaisuudeksi
- hallinnoida ja mallintaa projektin toteutus
- käyttää tietoverkkoa tietoliikennealustana
- seurata alansa kehitystä ja ymmärtää sen toiminnallinen vaikuttavuus
- analysoida, soveltaa ja yhdistellä tietojaan ja taitojaan eri tutkimus- ja kehittämismenetelmiä hyödyntäen

Content:

Teema sijoittuu ammatillisen kasvun ensimmäiseen vaiheeseen tuottaen opiskelijalle digitaalisen median perustyövälineet, joiden varassa hän pystyy kehittämään osaamistaan. Autenttiset kehittämishankkeet suuntaavat,

syventävät, konkretisoivat ja jäsentävät oppimisprosessia.

Learning process:

Teeman sisältämä digitaalisen median verkkoviestintäosaaminen on perustana tietojenkäsittelyn ammatillistiedolliselle ja ammatillistaidolliselle osaamiselle. Teeman opintojaksot muodostavat osaamisen kokonaisuuden, jolla opiskelija voi toimia verkkoviestinnän kehittäjänä globaalissa työ- ja elinympäristössä sekä vaikuttajana monialaisessa osaamisverkostossa. Opiskelija osaa työssään käyttää soveltavaa, tutkiva ja kehittävää otetta ja tutkia ja kehittää olemassa olevia käyttöliittymiä.

00111 Developing User Interfaces, 10 cr

The student is able to:

- kuvata, kehittää ja toteuttaa käyttöliittymiä toimeksiantajan strategisten tavoitteiden tukemisen näkökulmasta
- käyttää verkkojulkaisun keskeisiä työvälineitä ja tekniikoita
- kehittää ja julkaista verkossa esitettäviä sisältöjä
- analysoida verkkosisältöjen erilaisia toteutusratkaisuja
- huomioida sovellusalueeseen perehtymisen merkityksen sivuston kehittämisessä
- arvioida www-sivustojen kehittämistarpeita ja käyttökelpoisuutta
- hyödyntää tietoverkkoa tietoliikennealustana
- huomioida verkkosisältöjen kehitystyössä erilaiset immateriaali- ja sopimusoikeudelliset näkökulmat sekä muut oikeudelliset ongelmat
- toimia vastuullisena osallistujana digitaalisen median projektimuotoisessa tuotannossa

Contents of the study unit:

- www-sivuston kokonaisvaltainen suunnittelu, kehittäminen ja julkaisu
- käyttöliittymäsuunnittelun perusteet
- selainpohjaisen käyttöliittymän tekninen toteutus
- käyttöliittymästandardit
- verkkoviestintä ja käsikirjoittamisen vaatimukset
- projektityöskentelyn hallinnointi
- tietoverkko työskentely-ympäristönä
- verkkosivustoon liittyvät immateriaali- ja sopimusoikeudelliset sekä muut oikeudelliset ongelmat

Study unit description:

Opintojaksolla saavutettava osaaminen ilmenee valmiutena suunnitella, kehittää ja toteuttaa sisällöltään harkittuja ja rakenteellisesti oikeellisia www-sivustoja. Opintojaksolla luodaan valmiudet digitaalisen median projektimuotoiseen työskentelyyn osallistumiselle sekä alan keskeisten työvälineiden hallintaan.

Previous studies:

Kasvu tietojenkäsittelyn ammattilaiseksi -opintojakso tai vastaavat tiedot.

00112 Visual Design and Media Elements, 10 cr

The student is able to:

- kehittää luovasti www-sivustolle aihetta ilmentävän visuaalisen ilmeen
- digitaalisten kuvien tuotantoprosessin ja osaa hyödyntää digitaalisen median sovellusohjelmien mahdollisuuksia markkinointiviestinnän kehittämisessä
- hyödyntää vektorigrafiikkaa digitaalisen median tuotantovälineenä luovasti
- tuottaa 2D animaatioita ja hyödyntää niitä digitaalisen median viestinnän kehittämisessä
- ottaa huomioon kansainväliset trendit visuaalisessa suunnittelussa
- toimia globaaleissa tieto- ja mediaympäristöissä, hankkia tietoa ja olla osana niiden kehitystä

Contents of the study unit:

