

LAUREA UNIVERSITY OF APPLIED SCIENCES
Degree Programme in Information Systems (Laurea Leppävaara, tiko), NYA14KJ

		1. year	2. year
OP	STUDIES	55	35
231	DEVELOPING INNOVATION AND MANAGEMENT		
00404	Network Management		5
00416	Strategic Management	5	
00646	Action Research		5
232	ADVANCED DATA NETWORK COMPETENCE		
01340	Development of Work and Work Places (Case Study)	5	
01341	Development Research (Solution Research)	5	
01350	Research Workshop	5	0
01349	Communication and Publishing in Research and Development	5	
233	BUSINESS OPERATIONS		
00664	Development of Knowledge-Intensive Business		5
00819	Growth Entrepreneurship	10	
00403	Innovation Management Methods		5
234	INFORMATION SYSTEMS		
01342	Special questions of information systems, networks, security and services		5
235	INFORMATION SECURITY		
01345	Security of Data Management		5
00412	Designing Secure Data Networks		5
01343	Special question of security management		5
236	DATA NETWORKS		
01344	Special questions of data networks		5
125	ELECTIVE STUDIES		
01404	Analysis of Research Data	2	3
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01347	R&D&I - PROJECT (II)		5
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01044	Cross cultural issues in service development	5	
00715	Futures Studies Methods	5	
237	THESIS		
00415	Thesis	10	20
		55	35

231 DEVELOPING INNOVATION AND MANAGEMENT, 0 cr

00404 Network Management, 5 cr

The student is able to:

- establish, influence and manage collaborative networks
- develop core competences, interaction and leadership skills needed in networking
- analyze a network's state, operations and objectives
- model competence and processes in networked collaboration

Contents of the study unit:

- management and leadership in networks
- interaction in networks
- establishment and development of networks
- network dynamics
- multicultural networks

Study unit description:

Students will develop their skills related to establishing, developing, analyzing, growing, and leading collaborative networks and networked processes.

00416 Strategic Management, 5 cr

The student is able to:

- know the main principles and methods of strategic planning
- evaluate a company's operating strategy and choices
- evaluate and situationally create alternative strategies for the achievement of a company's objectives
- analyse the effects of strategy renewals on CRM strategies, competence strategies and internal business processes, and initiate profitable, customer-oriented development functions
- listen to others and communicate with diverse target groups in writing, orally and visually
- analyse the operating culture of the market and participate in coordinating, developing and managing organisations' activities
- identify the socioeconomic links of organisations in their fields, know and can utilise social influencing opportunities, can apply the principles of sustainable development to their own work, and are aware of their organisations' corporate social responsibility
- have general knowledge of the status and significance of their professional field in the international operating environment
- promote creativity and dialogue in projects and organisations, provide constructive feedback to project members, use different idea-generating methods in projects and motivate other project participants to work towards a shared objective
- analyse and evaluate project operations and work methods, model the tacit knowledge of experts and employees, and acquire information on an organisation and enrich it into a concrete plan
- know how to manage and, particularly, motivate, projects

Contents of the study unit:

- principles and methods of strategic planning
- radical strategy reforms
- strategies of the new economy
- effects of strategy renewals on CRM strategies, competence strategies and internal business processes

Study unit description:

The course familiarises students with the significance and methods of strategic planning and management. The emphasis is on strategy reforms, and on looking for and producing strategic innovations in a rapidly changing operating environment.

00646 Action Research, 5 cr

The student is able to:

- know the methodological approach in which the researcher is closely involved with the operations of the organisation being studied, and actively develops its operations by identifying and solving problems and by working towards certain improvement objectives
- know the methods in which the researcher investigates the emergence of the problem, gathers information on the phenomenon, considers alternatives for its origins and development, and tests possible solutions for improving operations, sometimes together with other members of the target organisation

Contents of the study unit:

- researcher's active participation in the change and research process
- relationship between the researcher and research object, cooperation and shared participation
- practical orientation and focus on problems
- stages and progression of the research process

Study unit description:

The course looks at research methods, with which researchers can develop an organisation's activities while participating simultaneously as change agents. Action research is a process that aims at changing and improving things. The main thing is to understand the process in a new way. Action research is an approach that is not interested in how things are but above all in how they should be.

