

LAUREA UNIVERSITY OF APPLIED SCIENCES

Degree Programme in Business Information Technology (Laurea Leppävaara, tiko), NTA14KN

INTRODUCTION TO LAUREA

Laurea's Mission

The strategic intent of Laurea University of Applied Sciences is to be "an international developer of well-being and competitiveness of the Helsinki Metropolitan area in 2020.

Laurea is a student-centred, international, inspiring and innovative university of applied sciences whose mission is to conduct education, research, development and innovation activities in international value networks following the operating model of Learning by Developing (LbD).

The students will encounter authentic workplace actors and their competence will be challenged during their studies. A student graduating from Laurea will be able to act in new situations, anticipate future trends, develop new operating models and examine the world with open eyes. Laurea's mission is to be an internationally networked university of applied sciences with an operating method that creates links between learning and the working life. This way, new competence will be produced and service innovations generated.

Competence Development

At Laurea our focus is on the student, emphasising the student's freedom and responsibility. The students are offered an opportunity to develop their competence as required by their professional goals. Freedom means that the learning outcomes may be achieved through different modes of studying. Responsibility means an active approach to studying, responsibility for your own choices and a constructive and motivated attitude towards doing things together. Laurea's staff is responsible for supporting and guiding the student's professional growth.

Internationality at Laurea means numerous opportunities for being active in various multicultural settings, developing your language skills, going on student exchanges and taking part in international research and development (R&D) projects.

Focus areas refer to areas of strong expertise on which the education offered by Laurea and Laurea's R&D activities are based. Laurea's focus areas are service business, expertise in nursing and coping at home as well as security, safety and social responsibility. Student entrepreneurship is a cross-cutting focus area, which is visible in Laurea's activities not only as an entrepreneurial attitude and cooperation with companies but also as concrete new businesses that the students may set up even before completing their studies.

Laurea produces experts for the future who can develop their own work, are professionally committed and have capabilities for serving in expert tasks in their own fields.

The education aims for an extensive and strong professional competence. Workplace driven projects also develop management competence, communication skills, creativity and ethical competence. The graduates will have capabilities for following and promoting the development of their professional fields and for continuous improvement of their personal professional competence. The education imparts the students adequate communication and linguistic skills for tasks in their fields as well as for international activities and cooperation.

Campuses

All of Laurea's campuses have their unique profiles, and they offer different learning environments:

The Hyvinkää campus specialises in the renewal of welfare services. The campus has a multi professional approach to developing financial, legal, social and health-related competence. You can study for a Bachelor's degree in Health Care (nurse), Social Services or Business Administration. Your studies will offer you opportunities to develop services in workplace projects together with working life specialists. The campus makes use of such development environments as a simulation hospital, simulation classrooms and a project learning environment in the provision of

education.

In Kerava you can choose a degree programme in Business Management or Business Information Technology. You can specialise in the management of customer-oriented service business, study tourism management or develop specialist competence in business information technology. The Kerava campus plays a pioneering role in both blended learning and virtual education. Learning through projects and acting in an international network of partners will be a standard part of your studies in Kerava.

Leppävaara SID focuses on service renewal. SID stands for Service Innovation and Design, which means user-centered innovation, development and design of services. Laurea SID provides a setting for active learning and turns out graduates who are innovative, internationally oriented and development-focused specialists of service business. In Leppävaara, you can study for a degree in Hospitality Management, Business Management, Business Information Technology or Security Management.

The Lohja campus is profiled as a developer of wellbeing and services. In the Bachelor of Health Care degree programme, nursing of adults and mental health work are emphasised. In the degree programme in business administration, you can focus on marketing, eBusiness, management and wellbeing business. Authentic workplace projects are carried out, and private and public sector services are developed, in such learning environments as Terveystori ('Health Market') and Yrityslabra ('Business Lab').

On the Otaniemi campus, students generate welfare and business competence together with working life actors. The campus is a multicultural and multidisciplinary meeting point where you can build yourself a professional network and study for a Bachelor's degree in Health Care (physiotherapist, nurse, public health nurse), Social Services, or Business Administration. The purpose of this network is to support the development of your competence and to generate new services, products and business. You may also launch your own business as part of your studies.

On the Porvoo campus, students of nursing take part in authentic workplace projects. You will build up strong basic capabilities in wellbeing entrepreneurship and work together with companies of this field during your studies. You will be offered opportunities for virtual study in the form of inspiring, up-to-date and versatile online implementations.

The aim of the Tikkurila campus is to promote future welfare. Its goal is to develop services in a participatory process with customers and to boost welfare. In Tikkurila, you can study for a Bachelor's degree in Health Care (nurse, public health nurse), Social Services (social welfare sector or correctional services), Business Administration or Beauty Care. As a student you will have opportunities for building up your competence in various development projects and learning environments together with working life specialists.

LEARNING BY DEVELOPING (LbD)

Laurea's inspiring and innovative learning environments are based on the model of Learning by Developing. The idea of Learning by Developing is built around authentic encounters with the working life. The ensuing cooperation is based on trust and creativity.

The students learn to identify targets for workplace and competence development, to create new solutions, products and operating models and to develop their own action in observance of changing workplace requirements. The typical characteristics of LbD include authenticity, partnership, experiential nature, creativity and a research-oriented approach.

Learning by Developing combines learning that produces competence with creativity through various research and development projects. Learning builds on new opportunities that open up as the project progresses. The required competence is accumulated through practical activities in various workshops and labs.