- multimediallin visuaalinen suunnittelu
- digitaalinen kuvankäsittely
- vektorigrafiikkaohjelmien käyttö mediaelementtien toteuttamisessa
- 2D-animaatio-ohjelmien käyttö multimediaesitysten toteutukseen
- multimediaesitysten suunnittelu ja käsikirjoittaminen

- mediaelementtien liittäminen osaksi verkkosivuja
- globaalien kehittämissympäristöjen hyödyntäminen multimedian toteutuksissa

Study unit description:

Opiskelija osaa tuottaa sekä optimoida mediaelementtejä osaksi multimediaesityksiä siten, että sivustolla on halutun tavoitteen mukainen visuaalinen ilme. Opiskelija osaa vektorigrafiikan ja digitaalisen median työvälineiden hyödyntämismahdollisuudet multimediaesitysten tuotannossa sekä hallitsee erilaisten grafiikan tuotanto-ohjelmien yhteiskäytön monipuolisesti. Opiskelija oppii 2D animaatioiden perusteet ja rakenteen suunnittelun ja osaa lisätä mediaelementtejä niihin. Opiskelija hallitsee animaation hyödyntämisen multimediaesityksissä, sekä osaa liittää animaatioita osaksi muuta verkkoviestintää. Opiskelija osaa hankkia tietoa ja tuottaa sitä kansainvälisen multimedian kehitysympäristöihin ja hallitsee eri kulttuurien ja genren vaikutuksen mediaillaisuun.

Previous studies:

Käyttöliittymien kehittäminen-opintojakso tai vastaavat tiedot.

041 DIGITAL MEDIA PRODUCTION PROCESS, 25 cr

Description:

Opiskelija osaa toimia digitaalisen ja interaktiivisen median suunnittelu-, toteutus- ja kehitystehtävissä. Opiskelija työskentelee käyttäjäkeskeisen suunnitteluprosessin mukaisesti soveltavaa tutkimus- ja kehitystoimintaa hyödyntäen.

The student will be able to:

- toimia kehittäjänä digitaalisen median monipuolisissa toimintaympäristöissä
- tutkia ja kehittää digitaalisen median palveluja, tuotteita ja tuotantoprosesseja
- työskennellä käyttäjäkeskeisen suunnittelu- ja tuotantoprosessin sekä alan eettisten sääntöjen mukaisesti
- kehittää vastuullisesti osaamistaan digitaalisen median ratkaisujen suunnittelussa ja toteutuksessa
- kehittää ja toteuttaa innovatiivisia suunnitteluratkaisuja käyttäjäkeskeisten tutkimusmenetelmien avulla uudenaikaisissa kehitysympäristöissä
- toimia muutostyöskentelyssä ja yhteistyössä eri toimijoiden kanssa
- suunnitella, toteuttaa ja kehittää tietorakenteita ja tietokantoja

Content:

Teeman sisältämä digitaalisen median tuotantoprosessiosaaminen on alan keskeistä ammatillistiedollista ja ammatillistaidollista osaamista. Teeman opintojaksot muodostavat kokonaisuuden, jonka avulla yksilö osaa toimia innovatiivisesti vuorovaikutteisten digitaalisten mediatuotteiden kehittäjänä muuttuvassa toimintaympäristössä. Opiskelija osaa sekä suunnitella että arvioida ohjelmistoratkaisuja eettisesti kestäväällä tavalla ja tulevaisuuden tarpeet huomioiden. Valinnaisissa opinnoissa opiskelija voi syventää osaamista mm. mediaelementtien käytössä, käytetty-vyystutkimuksessa sekä verkkopalvelun hallinnoinnissa ja testauksessa.

Learning process:

Teema sijoittuu ammatillisessa kasvussa keskivaiheille. Autenttiset kehittämishankkeet suuntaavat, syventävät, konkretisoivat ja jäsentävät oppimisprosessia.

