

LAUREA UNIVERSITY OF APPLIED SCIENCES

Degree Programme in Entrepreneurship and Business, Laurea Kerava, HYE09SJ

Master's programmes

Competence Development Process

The contents of the User-Centred Design programme forms a module, which equips students to function as innovative developers in the changing operating environments of their respective fields. Students who have completed the studies know how to apply innovative, creative, user-centred methods for developing products, services and business operations; have the skills to design, implement and manage user-centred design and production processes; provide skills for developing the organisational innovation strategy; see the product or service users as a resource for the innovation process; and learn methods for integrating users into the innovation process. Students are able to innovate and evaluate design solutions in ethically sustainable ways, taking into account the needs of the users. Students work according to a user-centred design process, using applied research and development. Students grow from having basic skills into experts and developers in the field, in line with their personal objectives.

Students who have completed the User-Centred Design programme are able to, e.g.:

- identify and utilise opportunities provided by users participating in the innovation process of the product and service development;
- apply and develop user-centred research and design methods for developing innovative design solutions and business operations;
- embrace change and cooperate with various operators in multidisciplinary operating environments;
- implement solutions in novel development environments;
- understand the opportunities offered by concept design and creative problem-solving methods in the design process and business activities;
- plan, implement and manage a user-centred design and production process;
- organise, analyse and report on user research in accordance with the ethics of the sector; and
- evaluate the usability of interactive products.

Elective studies allow students to deepen their specialist skills particularly in the following areas:

- visual and drama methods in user-centred design;
- designing intelligent environments;
- growth entrepreneurship;
- future forecasting in global operating environments; or
- topical questions related to the field.

Description of the Degree Programme

Studies in user-centred design form a multidisciplinary module with a focus on utilising user-centred operating models and research methods in developing design practices. The degree programme concentrates on observing tools and methods which enforce cooperation between the user and designer as well as the establishment of a shared concept. Targets of research and development also include design methods and tools.

Global, evolutionarily changing operating environments require the adoption of a new innovation culture as well as new types of business skills. User-centred product and service development is the determining strategic choice of organisations that develop and produce products and services, which not only reaps acceptance among customers but also business advantages and new business ideas.

Studying in the Degree Programme

The User-Centred Design programme is implemented as blended learning, combining face-to-face instruction (expert lectures and group meetings), independent study and virtual studies. Work methods for the degree programme include development team work, and learning and development tasks in various real-life learning and innovation environments.

The studies are designed and implemented so that they can be completed alongside working within two years. The programme includes 18 – 20 face-to-face days/ academic year. Face-to-face instruction is implemented on weekdays during regular working hours as well as on Saturdays. Laurea Kerava is responsible for arranging the degree programme. Part of the programme is arranged at Laurea Leppävaara in cooperation with the Service Innovation and Design Master's programme arranged in English. Collaboration generates a broader competence base, transfer of competence between programmes, and direct advantage for students through a wider selection of elective studies.

Teaching in user-centred design is based on a view that new, innovative product and service entities are increasingly interactive and intelligent. Interaction design requires an acknowledgement of the user perspective. Also the development of public network services, mobile technology and other systems targeted at consumers set increasing requirements on the design of user interfaces and usability and its assurance. Acquiring data on end users is one of the key skills in product development. (Hyysalo 2006, Mattelmäki 2006). User-centred design employs user research data better than before for developing products and service entities that meet customer needs. An issue related to users or the product's use that may seem simple may turn out to be crucial in terms of product design. "Ultimately, the production of innovations depends on individuals. Innovativeness is based on the skills and creativity of individuals, but is also linked to clear goals and problem-setting. Innovation requires systematic working with the problem and a sufficient quantity of information about the phenomenon, customers, technologies, patents, previous solutions and operating modes etc." (Finland's National Innovation Strategy 2008).

Starting points for the degree programme include disciplines and competence areas that explain usability and user activities, such as psychology, behavioural science, cultural studies, ethnography, computer science, cognitive science, visual design, service design, etc. as well as economics.