DEGREE STRUCTURE IN EDUCATION LEADING TO A UNIVERSITY OF APPLIED SCIENCES DEGREE

Scope and Extent of the Degree

The scope of a Bachelor's degree in Business Administration, Hospitality Management, Beauty Care, and Health Care (physiotherapist, nurse) is 210 credits, and it takes on average 3.5 years to complete. The scope of a Bachelor's degree programme in Health Care (public health nurse) is 240 credits, and it takes on average 4 years to

complete.

In line with the international ECTS standard, one credit corresponds with 26.7 hours of work for an average student.

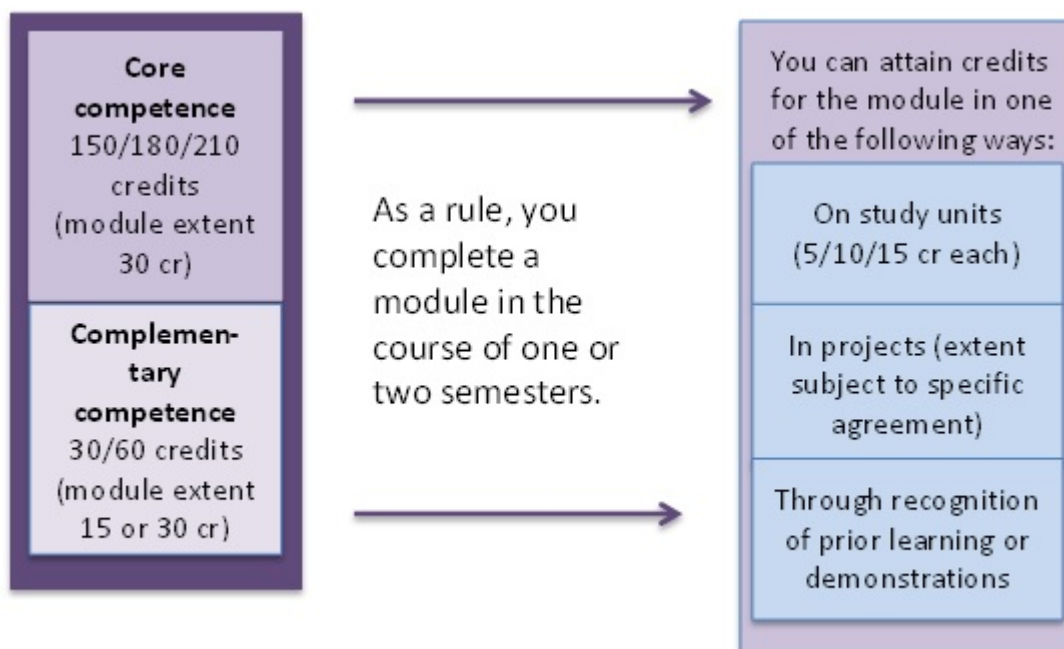
Degree Structure

The degree studies at Laurea consists of core competence and complementary competence modules. The modules comprise competence areas that are part of the degree. Core competence modules impart competence that is part of the degree's compulsory requirements. Complementary modules make it possible to deepen or extend your knowledge.

Learning is made relevant to workplace development and the student's personal goals. The learning outcomes specified for the modules build on future workplace needs and Laurea's focus areas.

In practice, credits are attained when the student complete study units that are part of the module or engage in projects in which the corresponding competence area is develop (see picture 1). Credits can also be gained through recognition of prior learning or demonstrations.

The modules have been designed so that they can mainly be completed in the course of one or two semesters. Study units can be implemented either in Finnish or in English. The language of the implementation is decided for each semester and is visible in the study unit offer.



Picture 1. Structure of the studies.

Core Competence and Complementary Competence Modules

Core competence modules lay the foundation for the competence required for a degree and are compulsory. The scope of the core competence varies depending on the degree:

- 150 credits for a Bachelor of Business Administration, a Bachelor of Hospitality Management, a Bachelor of Social Services, a Bachelor of Health Care (physiotherapist) and a Bachelor of Beauty Care degree
- 180 credits for a Bachelor of Health Care degree (nurse)
- 210 credits for a Bachelor of Health Care degree (public health nurse)

The scope of **core competence modules** is 30 credits. The modules contain the following types of studies: basic studies, professional studies, practical studies and a Bachelor's thesis.

The remaining part of the degree consists of **complementary competence modules**. Depending on the degree, the scope of the complementary competence thus is 30 or 60 credits. The scope of a module is either 15 or 30 credits. The modules can be freely selected. Complementary competence modules support individual study paths and competence. You can include in your degree complementary competence modules that are compatible with your professional goals. The compatibility of the elective studies with your degree will be subject to prior agreement with your teacher tutor.

Complementary modules include the following types of studies: professional studies, practical studies and elective studies.

Flexible Possibilities for Completing Attainments and Specialising

At Laurea, there are flexible possibilities of building up the competence specified in the modules' learning outcomes. For example, the student can

- select core competence studies offered on Laurea's different campuses
- select complementary competence modules that support your professional goals in Laurea's various units
- select English study units from Laurea's offer of English education, even if you are studying in Finnish education,
- select Finnish study units from Laurea's offer of Finnish education, even if you are studying in an English education.
- select study units taught in Finnish from Laurea's offer of Finnish education
- include in your degree studies selected from the offer of the FUAS Federation, or HAMK University of Applied Sciences and Lahti university of Applied Sciences, without paying fees
- select online studies that give you more flexibility in your study schedules, and
- develop your competence by taking part in projects.

The study unit implementation plans specify the objectives, content and implementation form of the studies.