00113 User-Centred Design, 15 cr

The student is able to:

- toimia digitaalisen median alan suunnittelu- ja tuotantoprosessin innovatiivisena kehittäjänä
- nähdä tuotteen tai palvelun käyttäjät innovaatioprosessin voimavarana
- suunnitella, toteuttaa ja hallinnoida käyttäjäkeskeisen suunnittelu- ja tuotantoprosessin
- hahmottaa konseptisuunnittelun ja luovan ongelmanratkaisun menetelmien mahdollisuudet suunnitteluprosessissa
- organisoida, analysoida ja raportoida käyttäjätutkimuksen alan eettisten normien mukaisesti
- hyödyntää prototyyppejä käyttöliittymäsuunnittelussa
- mallintaa, suunnitella ja toteuttaa tietorakenteita ja tietokantoja osana käyttöliittymän iteratiivista kehittämistä
- tiedon kyselykielen tehokkaan käytön tietokannan hallinnan välineenä

Contents of the study unit:

- käyttäjäkeskeinen suunnittelu

- käyttäjä- ja käytettävyydestutkimus
- esteetön suunnittelu
- iteratiivinen tuotekehitys
- ideointimenetelmät ja konseptointi
- tietorakenteen ideointi ja kehittämismenetelmät
- tiedonhallinta ja tietokannat
- tiedon kyselykielet
- käytettävyyden arviointi ja arviointimenetelmät

Study unit description:

Opintojaksolla hankitaan valmiudet toimia digitaalisen median alan suunnittelu- ja tuotantoprosessissa sekä osallistua tutkimus- ja kehitystoimintaan. Opintojakso antaa valmiudet käyttäjävetoisen digitaalisen mediatuotteen rakenne- ja käyttöliittymäsuunnitteluun.

Previous studies:

Käyttöliittymän kehittäminen -opintojakso tai vastaavat tiedot.

00114 From Design to Implementation in a Web Environment, 10 cr

The student is able to:

- ohjelman suunnittelun ja toteutuksen menetelmät ja kuvaustavat
- ohjelmointikielen perussyntaksin ja rakenteen
- suunnitella, toteuttaa ja kehittää toimivia vuorovaikutteisia tietokantapohjaisia verkko-palveluja
- suunnitella ja toteuttaa ratkaisuja uudenaikaisissa kehitysympäristöissä
- suunnitella, toteuttaa, kehittää ja testata interaktiivisia digitaalisen median ratkaisuja

042 DIGITAL MEDIA SERVICES, 25 cr

Description:

Opiskelija osaa suunnitella, toteuttaa ja kehittää käyttäjakeskeisiä, selkeitä ja korkeatasoisia digitaalisen median ratkaisuja ja niihin liittyviä sisältöjä ja palveluja soveltavan tutkimus- ja kehitystoiminnan avulla

The student will be able to:

- analysoida ja mallintaa yrityksen toimintaprosesseja palvelujärjestelmien kehittämiseksi
- toimia kehittäjänä digitaalisten palvelujärjestelmien toteutuksessa ja hallinnassa
- kehittää, suunnitella ja toteuttaa digitaalisen median verkkopalveluja
- tutkia alan kehitystä ja ottaa käyttöön alan uusimpia teknologioita.
- tuottaa uusia innovatiivisia palveluja
- tuottaa sisältöä mobiililaitteisiin
- kehittää vastuullisesti palvelujärjestelmäosaamistaan monipuolisissa toimintaympäristöissä
- kehittää järjestelmän toteutusprosessia

Content:

Teema sijoittuu ammatillisessa kasvussa ammatillisuuden syventävään vaiheeseen, jossa opiskelija oppii toimimaan oman alansa asiantuntijana ja kehittäjänä kansainvälisessä arvoverkostossa. Autenttiset kehittämishankkeet laboratorioissa suuntaavat ja syventävät oppimisprosessia.

00119 Component-Centred Software Development, 15 cr

The student is able to:

- analysoida ja mallintaa yrityksen toimintaprosesseja
- hahmottaa ohjelmistoarkkitehtuuria sekä komponenttikeskeisen ohjelmistosuunnittelun periaatteita
- käyttää graafisia käyttöliittymäkomponentteja osana toimivan käyttöliittymän suunnittelua
- soveltaa uusia teknologisia ratkaisuja itsenäisten web-palvelujen tekoon tai osana laajempaa arkkitehtuuriratkaisua
- kehittää, suunnitella, toteuttaa ja dokumentoida skaalautuvia digitaalisen median verkkopalveluja
- tutkia palvelujen kehitystä ja ottaa käyttöön alan uusimpia teknologioita

Contents of the study unit:

- mallinnus- ja suunnitteluprosessi
- oliopohjainen kehittämisprosessi
- ohjelmistotuotteen dokumentointi
- nykyaikaisten arkkitehtuuriratkaisujen konseptointi ja kehittäminen
- verkkopalvelujen suunnittelu, toteutus, kehittäminen ja innovointi
- tulevaisuuden verkkopalveluratkaisut