232 ADVANCED DATA NETWORK COMPETENCE, 0 cr**01340 Development of Work and Work Places (Case Study), 5 cr****The student is able to:**

- is able to self-evaluate their competences and expertise in a versatile and systematic way and define their development and learning needs in perspective of ICT
- is equipped for life-long learning and understands and can self-directs their learning process by help of case study research analysis
- is able to use a case study as systematic way in development work
- is capable of collaboration in related research community
- is capable to evaluation of case study as one possible research method

Contents of the study unit:

- case study research analysis
- actualisation of Learning by Developing
- analysis of core competences
- strategy-based development
- collective activities in learning
- using of research method
- communication of research and development

Study unit description:

- a real research and development scopes
- theory binding of the research scopes
- actualisation of case study
- approaching of theoretical framework to master's thesis

Previous studies:

- beginning of studies
- study of the research method

01341 Development Research (Solution Research), 5 cr

The student is able to:

- Design Science Research
- User-Centred Approach
- Research in Development and Solutions
- Networked Activities
- Collaboration in Research and Development Networks

Contents of the study unit:

- research is used in development
- new knowledge generation in research
- assessment and self-assessment as structure of learning enabler
- design science research framework as one possible setting to master's thesis

Study unit description:

- applied research approaches: design research and development research
- Learning by Developing
- core competences and research
- personal study plans
- research of methods
- individuals in networked expertise
- communication

Previous studies:

- beginning of studies

01350 Research Workshop, 5 cr

The student is able to:

- applied services in context of security systems, data networks and information systems
- strategy-based design
- networked expertise in research and development
- mind and impacts to regional, national, and global sense
- communication and collaboration

Contents of the study unit:

- production of novel knowledge in context of service, security, and information systems
- strategy intent in development
- related to the externally funded research projects

Study unit description:

- shared knowledge in expertise growth
- instance of regional development, research agenda, and issues of regional clusters
- scopes and challenges are student-centred creations or inherited from regional research profiles
- impacts to regional development and innovation system

Previous studies:

- during methodological studies

01349 Communication and Publishing in Research and Development, 5 cr**The student is able to:**

- Communication and Publishing in Research and Development

Contents of the study unit:

- Communication and Publishing in Research and Development

Study unit description:

- skills of communication and publishing in research and development

Previous studies:

- as part of all actualisations

233 BUSINESS OPERATIONS, 0 cr**00664 Development of Knowledge-Intensive Business, 5 cr****The student is able to:**

understand the significance of a company's core functions and processes as critical success factors and producers of added value for customers, and can use the tools for directing and managing companies

- comprehensively examine a knowledge-intensive company's operating environment, identifying its major change drivers, and define different business models and earnings principles
- develop knowledge-intensive business processes, define the objectives of development in a desired direction, and acquire, evaluate and use competence purposefully
- create a customer-oriented business plan that aims for profitability, examine the main processes of knowledge-intensive business operations, and understand the significance of information technology as a part of an organisation's operations and development
- be responsive to change and work in cooperation with diverse operators, produce plans and new solutions, and promote creativity with their actions

Contents of the study unit:

- knowledge-intensive business services (KIBS)
- innovation management
- knowledge management
- business information flows and processes
- knowledge and competence as business resources
- managing and developing intangible assets

Study unit description:

Students learn the issues of managing and developing knowledge-intensive business operations and related business services (KIBS). The study unit emphasises an analytical and developmental approach to organisations' knowledge and competence resources and the related processes. Students develop competence at both the strategic and the operational levels in order to manage a knowledge-intensive organisation's human, relationship-related and structural assets.

00819 Growth Entrepreneurship, 10 cr

The student is able to:

- make concrete development plans for business ideas or operations
- analyse a company's global operating field
- commercialise the products and services required to put a business idea into practice
- build a scalable business model
- organise the development of a business
- manage a company

Students are also strongly motivated for entrepreneurship and willing to assume responsibility for managing and developing a financially viable business.

Contents of the study unit:

Students work on developing either a new business idea or existing operations, with the aim of achieving a financial growth trend. The object of development is a genuine business (or business opportunity), not a theoretical exercise. The study unit is shared by all Laurea Master's degree programmes.

Study unit description:

Students are encouraged (but not forced) to work in groups to build their business operations; i.e. several students can work on one business. In addition to guidance from Laurea lecturers, students can make use of Laurea's investment services and other public or private investment or consulting services (such as TEKES programmes or Enterprise Agency advice).