The development of a student's individual competence is also supported by campus modules, the contents of which emphasise the special competence areas of the campuses. In addition, you can deepen or extend your competence by your selections of complementary competence modules, placements and the theme of your thesis, and by participating in various projects. Career guidance will be provided to support a student on his or her study path.

ASSESSMENT OF LEARNING AND COMPETENCE

In the curriculum, the learning outcomes are described as the learner's actions, so that the development of competence can be assessed with reference to the set goals. Competence is identified as knowledge, skills and values related competence as well as experiential competence that includes the competence of an individual and a community. The competence descriptions in the curriculum draw on Bloom's taxonomy, where the development of competence is described at six different levels: knowledge, comprehension, application, analysis, synthesis and evaluation/creativity.

Following Laurea's LbD model, it is expected that the learner's competence will develop from the level of application to the level of creativity in the course of the education. Laurea's description of shared general criteria for workplace competence is based on the National Quality Framework. General workplace competence develops as the students complete modules and study units and participate in projects.

Table 1. Shared criteria for generic working life competence at Laurea

Description of competence	Learning outcome	Examples
REFLECTION COMPETENCE <i>learning skills (EQF)</i>	• is able to solve problems associated with his/her role, operating methods and competence in a goal-oriented manner to reach a target	

Assessment and development of the learner's personal competence and that of others in order to achieve the learning outcomes		- changes his/her operating methods and role, and develops his/her competence as the development process progresses in order to reach the objectives and the goal set for the project. - brings up the views put forward by experts that he/she appreciates as the project progresses
	is able to analyse the implemented operating methods and the actors' competence and, based on this analysis, is able to draw conclusions together with other actors in order to achieve a shared goal	in a goal-oriented manner, compares different perspectives together with other project actors
	is able to compare and develop the operating methods of various actors, the set objectives and goal and the entire process, and to create a new operating model	models a development project as a whole from the perspective of impact

ETHICAL COMPETENCE	- is able to follow the principles of equality and fairness - is able to apply the underpinning values and principles of vocational ethics typical of his/her field to his/her actions - is able to apply the principles of sustainable development (environmental, social and financial responsibility) - acts as a responsible global citizen	- follows the agreed operating methods - is considerate to others, gives space to other people's ideas and listens - complies with the rules (including schedules), is committed to work, is careful, reliable and fair, respects the work of others, shows discretion and behaves appropriately in each situation - understands that local actions may also have international impacts and vice versa
	- accepts responsibility for his/her own actions - accepts responsibility for the actions of the group	- recognizes conflicts associated with choices - compares and takes into consideration different viewpoints, is able to let go of selfish needs in order to achieve a common good - shows appreciation for the work and outputs of others, for example by citing the original sources
	draws on his/her competence to have an impact in society (LbD regional development)	designs/develops customer-oriented and sustainable solutions including a financial, social and environmental aspect

COMMUNICATION COMPETENCE		observes the communication requirements and capacities of the project
---------------------------------	--	---

(IN WORK COMMUNITY) <i>The student is able to act appropriately in various work-related communication and interactive situations: the student uses diverse communication channels in various situations, exchanges messages and maintains interaction with others.</i>	• is able to communicate appropriately in interactive situations of the work community and communicate in inter-cultural situations	• by his/her personal action, promotes a constructive atmosphere (appropriate, constructive criticism) • values, listens to and respects different communicators and cultures and linguistic diversity • applies his/her communication competence to different people • communicates in a foreign language • uses ICT in his/her tasks
	• is able to communicate responsibly as part of a multi-disciplinary work community / network • is able to organise communications in a work community • is able to evaluate communication competence needed in multicultural cooperation • is able to evaluate the impacts and possibilities of internationalisation development	• communicates to promote well-being in the community • acts as an active and goal-oriented partner in cooperation and networks globally • shares information and takes initiative in disseminating information on the project's progress using various communication channels • finds solutions to communication challenges • constructs and organises network partnerships in cooperation with project actors
	• is able to renew communication modes • is able to direct communications • is able to develop working life connections and networks • is able to have an impact in society by communicating about project outcomes	• has the courage to challenge him/herself and others to act • tolerates uncertainty, incompleteness and the possibility of failing in communication situations • acts professionally, interprets and controls emotions in critical interactive situations • builds and develops online partnerships independently • uses renewing modes of communication

INNOVATION COMPETENCE	• is able to identify elements needing change in working life / a project • is able to use appropriate project and R&D methods • is able to apply a development-oriented work approach in an RDI project	• obtains and processes knowledge in his/her field in relation to the RDI project • brings up practicable development ideas emerging from the project
	• is able to organise an RDI project • is able to analyse and interpret an innovation process applying existing international knowledge	• documents and reports: describes knowledge or operating methods that renew working life in line with the project targets • brings up international standards and practices relevant to the field and follows them

		has the courage for constructive questioning
	is able to create new working methods by using creative problem-solving and finds customer-oriented, sustainable and cost-effective solutions	- suggests and implements solutions bravely and creatively, justifies his/her point of view - has visions of future (foresight, ability to also see the past) - is creative

MANAGEMENT COMPETENCE Management comprises goal-oriented, interactive social activity. Management guides the way people act. The aim of management is that a group of people will work better and more efficiently than without management	is able to draw on the basics of management and entrepreneurial operation as part of project work	- recognizes his/her role in order to manage his/her own actions in the project - identifies the goals of the project and sets goals for him/herself
	- is able to lead a development project as a Project Manager - is able to promote a communal spirit among those participating in a development project by personal example	- draws up a project plan (legal and financial aspects) - communicates about decisions and project changes, solves communication and interaction problems - plans and implements a budget - organises project activities and allocates responsibilities and tasks to actors - supports the actors' development as Project Manager - makes decisions in unexpected situations - identifies risks and takes steps to find a solution - monitors and evaluates the project in comparison to the plan
	- is capable of proactive management - is able to generalise management competence produced in a development project in working life development	- has visions of future - renews management culture

Study units are graded on a scale of 0 to 5, as follows:

5 (Excellent),
 4 (Good),
 3 (Good),
 2 (Satisfactory),
 1 (Satisfactory) and
 0 (Fail).