		1. year	2. year
OP	STUDIES	50	40
0320	ENTREPRENEURSHIP AND SERVICE INNOVATIONS		
01035	Strategic service innovations and changing business models		5
01032	Futures thinking and foresight methodologies		5
01063	Users as an organisational resource		5
00819	Growth Entrepreneurship		
0321	USER-CENTRED DESIGN IN A COMPANY'S INNOVATION ACTIVITIES		
01038	Design thinking	5	
01064	User interfaces and interaction	5	
01065	Design methods that support innovation and cooperation	5	
01066	User experience in design		5
0322	USABILITY AND USER STUDY METHODS		
01067	Basics of user studies	10	
01068	Methods of user and usability studies	10	
01069	Visual Design Methods		5
01070	Drama methods as a source of user data	5	
125	ELECTIVE STUDIES		
194	THESIS		
00415	Thesis	10	20
		50	40

0320 ENTREPRENEURSHIP AND SERVICE INNOVATIONS, 10 cr

Description:

The module deepens and expands the students' business skills and especially the development skills of organisational innovation activities. Students become familiar with the new type of innovation culture and business skills demanded by changing operating environments. In addition, elective studies enable students to deepen their expertise in future studies and challenges of global operating environments as well as in growth entrepreneurship.

The student will be able to:

- diversely and systematically evaluate their own competence and expertise, and define their learning needs
- understand the widespread connections and causal relationships between things, and work with limited information in situations requiring multidisciplinary competence
- take initiatives, adopt a developmental approach to work, and initiate and implement change processes
- apply the value systems and ethical principles of the field in their work as experts and workplace developers
- assess the operation of a work community, and plan, organise and develop operations in changing circumstances
- act on their own initiative, predicting changes and change needs
- apply the principles of sustainable development to their work and know their organisation's corporate social responsibility
- know the elements of project work, participate in and manage projects
- initiate viable, customer-driven development operations
- know the socioeconomic interdependence of organisations in their field
- know and make use of social influencing opportunities
- know the operating culture of the market and participate in coordinating, developing and managing organisations' activities

Content:

The Entrepreneurship and Service Innovations module contains 15 cr in shared advanced professional studies and 25 cr in elective (E) studies. The module familiarises students with the new type of innovation culture and business skills demanded by changing operating environments. The focus is on business-oriented innovation for an organisation.

01035 Strategic service innovations and changing business models, 5 cr

The student is able to:

- understand the strategic shift to service business and its impact on corporate level
- assess service strategy and strategic choices
- master the key concepts, principles and methods of strategic management
- formulate innovative business models for a service business
- understand the impact that a new innovative strategy has on corporate business model and competitive advantage

Contents of the study unit:

- Strategic thinking and principles
- Strategy process: formulation and management (planning and implementation)
- Formulation of radically new business strategies and innovative business models
- Competitive advantage and edge in service business
- Impact of a new business strategy on organization

Study unit description:

For any organization, it is important to exhibit a clear vision about its goals and strategies. A strategy defines strategic objectives for the organization, provides direction for growth and success, and prioritizes activities. Basically, the strategy influences organizational attitudes and culture towards the creation of value for customers through services. The strategy and vision for the future has to be based on an understanding of the business, where a business is now, who are the customers, what is offered to customers, and how the company has come to this point. It is also important to know, how profitable the business is, how successful the company is doing compared to

its competitors, and what are the core capabilities and strengths of the organization. The study unit looks at the significance and methods of strategic process, planning and management in the context of a service business. The emphasis is on radical strategy reforms, and on looking for and producing strategic innovations in a rapidly changing business environment. Students will learn how to use the basic tools to formulate strategy, strategic objectives and implementation through strategy action plans.

Prerequisites

None

01032 Futures thinking and foresight methodologies, 5 cr

The student is able to:

- understand the principles of futures thinking
- use foresight methods and practices
- apply foresight in the decision making process

Contents of the study unit:

- Recognising and monitoring change
- Critically evaluating change
- Outlining possible development paths
- Defining objectives
- Determining appropriate development paths
- Familiarisation with quantitative and qualitative methods
- Utilising outcomes

Study unit description:

The study unit consists of three modules: 1) Knowing the future which includes principles and tasks, 2) building the future which includes methods and practices and 3) preparing for the future, which includes strategies and skills. We cannot know the future, but we must plan for it. Foresight is a combination of futures thinking, planning and networking and it encompass a number of techniques that have been developed to help decision makers be better prepared for the future. Foresight aims 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. Finally, we will create strategies based on alternative futures, including the flexibility to deal with surprise events and situations.

01063 Users as an organisational resource, 5 cr

The student is able to:

- understand the role of the user-centred design process as a tool for developing business strategy
- understand the value of user-centred design processes in innovation practices
- use and evaluate change management methods as a part of strategic business development

Contents of the study unit:

- operating and process models in user-centred design in the context of a company's strategic planning and process development
- entrenching the user-centred thought and operating model in operations and strategic leadership
- content and methods of change management
- diagnosing innovation work and developing customer-driven business

Study unit description:

- familiarisation with innovation activities through literature and presentations
- familiarisation with good practices and operating models of companies through lectures by experts
- examination of change management and service culture development

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.