This 10-credit study unit aiming at growth entrepreneurship is designed to fit into students' personal study plans according to their professional aims. With regard to growth entrepreneurship targets, the study unit is organised by Principal Lecturer Vesa Taatila, vesa.taatila@laurea.fi, who also handles enrolments. The content of the necessary expertise in the field is provided in the students' Master's degree programmes. The study unit continues through the academic year.

00403 Innovation Management Methods, 5 cr**The student is able to:**

- participate innovatively in development networks and leading teams' development activities in a proactive, target-oriented way
- generate new ideas and implement them in a networked environment
- manage a process aimed at refining an innovation idea

Contents of the study unit:

- concept of innovation
- incremental and radical innovation
- the innovation process
- goods, service and process innovation, social innovation
- commercialising innovations
- leadership and organisation to support innovativeness

Study unit description:

The competence gained in the study unit relates to participating innovatively in development networks and leading teams' development activities in a proactive, target-oriented way. Core competences are creating new ideas and their practical implementation in a network environment. Competence is reflected concretely in the management of a project that aims to refine an innovation idea.

234 INFORMATION SYSTEMS, 0 cr**01342 Special questions of information systems, networks, security and services, 5 cr****The student is able to:**

- Toimia asiantuntijayhteisössä tutkimus- ja kehitystoiminnan toteuttajana sekä asiantuntijana.
- Käyttää tutkimusta osana kehitystoimintaa.

Contents of the study unit:

- Vaihtelevat vuosittain ja erityiskysymyksittäin.

Study unit description:

- Perehdytään ajankohtaiseen erityiskysymykseen.
- Kohteet ja aihealueet ovat tietojärjestelmiin, tietoturvallisuuteen tai tietoverkkoihin liittyviä erityiskysymyksiä.

Previous studies:

- Menetelmäopinnot.
- Suorittaminen sovitaan ohjaajan kanssa yksilöllisesti tai ryhminä.

235 INFORMATION SECURITY, 0 cr**01345 Security of Data Management, 5 cr****The student is able to:**

- viewpoints of security in development of information systems
- strategy-based design
- development of user-centred information systems in perspective of security
- applied new technology
- collaboration
- self-assessment

Contents of the study unit:

- shared expertise
- viewpoints of regional research agenda and ICT-cluster

Study unit description:

- shares challenges related to the regional ICT-cluster
- novel core competences

Previous studies:

- research methods (parallel)
- research workshop (parallel)

00412 Designing Secure Data Networks, 5 cr**The student is able to:**

Student will know the principles of designing secure data networks, independently of manufacturers. Secure data networks will become even more important in future, as networks play increasingly critical roles in businesses and society as a whole, and because attacks and hacking against networks constitute an unfortunate yet daily threat.

Contents of the study unit:

- reach of information networks

- purpose of data protection
- data protection requirements for systems
- threats for information network
- general threats, viruses, trojans, malware, attacks and abuse
- data protection policies and their implementation
- general network data protection design principles
- managing data protection
- most common data protection techniques and their application to different parts of a network
- user and equipment authentication, routers and their access management, switch solutions and data protection, firewalls, VPN solutions, IDS/IPS systems, fighting malware, filtering, data protection for mobile devices
- monitoring and controlling data protection
- gathering and analysing data
- reacting to data protection problems

Study unit description:

Students analyse several examples to learn to design safe information networks consisting of several manufacturers' equipment, to keep security solutions from leaning too heavily on any one manufacturer.

Previous studies:

Good basic knowledge of information networks or information security. Particularly suitable for students taking the Network Design and/or Data Network Security Competence study units.

01343 Special question of security management, 5 cr

The student is able to:

- Toimia asiantuntijayhteisössä tutkimus- ja kehitystoiminnan toteuttajana sekä asiantuntijana.
- Käyttää tutkimusta osana kehitystoimintaa tietoturvallisuuden alueella.