Some study units, study unit elements or parts can also be graded simply as Pass/Fail (H/0).

The students will be informed of the criteria for assessing competence at the beginning of each study unit/project. In

the planning of the assessment, shared assessment criteria applicable to initial stage and graduation stage students are utilised, with shared descriptions for levels 1, 3 and 5.

Table 2. Shared assessment criteria for initial stage and graduation stage students

BACHELOR'S DEGREE	INITIAL STAGE STUDENTS	GRADUATION STAGE STUDENTS
EXCELLENT grade 5 Students are able to:	• Apply professional concepts expertly. • Comply with occupational safety instructions responsibly and independently. • Justify activities using research knowledge. • Work independently and take initiatives in line with objectives. Operations are often flexible, systematic, development-oriented, creative and active. • Select the appropriate techniques and models for activities, and justify the choices. • Act in customer-oriented ways and according to the situation. • Promote group activities. • Able to critically apply ethical principles in the subject field in one's conduct and tasks.	• Apply professional concepts expertly and extensively, and manage the big picture. • Develop occupational safety of their operating environment. • Develop operating methods by comparing, combining and selecting research knowledge. • Work independently and innovatively in line with objectives. Activities are mostly creative, focused on developing the workplace and distinctly professional. • Select, combine and develop appropriate techniques and models for activities. • Take initiatives and act responsibly in customer relations, and understand the meaning of customer relationships for the big picture. • Develop and renew activities of multidisciplinary teams. • Critically apply ethical principles in the subject field in complex and unanticipated situations.
GOOD grade 3 Students are able to:	• Apply professional concepts systematically. • Apply occupational safety instructions in their activities. • Justify, compare and analyse their activities using general guidelines. • Able to cope independently in different tasks in each operating environment. • Apply acquired techniques and models diversely. • Act professionally in customer situations. • Work in a group in line with objectives. • Justify their activities in accordance with ethical principles..	• Apply professional concepts expertly. • Take care of occupational safety for themselves and the work community, and perceive development objects. • Select methods of operation in accordance with research knowledge and guidelines. • Work systematically and critically in line with objectives in complex situations. Operations are often flexible, systematic, creative and active. • Select the appropriate techniques and models for activities, and justify the choices. • Prioritise and maintain customer relationships. • Promote group activities. • Critically apply ethical principles in the subject field in one's conduct and tasks.

SATISFACTORY, grade 1 Students are able to:	• Apply most important/individual and appropriate professional concepts, and indicate their familiarity with the knowledge base. • Act safely, although activities are often schematic/ experimental/ fumbling/ self-involved. • Comply with rules and instructions, and justify their activities using provided instructions. • Act appropriately under guidance. • Use acquired techniques and models. • Take customers into account in their actions. • Act as group members. • Act in accordance with ethical principles.	• Apply professional concepts systematically. • Comply with occupational safety instructions responsibly and independently. • Justify and analyse their activities using general guidelines and in accordance with evidence-based information. • Act professionally and responsibly in unanticipated customer and problem situations. • Work independently in different tasks in each operating environment. • Apply acquired techniques and models diversely. • Act in customer-oriented ways and according to the situation, and understand customer needs. • Work in a group in line with objectives. • Act and justify their activities in accordance with ethical principles.
--	--	--

The assessments draw on the students' self and peer assessments and the assessments of employer representatives. The students can also avail themselves of recognition of prior learning (RPL). Assessment helps the students to monitor the development of their competence and the achievement of their personal goals in relation to the competence requirements set for the degree.

INTERNATIONAL COMPARABILITY OF THE DEGREE

Competence is at the centre of all activities at Laurea, and we recognize competence in a comprehensive sense. General working life capabilities specified at the national level and defined in greater detail at Laurea have been taken into account in the degree contents.

The level of the degree corresponds with level 6 of the National Qualifications Framework (NQF) and level 6 of the European Qualifications Framework (EQF).

In the curriculum, the learning outcomes of a study unit are described for level 3, good skills, on the assessment scale (1-5).

CURRICULUM DEVELOPMENT

The curriculum is developed by using evaluation, monitoring and feedback data. Changes may occur in the study units and implementation modes of the modules. The offering of the complementary modules is constantly under development to match the requirements of the working life and thus the offering may change during the studies.