0321 USER-CENTRED DESIGN IN A COMPANY'S INNOVATION ACTIVITIES, 15 cr

Description:

The module seeks initially to create a mutual view on design thinking shared among various fields. The module strengthens the students' design competence especially in user interface and interaction design by developing innovation, cooperation, and methods and tools that form a shared view. In addition, elective studies allow students to expand their design competence through familiarisation with user experience design and with current issues.

The student will be able to:

- carry out creative and innovative problem-solving and decision-making in their work
- plan, organise and develop their work
- understand the principles of group and team work, work with others in multidisciplinary teams and can manage such teams
- guide and coach others
- work in diverse communication and interaction situations, and organise and create professional networks
- have general knowledge of the status and significance of the professional field in the international operating environment
- identify cultural differences and work in an international work and operating environment
- possess spoken and written communication competence in one or two foreign languages necessary for work and for professional development
- utilise information and communication technology in their work

Content:

The User-Centred Design in a Company's Innovation Activities module contains 10 cr in shared advanced professional studies and 10 cr in elective (E) studies. The module explores design thinking shared among various fields. It also looks at designing interaction as well as innovation, cooperation and methods that support the

formation of a shared concept. User-centred design is approached especially from the perspective of design.

01038 Design thinking, 5 cr

The student is able to:

- analyse and assess design from the perspective of its relations to other disciplines and business activities

Contents of the study unit:

- Definitions of design
- The collaborative nature and the social context of design
- Conceptualising
- Sketching
- Prototyping
- Communicating

Study unit description:

Design is a central feature of our culture and everyday life. This study unit contributes to the understanding of design as an integrative activity and gives participants the resources to develop their creative processes and team work skills.

The main focus of the discussions will be on the design activity. How does design differ from other activities and how may it be characterised in its own terms? The discussions, lectures and exercises will deal with the concept of design from the perspective of its relations to other disciplines and business activities. The designer's work will be discussed through different concepts and approaches that are relevant to the contemporary disciplines of new media, interaction and service design.

01064 User interfaces and interaction, 5 cr

The student is able to:

- know the basics user interface and interaction design
- utilise theories on human behaviour and activity in order to understand people as technology users and in interaction design between people and technology
- understand the design and implementation of interactive technological products from the perspective of building a user interface

Contents of the study unit:

- Design principles for user interfaces and interaction
- From user requirements to a user interface
- Modalities and multi-modality
- Mental model and schemata
- User interface types and elements
- Usage and context
- Design principles for user interfaces
- Direct manipulation
- Characteristics of the user interface design field

Study unit description:

The study unit focuses on the objectives, evaluation and evaluation practices of user interfaces and interaction. It also looks at the basics of user interface design, user interface types and elements, interaction design, the design process, etc. Interaction and user interface design is approached from the perspective of user experience.

01065 Design methods that support innovation and cooperation, 5 cr

The student is able to:

- use various functional tools in steering group activities
- lead various workshops
- conduct a constructive dialogue and promote a mutual understanding within a work group
- motivate partners
- function in living lab and test bed environments
- apply creative problem solving methods and cooperation tools

Contents of the study unit:

- Understanding and analysing the dimensions of small-team work
- Functional and activating methods
- Creative problem-solving methods
- Cooperation tools
- Knowledge creation processes

Study unit description:

- Familiarisation with the theoretical contents of innovative methods through literature and presentations
- Practising innovative, creative and functional methods through individual and team assignments
- Applying production methods of tacit knowledge and cooperative knowledge creation
- Evaluating the forms of use and targets of innovative and creative methods
- Applying user-centred methods in test bed and living lab environments

01066 User experience in design, 5 cr

The student is able to:

- utilise existing user experience descriptions and definitions in product and service design
- understand theories and tools related to human behaviour and activity in designing and analysing user experience

Contents of the study unit:

- Concept of user experience in literature
- User experience in product and service design
- Creation and analysis of user experience

Study unit description:

The study unit explores theories and tools related to human behaviour and activity as well as existing definitions of user experience through literature and expert lectures. R&D projects implemented as multidisciplinary team work penetrate problems in the creation and analysis of user experience, and examine the usefulness of research outcomes for product and service design.