Study unit description:

Opintojakson syventyvä osaaminen ilmenee nykyaikaisten verkkopalvelujen ja niiden toteutusten kehittämisenä. Kehitystyön perustana opiskelija saa kokonaisnäkemyksen nykyaikaisista arkkitehtuuriratkaisuista ja niiden mahdollisuuksista ja kehittää osaamistaan korkeatasoisten verkkopalvelujen asiantuntijana

Previous studies:

Suunnitelmasta toteutukseen verkkoympäristössä -opintojakso tai vastaavat tiedot.

00120 Advanced Internet Services, 10 cr**The student is able to:**

- suunnitella, kehittää ja toteuttaa usean median kautta julkaistavaa sisältöä
- tutkia ja soveltaa informaatioarkkitehtuuriratkaisuja, jotka tuottavat keskenään kommunikoivia älykkäitä verkkopalveluja
- yhdistää tietojärjestelmiä ja sisällöntuotantoteknologiaa
- tuottaa sisältöä mobiililaitteisiin
- käyttää erilaisia digitaalisia kanavia yrityksen liiketoiminnan tukena
- toteuttaa yrityksen tarpeita vastaavia palveluratkaisuja
- arvioida omaa kehitystyötä sekä dokumentoida sitä

Contents of the study unit:

- universaalit sisällöntuotantostandardit
- internetin lisäarvopalveluiden hyödyntäminen yritysten liiketoiminnan tukena
- sisällön tuottaminen langattomille laitteille
- livinglab-toiminta ja alan kehittäminen
- uusien informaatioteknologisten ratkaisujen soveltaminen
- tulevaisuuden sisällöntuotantopalveluratkaisut

Study unit description:

Opintojakso liittyy opiskelijan kehittymiseen uusien teknologiaratkaisujen soveltamisessa. Opiskelija oppii hyödyntämään ja kehittämään ratkaisuja, jotka pohjautuvat uusimpiin kehittyviin sisällöntuotantoteknologioihin ja niihin liittyviin standardeihin. Oppiminen tapahtuu oppimisympäristöissä tutkivan ja kehittävän toiminnan avulla.

Previous studies:

Komponenttikeskeinen ohjelmistotuotanto -opintojakso tai vastaavat tiedot.

046 WORKPLACE COMPETENCE IN BUSINESS INFORMATION SYSTEMS, 15 cr**Description:**

Opiskelija soveltaa ja kasvattaa osaamistaan työelämän tietojenkäsittelytehtävissä analysoimalla ja kehittämällä harjoitteluorganisaation tietojenkäsittely-ympäristöä tai käytänteitä.

The student will be able to:

- soveltaa ja kehittää osaamistaan työelämän tietojenkäsittelytehtävissä
- toimia täysvaltaisena työyhteisön jäsenenä
- perehtyä itsenäisesti harjoittelutehtävissä tarvittaviin uusiin taitoihin
- havainnoida ja analysoida kriittisesti harjoitteluorganisaation tietojenkäsittelyn toimintaympäristöä
- laatia harjoitteluorganisaation tietojenkäsittelyn toimintaympäristöä tai tietojenkäsittelykäytäntöjä koskevia perusteltuja kehittämisohjelmia
- hahmottaa ehdotettujen muutosten vaikutuksen harjoitteluorganisaation arvoverkostossa

- arvioida omaa tietojenkäsittelyosaamistaan
- arvioida uramahdollisuuksia tietojenkäsittelytehtävissä

Content:

Teema painottuu käytännön työelämän ja siihen liittyvän osaamisen kehittämiseen

00121 Job placement in Business Information Systems, 15 cr

The student is able to:

- apply and develop their competence in workplace business information system tasks
- participate fully in a work community
- independently acquire new skills required for the job placement
- observe and critically analyse the data processing environment of the host organisation
- formulate well-founded development proposals regarding the host organisation's data processing environment or practices
- outline the effects of proposed changes on the host organisation's value network
- evaluate their own competence in business information systems
- evaluate their career opportunities in business information systems

Contents of the study unit:

- creating a work competence development plan
- practical work in a host organisation
- drawing up a development report
- evaluating competence and complementing career plans

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.