		1. year	2. year	3. year	4. year
OP	STUDIES	30	60	60	60
A017	INITIATION OF PROFESSIONAL GROWTH				
A0168	Developing an ICT expert	5			
A0181	Integration in the Global ICT Field	5			
A0197	Professional Communication in English		5		
A0161	Methods and Tools for Information System Development	10			
A0162	Designing ICT Systems		5		
00101	Data Network Architecture	10			
A0116	Global data networks		5		
A0117	Data network project		5		
A0165	Business Operations and Environments		10		
A018	DEVELOPMENT OF CORE COMPETENCES IN THE FIELD				
A0163	Implementing ICT Systems		10		
A0001	Designing and implementing a user interface			5	
A0102	Managing Information Security			5	
A0111	Managing Information Security			5	
A0104	Information Security Technologies			5	
A0112	Information Security Technologies			5	
A0106	Information Security Development Project I			5	
A0113	Information Security Development Project I			5	
A0167	Managing Business Performance			10	
A0166	Leadership skills		5		
A0153	Corporate Social Responsibility		5		
A0202	Swedish in the ICT field		5		
00634	Oral skills in Swedish		0		
00635	Written skills in Swedish		0		
A0198	Organisational Communication		5		
A019	DEEPENING PROFESSIONAL COMPETENCE				
A0132	Creating Innovation through Service Design			10	
A0013	Protecting Critical Infrastructure			5	
A0108	Information Security Development Project II			5	
A0119	Information Security Development Project II			5	
A0142	Job placement in Information and Communication Technology I			15	
A020	WORKPLACE DEVELOPMENT AND RENEWAL				
A0143	Job placement in Information and Communication Technology II				15
00043	Thesis				15
047	LAUREA'S COMMON STUDIES				
00202	Initial Test in English Skills	0			
00203	Initial Test in Swedish Skills	0			
01261	Preparatory Studies in English	5			
01260	Preparatory Studies in Swedish	5			

00636	Written skills in Finnish				
00637	Oral skills in Finnish				
125	ELECTIVE STUDIES				
		30	60	60	60

A017 INITIATION OF PROFESSIONAL GROWTH, 60 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.

A0168 Developing an ICT expert, 5 cr

A0181 Integration in the Global ICT Field, 5 cr

The student is able to:

- outline the significance of computing technology, the Internet and the World Wide Web in the modern global business
- explain how and to what extent ICT has changed various application domains
- initiate life-long learning and continued development as an ICT professional
- define, choose and evaluate personal competence development objects and targets
- implement a personal study plan
- work in cross-cultural teams and environment
- promote interaction and cooperation in working environment

Contents of the study unit:

- Core competences of the computing, information technology, information systems and ICT
- Computers, the Internet and the World Wide Web, wired and wireless communication, types of business applications
- Global competence needs in the ICT field
- Cross-cultural competences in multicultural teams
- LbD as working and studying model in Laurea
- Personal study plans based on student's own and regional competence analysis

Study unit description:

The competence gained in the study unit forms the basis and integration process of student into the global ICT field. The students apply the value of their own competence as a success factor and enabler. The study unit further describes the influence and importance of new competence in a multicultural value network and in regional development. The study incorporates the Finnish and the international ICT degree programme students.

A0197 Professional Communication in English, 5 cr**The student is able to:**

- knows how to use basic business terminology in writing and speaking
- is able to produce key business messages (formal and informal)
- knows how to deliver effective presentations
- is able to work effectively in a team
- understands the basics of intercultural communication

Contents of the study unit:

- basic business terminology in English
- business writing
- presentation practice
- international job application process
- meetings and negotiations

Study unit description:

This study unit provides an introduction to the main areas of professional communication in English with a focus on developing business vocabulary, writing skills and spoken communication in the context of international presentations, meetings and negotiations

A0161 Methods and Tools for Information System Development, 10 cr**The student is able to:**

- jäsentää tietojärjestelmän rakenteen ja toimintaympäristön
- jäsentää tietojärjestelmän kehittämis-, käyttöönotto- ja ylläpitoprosessin
-

Contents of the study unit:

- tietojärjestelmäarkkitehtuuri
- tietojärjestelmän kehittämisprosessit ja kuvaustavat
- projektityöskentely ja työvälineet
- ohjelmointikielten peruseräpäätteet
- ohjelmistoympäristöt
- ohjelmien laadinnan harjoittelu

Study unit description:

Opintojaksossa opiskelija saa yleiskuvan tietojärjestelmien kehittämisestä, käyttöönotosta ja ylläpidosta sekä perusvalmiudet ohjelmien toteutukseen ja tietokantojen käsittelyyn.

Previous studies:

Ei ole.

A0162 Designing ICT Systems, 5 cr**The student is able to:**

- hankkia kehittämiskohteeseen tarvittavaa uusinta tietoa kehittämismahdollisuuksista
- jäsentää järjestelmän rakentamisprosessin ja sen sovittamisen kehittämiskohteeseen
- määrittää järjestelmän kehittämisprojektin

- rakentaa järjestelmää muiden toimijoiden kanssa
- jäsentää liiketoimintaprosessin ja käyttäjän roolin prosessissa
- mallintaa ja kuvata järjestelmän toiminnan ja tietorakenteet

Contents of the study unit:

- järjestelmän rakentamisprosessi
- tietojärjestelmäprojektin suunnittelu
- vuorovaikutus kehittämistyössä
- liiketoimintaprosessi ja asiakkaan rooli
- tietojärjestelmän toiminnan ja käyttöliittymän alustava mallintaminen ja kuvaaminen
- ohjelmointi

Study unit description:

Opintojaksossa luodaan valmius tietojärjestelmän vaatimusmäärittelyyn sekä sen perusteella tapahtuvaan järjestelmän ja tietorakenteen määrittelyyn ja suunnitteluun.

Previous studies:

Tietojärjestelmän kehittämisen menetelmät ja välineet -opintojakso tai vastaavat tiedot.