Contents of the study unit:

- the research scopes are varying in every actualisation

Study unit description:

- research of current topic
- information systems, security of data networks, information security, and special themes

Previous studies:

- research methods

236 DATA NETWORKS, 0 cr

01344 Special questions of data networks, 5 cr

The student is able to:

- activity to research community
- research is used as development effort

Contents of the study unit:

- special cases and scopes in the every actualisation

Study unit description:

- the focus of study is on questions of information networks

Previous studies:

- research methods

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

01404 Analysis of Research Data, 5 cr**The student is able to:**

- analysoida ja arvioida tutkimussuunnitelmia ja kehitysesityksiä tutkimuksen- ja kehitystyön kriteerein
- hahmottaa vaihtoehtoja omaan tutkimus- ja kehitystyöhön liittyvien aineistojen analysointiin ja analysointivaiheisiin
- kuvata alustavasti analyysin vaiheet ja analysointipolku: miten tietoaaineistosta ja teoreettisesta viitekehyksestä päästään tuloksiin
- suunnitella analyysin aikataulu ja tarvittava opintopolku
- esitellä analyysin rakennetta ja sisältöä

Contents of the study unit:

- aineiston analysoinnin suunnittelu ja tietoaaineiston täydentäminen
- tutkimus- ja kehitystyöhön liittyvä tutkimusaineiston analysointivaiheet ja tutkimusaineiston alustava analysointi
- raportin suunnittelu ja toteutuksen valmistelu
- tutkimuksellinen kirjoittaminen
- esityksen laatiminen
- tutkimuksen laatutarkastelu

Study unit description:

Kohti analyttistä tutkivaa ja kehittävää työtapaa. Opintojakso edistää opiskelijaa hahmottamaan tutkimustiedon merkitystä työssään ja tietojärjestelmien kehittämisessä sekä tutkimusopintojen merkitystä osana opintojen kokonaisuutta. Hän osaa käyttää tietovarantoa etsiessään lähteitä ja tutkimusaineistoa omaa työtään varten ja harjaantuu hyödyntämään tiedonhaussa erityyppisiä tiedonhakutekniikoita.

Previous studies:

Tutkimussuunnitelma ja tutkimusaineisto (01403) tai vastaavat tiedot.

01411 Information Systems Research, 5 cr

The student is able to:

- analysoida ja arvioida tietojärjestelmiin liittyviä tutkimussuunnitelmia ja kehitysesityksiä tutkimuksen- ja kehitystyön kriteerein
- hahmottaa vaihtoehtoja omaan tutkimus- ja kehitystyöhön liittyvien aineistojen metodologisiin kysymyksiin tietojärjestelmätutkimuksen näkökulmasta
- kuvata alustavasti analyysin vaiheet ja analysointipolku: miten tietoaaineistosta ja teoreettisesta viitekehyksestä päästään tuloksiin
- suunnitella tietojärjestelmätutkimuksen aikataulu ja tarvittava opintopolku
- perustella metodologisia valintoja ja tietojärjestelmätutkimuksen sisältöä

Contents of the study unit:

- metodologinen suunnittelu ja tietoaaineiston kerääminen
- koostetaan tutkimus- ja kehitystyöhön liittyvä teoriakehys
- raportin suunnittelu ja toteutuksen valmistelu
- tutkimuksellinen kirjoittaminen
- metodologisen esityksen laatiminen
- tietojärjestelmätutkimuksen laatutarkastelu

Study unit description:

Kohti analyttistä tutkivaa ja kehittävää työtapaa. Opintojakso edistää opiskelijaa hahmottamaan tietojärjestelmätutkimuksen merkitystä työssään ja tietojärjestelmien kehittämisessä sekä tutkimusopintojen merkitystä osana opintojen kokonaisuutta. Hän osaa käyttää tietovarantoa etsiessään lähteitä ja tutkimusaineistoa omaa työtään varten ja harjaantuu hyödyntämään tiedonhaussa erityyppisiä tiedonhakutekniikoita.

Previous studies:

01403 tai vastaavat tiedot.

01403 Research plan and data collection, 5 cr**The student is able to:**

- suunnitella tutkimuksen toteutusta ja tutkimusaineistojen rakenteita
- suunnitella ja toteuttaa tiedon keräämistä työn ja työelämän kehittämistä ja tutkimusta varten
- arvioida tutkimus- ja kehitystoimintaan liittyviä aineistoja, hakemuksia ja raportteja
- etsiä valitsemastaan aiheesta keskeistä aineistoa
- etsiä valitsemaansa aiheeseen liittyviä teoreettisia näkökulmia
- määritellä tutkimuksen peruskäsitteistöä
- viestiä vaikuttavasti sekä kirjallisesti että visuaalisesti

Contents of the study unit:

- tutkimus- ja kehitystyön suunnittelu
- aineiston suunnittelu ja kerääminen
- raportin suunnittelu ja toteutuksen valmistelu
- tutkimuksellinen kirjoittaminen
- esityksen laatiminen
- tiedotteen laatiminen
- asiantuntijan viestintätaidot

Study unit description:

Kohti kestäväää työn ja työelämän kehittämistä tiedon keräämisen ja tutkimussuunnitelman avulla. Opintojaksolla opiskelija perehtyy tutkimussuunnitelman rakenteisiin ja toteutukseen sekä tutkimusaineiston ja referenssien keräämiseen. Opintojakson suoritus edistää opinnäytetyön tekemistä.