00101 Data Network Architecture, 10 cr

The student is able to:

- examine network architectures as a whole and analyse their functionality
- know the theories and concepts of LANs, WANs and WLANs
- describe and define operation and active equipment of a LAN
- design network solutions for a company's operations
- justify solutions and purchases related to data networks
- work responsibly in a company's data network
- define and implement service and network system platforms

Contents of the study unit:

- developing a data network and creating or selecting a network architecture
- assessing a data network architecture, determining its requirements and evaluating its performance
- interaction in development work
- data network design and implementation process
- describing and modelling data networks
- planning and implementing a network system initiative or project
- future network architectures and key technologies

Study unit description:

The study unit provides skills in determining the requirements of data networks and consequently defining, designing and implementing the operation and structure of a network system.

A0116 Global data networks, 5 cr

A0117 Data network project, 5 cr

A0165 Business Operations and Environments, 10 cr

The student is able to:

- analysoida toimintaympäristön rakennetta ja muutosvoimia sekä niihin liittyviä mahdollisuuksia ja haasteita
- analysoida yrityksen liiketoimintaa liiketoimintamallien ja ansaintalogiikan avulla
- analysoida erilaisia arvoketjuja ja -verkostoja
- erotella yrityksen liiketoiminnan perustoiminnot
- esittää asioita suullisesti

Contents of the study unit:

- liiketoimintaosaaminen
- toimintaympäristön rakenne ja keskeiset muutosvoimat
- verkostot ja arvoketjut
- liiketoimintamallit ja ansaintalogiikat
- yritystoiminta ja yrittäjyys
- viestintä ja vuorovaikutustaidot
- sopimus-, yhtiö- ja kilpailuoikeuden perusteet

Study unit description:

Opintojaksossa syntyvä osaaminen ilmenee kokonaisvaltaisena näkemyksenä liiketoimintaympäristöstä.

Osaaminen on yritystoiminnan kokonaisuuden jäsentämistä toimintojen kautta. Keskeistä on osata yleisellä tasolla eritellä, ketkä ovat yrityksen asiakkaita, miten asiakkaille luodaan arvoa, mikä on ansainnan mekanismi yrityksessä, mikä on yrityksen tapa toimia ja ketkä ovat sen kumppaneita.

Previous studies:

Ei ole.

A018 DEVELOPMENT OF CORE COMPETENCES IN THE FIELD, 60 cr**A0163 Implementing ICT Systems, 10 cr****The student is able to:**

- muodostaa järjestelmän suunnitteludokumenttien pohjalta tarkoituksenmukaisia ja käyttökelpoisia ohjelmia ja komponentteja
- ohjata tietojärjestelmäprojektia
- käyttää tietokannan suunnittelun perustekniikoita ja kuvaustapoja
- toteuttaa ja testata sovelluksen ohjelmat

Contents of the study unit:

- tietojärjestelmäprojektin ohjaus
- tietokannan suunnittelu ja toteutus
- sovelluksen tietokannan toteuttaminen
- järjestelmän ohjelmiston ja tietokannan testaus
- ohjelmointi

Study unit description:

Opintojaksossa luodaan valmius tietojärjestelmän toteutukseen ja testaukseen.

Previous studies:

Tietojärjestelmän määrittely ja suunnittelu –opintojakso tai vastaavat tiedot.

A0001 Designing and implementing a user interface, 5 cr**A0102 Managing Information Security, 5 cr****The student is able to:****A0111 Managing Information Security, 5 cr**

The student is able to:

- Apply the basic principles of information security
- Use risk management methods in developing information security
- Protect organisations from information risks
- Plan a comprehensive information risk management system for an organisation, applying technical and administrative measures
- Formulate continuity plans for information systems

Contents of the study unit:

- Basic concepts of information security
- Information security management system
- Information security standards
- Information security policy
- Information risk management
- Implementation of information security safeguards
- Personnel security and information security awareness
- Continuity planning
- Privacy protection and related legislation

Study unit description:

This study unit presents the central aspects of information security and principles of information security management. The themes include information risk management, information security management and development and practical implementation of information security in an organisation. The objective is to build competence to manage information risks of an organisation.

A0104 Information Security Technologies, 5 cr**The student is able to:**

- tunnistaa ja analysoida tietojärjestelmien haavoittuvuuksia
- arvioida ja soveltaa teknisiä tietoturvallisuusratkaisuja

Contents of the study unit:

- IP-verkkojen tietoturvallisuus
- salakirjoituksen perusteet ja sovellukset
- julkisen avaimen infrastruktuuri
- tiedon luottamuksellisuuden ja eheyden turvaaminen yksityisissä ja avoimissa verkoissa
- tietojärjestelmien ja sovellusten tietoturvallisuus
- tietojärjestelmien haavoittuvuuksien hallinta
- tietojärjestelmiin tunkeutumisen havaitseminen ja estäminen

Study unit description:

Opintojakso esittelee tietoturvallisuuden teknisiä ratkaisuja sekä niiden soveltamista. Keskeiset teemat ovat salakirjoitus ja sen sovellukset sekä tietoverkkojen turvallisuuskysymykset. Tavoitteena on oppia hyödyntämään teknisiä tietoturvaratkaisuja organisaation tietoturvallisuuden toteuttamisessa.

Previous studies:

Tietoturvallisuuden hallinta (tai vastaava)

A0112 Information Security Technologies, 5 cr**The student is able to:**

- understand the importance of information security technologies
- understand the significance of encryption and how to utilise its features

- identify and analyze vulnerabilities of information systems
- evaluate and apply technical information security measures

Contents of the study unit:

- Security of IP-networks
- Principles and applications of encryption
- Public Key Infrastructure
- Protection of confidentiality and integrity of information in private and public networks
- Information security of information systems and applications
- Information system vulnerability management
- Information system intrusion detection and prevention

Study unit description:

Study unit presents technical safeguards related to information security and application of those safeguards. Central themes include encryption and its applications, and information security issues related to information networks. Objective is to learn to utilize technical information security measures while implementing organisation's information security.

Previous studies:

Managing Information Security

A0106 Information Security Development Project I, 5 cr

The student is able to:

- Compose and describe a development process for information security based on an information security management methodology

Contents of the study unit:

- Conducting an information security development project

Study unit description:

Students work in teams to create an information security development plan for a target organisation.

Previous studies:

Managing Information Security

A0113 Information Security Development Project I, 5 cr

The student is able to:

Conducting an information security development project compose and describe a development process for information security based on a proper, applicable information security standard.

Contents of the study unit:

Compose and describe a development process for information security based on an information security management methodology.

Study unit description:

Students work in teams to create an information security development plan for a target organisation.

Previous studies:

Managing Information Security

A0167 Managing Business Performance, 10 cr

The student is able to:

- määrittää yrityksen kriittiset menestystekijät ja hahmottaa liiketoiminnan tavoitteiden strategialähtöisyyden
- jäsentää liiketoiminnan tavoitteita sekä taloudellisesta näkökulmasta, asiakkaan näkökulmasta, sisäisen toiminnan näkökulmasta että osaamisen ja sitoutumisen näkökulmasta
- tulkita ja hyödyntää yrityksen taloudellisia analyysejä
- tulkita yritystoimintaa sääteleviä normeja ja niiden merkitystä yrityksen toiminnan kannalta

Contents of the study unit:

- sisäisen ja ulkoisen laskentatoimen perusteet
- liiketoimintasuunnitelma
- liiketoiminnan eettisiä kysymyksiä
- tietojärjestelmät toiminnan ohjauksessa

Study unit description:

Opintojaksossa syntyvä osaaminen ilmenee tärkeimpien liiketoiminnan tavoitteiden ja mittareiden hallintana sekä toimintaa tukevien tietojärjestelmien hyödyntämisellä. Keskeistä on ymmärtää liiketoiminnan tavoitteiden strategialähtöisyys ja erilaisten analyysien rooli liiketoiminnan kokonaisuuden hallinnassa. Osaaminen ilmenee myös taitona arvioida liiketoiminnan eettisyyttä ja kehittää liiketoiminnan käytänteitä eettisesti, taloudellisesti, sosiaalisesti ja ekologisesti kestävämpään suuntaan.

Previous studies:

Yrityksen liiketoimintaympäristö ja liiketoimintamallit.

A0166 Leadership skills, 5 cr

The student is able to:

- Analysoida ja kehittää omaa johtamisosaamistaan
- Suunnitella, toteuttaa ja edistää työyhteisön toimintaa
- Soveltaa johtamisen pääperiaatteita työyhteisön ja verkoston toiminnassa

Contents of the study unit:

- Itsensä johtaminen ja johtamisen käytänteet
- Johtajuus ja johtaminen
- Organisaatiokulttuuri ja arvot
- Henkilöstöjohtaminen
- Työhyvinvointi
- Työlainsäädäntö ja työsuhteasiat

Study unit description:

Opiskelija osaa ratkaista johtamiseen liittyviä tilanteita organisaation ja yhteiskunnan muutoksissa.

A0153 Corporate Social Responsibility, 5 cr

The student is able to:

- Develop a wider approach to ethical questions and organisational values
- Combine CSR with business actions and strategy
- Discuss social responsibility issues

Contents of the study unit:

- Ethics and organisational values
- Sustainable guidelines on economic, environmental and social performance

- Responsible leadership
- Product safety
- Occupational safety and health
- Equality at work
- Diversity and multicultural issues
- Current issues on sustainability reporting and CSR standards

Study unit description:

This study unit introduces the students to the basic concept of corporate social responsibility. Organisational responsibility is seen from three viewpoints: economic, environmental and social responsibility. The critical thinking of the students is enhanced through discussions.

A0202 Swedish in the ICT field, 5 cr

The student is able to:

- toimia tietojenkäsittelyalan tehtävissä ruotsin kielellä
- vuorovaikutteisen asiakaslähtöisen viestinnän
- hankkia ja hyödyntää tietojenkäsittelyyn liittyvää tietoa

Contents of the study unit:

- keskeinen ict- ja yritysterminologia
- asiakaslähtöinen suullinen ja kirjallinen viestintä
- opiskelijan itsensä, koulutuksen ja työkokemuksen esittely

Study unit description:

Opintojaksossa opiskelija saavuttaa ruotsin kielessä vähintään eurooppalaisen viitekehyksen mukaisen taitotason B1.2.

Lisäksi hän saa valtionhallinnon kielitutkinnon mukaisen arvioinnin hyvä tai tyydyttävä suullisesta ja kirjallisesta kielitaidosta.

Previous studies:

ICT-asiiantuntijaksi kehittyminen -opintojakso tai vastaavat tiedot.

00634 Oral skills in Swedish, 0 cr

Study unit description:

This study unit is for evaluating oral skills in Swedish.

00635 Written skills in Swedish, 0 cr

Study unit description:

This study unit is for evaluating written skills in Swedish.