Previous studies:

Ei vaadita edeltäviä opintoja.

01346 R&D&I - PROJECT (I), 5 cr

The student is able to:

- applied research of new technologies, information systems and services
- development of security systems and secure information systems
- research of special theme, such as navigation applications
- strategy intent in research and development
- activities of international research community
- international and regional viewpoints in development
- shared knowledge in practice

Contents of the study unit:

- professional growing and shared experiences
- studies are based on the strategic profiles of regional innovation system

Study unit description:

- regional development, cluster development and and entrepreneurship activities

Previous studies:

- methods

01347 R&D&I - PROJECT (II), 5 cr

The student is able to:

- continuum of the 01346

Contents of the study unit:

- continuum of the 01346

Study unit description:

- continuum of the 01346

Previous studies:

- methods

01348 R&D&I - PROJECT (III), 5 cr

The student is able to:

continuum of the 01347

Contents of the study unit:

continuum of the 01347

Study unit description:

continuum of the 01347

Previous studies:
methods

01043 Management of business networks, 5 cr

The student is able to:

- Evaluate the historical aspects of the network theories, key principles, and contexts of application, organizational structures, and their impact on managing them
- Develop 'shared value' and principles that can be applied across the business
- Come up with creative (radical) ideas in developing, leading, and managing business within networks
- Outline a 'good practice' approach to management of business network
- Evaluate and improve organization's network context

Contents of the study unit:

- Network theories, models, and principles
- Types of networks, systems of networks
- Networked society, service business in networked context
- Management and beyond in leading networked organizations
- Complexity science and service science approaches towards the networks
- Key principles and dynamics in network management
- Interaction and action in networks, the actors in networks
- Development of business within networks

Study unit description:

The aim of the study unit is to enhance the students' business and leadership competences in network context. Service systems are typically made up of number of firms collaborating, i.e. networks. This study unit is looking in the development of networked society in general and more specifically, how organizational forms and types, and relationships have transformed. The history of network theories and models are analyzed. This study unit moves further in thinking of the future of networks and their management. This course takes the management perspective on networks. How to manage different networks and what are the managerial challenges. Students learn the historical development of networks and their management. Further, they will learn to interact within the network. The focus is inter-organizational networks, not on intra-organizational networks.

01044 Cross cultural issues in service development, 5 cr

The student is able to:

- identify and deeply understand cross-cultural issues related to service development
- plan and implement intercultural strategies and processes
- manage multicultural teams and projects
- support and develop frontline personnel's intercultural communication competences
- involve diverse customers in the service design processes.

Contents of the study unit:

- Understanding and managing diversity based on chosen cultural theories
- Cross-cultural knowledge in strategic service development (back office)
- Intercultural competences in service business (front office)

Study unit description:

Services are often offered globally and to customers and end-users from different cultures. Deep understanding of cultural needs and preferences are a prerequisite for effective service design.

This study unit offers understanding of the theoretical basis of cross-cultural and intercultural perspectives and enables the student to acquire appropriate knowledge and skills for service design.

00715 Futures Studies Methods, 5 cr

The student is able to:

- use information gathering and management to increase individuals' or organisations' knowledge and understanding of the organisation's current status and operating environment, to create foundations on which to base decisions and the identification of potential benefits, and to form a basis for measuring change.
- use futures research to identify megatrends and weak signals in the operating environment, point out development directions for the sector, and evaluate the effects of recognised change drivers and change processes on the sector or business cluster in question

Contents of the study unit:

- information gathering entity
- futures research entity

Study unit description:

The course produces skills in investigating the possible, desirable and probable futures of a target organisation. It also increases competence in the approaches through which target organisations can be directed towards the desired future

237 THESIS, 0 cr

00415 Thesis, 30 cr