A0198 Organisational Communication, 5 cr

The student is able to:

- understand an organization as a communication network
- plan, implement and evaluate an organization's communications
- enhance personal communication skills in English

Contents of the study unit:

Basics of organizational communication Planning and implementing strategic and operative communication, Communication environments, stakeholders, channels and media, tools (including social media and new forms of

collaborative communication platforms) Measuring and evaluating communication, Enhancing personal communication skills
·&nbs

Study unit description:

ICT professionals are developing systems and networks to support business and effective communication within the organization and with its external stakeholders. During this study unit the students will understand an organization as a communication network and the need of supporting the organization's strategic activities with effective communication by using various platforms, channels or tools. Students will also be able to deepen their personal communication skills to meet the requirements of the modern business environment and online platforms.

A019 DEEPENING PROFESSIONAL COMPETENCE, 60 cr

A0132 Creating Innovation through Service Design, 10 cr

The student is able to:

- carry out an innovation project applying the newest existing knowledge and service innovation and design methods
- carry out creative problem solving and development of working methods
- know the prerequisites for profitable and customer-oriented operations
- work in a diversified project

Contents of the study unit:

- service innovations
- innovation process in practice
- SID methods
- planning, conducting and evaluating an innovation project

Study unit description:

The aim of the study unit is to acquaint the students with multidisciplinary knowledge in service innovation and design by carry out a service innovation project. It also covers studies of different service innovation methods and their implications for service innovation and design practice.

Previous studies:

Developing ICT Systems or equivalent knowledge.

A0013 Protecting Critical Infrastructure, 5 cr

The student is able to:

- Analysoida yhteiskunnan kannalta kriittisiä kohteita sekä niihin kohdistuvia uhkia
- Arvioida, keitä ovat kriittisen infrastruktuurin rakentajat, omistajat ja hallinnoijat
- Arvioida, keitä ovat kriittisen infrastruktuurin suojaamisen keinot ja toimijat
- Tarvittaessa johtaa kansalliseen elintärkeiden toimintojen turvaamisen strategiasta elementtejä oman organisaation turvallisuussuunnitteluun

Contents of the study unit:

- Kriittinen infrastruktuuri, määrittely ja rajaukset
- Kriittisen infrastruktuurin suojaamisen ulottuvuudet:
- Lainsäädäntö
- Kansallinen turvallisuus
- Kansainvälinen yhteistyö
- Kriittisen infrastruktuurin rakentajat, omistajat ja hallinnoijat
- o Uhkakuvasuunnittelu
- o Tilannekuvan ylläpito
- Käytännön ratkaisuja ja tekniikan suomia mahdollisuuksia kriittisen infrastruktuurin suojaamiseksi
- Kriittistä infrastruktuuria suojaavat toimijat

Study unit description:

Kriittinen infrastruktuuri tarkoittaa toimintoja ja rakenteita, jotka ovat yhteiskunnan jatkuvan toiminnan kannalta välttämättömiä. Opintojakson aikana opiskelija oppii ymmärtää mitä ovat yhteiskunnan kannalta kriittiset kohteet sekä niihin kohdistuvat uhat. Opintojaksolla perehdytään kriittisen infrastruktuurin suojaamisen keinoihin ja toimijoihin eri yhteiskunnallisissa tilanteissa.

Previous studies:

Teemat Ammatillisen kasvun käynnistyminen ja Alan ydinosaamisen kehittäminen

A0108 Information Security Development Project II, 5 cr**A0119 Information Security Development Project II, 5 cr****The student is able to:**

- Conducting an information security development project. The project focuses on technical protection of the target organisation's information systems and networks.

Contents of the study unit:

- Design and describe technical information security safeguards for information systems and networks
- Conduct a development process for information security based on a chosen information security management methodology

Study unit description:

Students work in teams to create an information security development plan for a target organisation. The content of the project is more technical in nature than in the study unit Information Security Development Project 1

Previous studies:

- Managing Information Security (or equivalent)
- Information Security Technologies (or equivalent)

A0142 Job placement in Information and Communication Technology I, 15 cr**A020 WORKPLACE DEVELOPMENT AND RENEWAL, 30 cr****A0143 Job placement in Information and Communication Technology II, 15 cr****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.

047 LAUREA'S COMMON STUDIES, 0 cr

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.

01261 Preparatory Studies in English, 5 cr

The student is able to:

- englannin perusrakenteet
- käyttää opinnoissaan ja työelämässä tarvittavaa perussanastoa
- kirjallisen ja suullisen viestinnän perustaidot
- hyödyntää monipuolisesti erilaisia menetelmiä kielitaitonsa kehittämisessä

Contents of the study unit:

- englannin kielen keskeiset rakenteet
- sanaston laajentaminen
- suulliset ja kirjalliset oppimistehtävät
- erilaiset oppimisstrategiat

Study unit description:

Opiskelija harjoittaa viestintätaitojaan englannin kielessä kehittääkseen valmiuksiaan opintoihinsa ja työelämään.

Previous studies:

01260 Preparatory Studies in Swedish, 5 cr

The student is able to:

- ruotsin perusrakenteet
- käyttää opinnoissaan ja työelämässä tarvittavaa perussanastoa
- kirjallisen ja suullisen viestinnän perustaidot

hyödyntää monipuolisesti erilaisia menetelmiä kielitaitonsa kehittämisessä

Contents of the study unit:

- ruotsin/englannin kielen keskeiset rakenteet
- sanaston laajentaminen
- suulliset ja kirjalliset oppimistehtävät
- erilaiset oppimisstrategiat

Study unit description:

Opiskelija harjoittaa viestintätaitojaan ruotsin kielessä kehittääkseen valmiuksiaan opintoihinsa ja työelämään.

00636 Written skills in Finnish, 0 cr

00637 Oral skills in Finnish, 0 cr

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