0322 USABILITY AND USER STUDY METHODS, 20 cr

Description:

The module familiarises students with the principles of user psychology and cognitive science, as well as the limits placed on design by human cognitive abilities. It also explores the methods of user and user culture studies, placing particular emphasis on imaginative and cooperative methods. Usability studies focus on the evaluation of usability in the different stages of product development. In addition, elective studies allow students to deepen their methodological competence in visual and drama methods, among others.

The student will be able to:

- master research and development methods and independently carry out R&D projects to develop the field
- produce and interpret knowledge in participatory and process-oriented ways during research and development projects
- listen to others and communicate with diverse target groups in writing, orally and visually
- strive for continuous learning and understand and purposefully guide their learning process
- carry out collaborative learning and sharing of knowledge in diverse communities of experts
- take others into account in their actions and make decisions with awareness of the individual, community and societal points of view
- assume responsibility for their actions and work according to jointly agreed principles and measures

Content:

Usability and User Study Methods theme contains 20 cr in shared advanced professional studies and 15 cr in elective (E) studies. The module focuses on the basics of user-centred design, design, principles and methods of user and usability studies, as well as the rules applying to usability.

01067 Basics of user studies, 10 cr**The student is able to:**

- know the principles of user-centred design
- utilise data and information sources that support design
- form an overall view on technical, social, cultural, cognitive, experiential and aesthetic factors related to the use and attractiveness of product and service entities
- apply the general practices of user-centred product and service design for developing their own sector
- operate in open innovation networks and environments

Contents of the study unit:

- Product and service use, usability and the user
- Interaction between people and technology (cognitive limits)
- People and culture
- Emotions and user experience
- Intelligent products and services
- Accessibility
- Visuality and aesthetics

Study unit description:

- Familiarisation with user-orientation through literature, presentations and visits
- Students write essays and prepare seminar presentations on the basis of literature
- Seminar presentations serve as a basis for critical discussion
- The presentations are published in a virtual learning environment

01068 Methods of user and usability studies, 10 cr**The student is able to:**

- integrate user and customer expertise into the various stages of the design process by applying the methods of user and usability studies in a diverse way
- manage the process of generating user information and gathering materials for user-centred design
- produce, interpret and evaluate research reports
- apply and develop innovative methods for user studies
- utilise diverse design tools and methods

Contents of the study unit:

- User-centred design and the basics of user psychology
- Use of qualitative and quantitative research methods as a basis for design
- Gathering process, description and analysis of material
- Design, implementation and reporting of user studies
- Presentation and utilisation of user studies
- Development of user studies
- Scientific writing
- Research ethical questions
- Usability and quality of the service entity

Study unit description:

- Familiarisation with usability studies (laboratory and field study)
- Familiarisation with the methods of user studies through literature, presentations and visits
- Students write essays and prepare seminar presentations on the basis of literature
- Designing, implementing, reporting and evaluating a usability and user study
- Participative interpretation and processing of user data: user, researcher and designer
- Application and development of user and usability study methods

01069 Visual Design Methods, 5 cr

The student is able to:

- analyse entities made up of images, icons and text
- use visual expression suitable for different situations and cultures, as well as methods of composition and typography
- use visual elements and design aesthetic and balanced visual products
- promote usability through a clear visual design
- utilise visual methods and tools in illustrating design solutions and concepts
- apply and develop research and illustration methods to support visual expression in order to gather user data and research results
- plan and implement interactive prototypes for concept design and research

Contents of the study unit:

- Basics of Visual Design
- Visuality as a Communication Tool
- Visual Structures, Variables and Strengths
- Two-Dimensional Composition
- Composition Guidelines
- Visual Perception and Processing Visual Information
- Colour Psychology
- Visuality as a Tool for Illustrating User Data

Study unit description:

- Familiarisation with theoretical characteristics of visual design through literature, presentations and research assignments
- Evaluating the effect of visual implementation on usability through various assignments
- Exploring the diverse opportunities of visual expression in the different stages of design

01070 Drama methods as a source of user data, 5 cr

The student is able to:

- Use drama methods as a source of user data
- Use drama as a cooperation tool
- Use drama for interpreting and presenting user experience

- Use drama as an emphatic method (role testing)

Contents of the study unit:

- Basics of Drama
- Designer as a Dramaturge
- Using Roles as a Research Method
- Body Knowledge and Memory
- Living, Imagining and Empathising
- Context and Space
- Drama Methods, such as bodystorming, informance and shadowing, role play and dress up games as well as challenges

Study unit description:

- Testing social roles and various social situations
- Testing drama in extensive projects

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

194 THESIS, 30 cr

Description:

- Creating research plans and project brochures for development projects
- Using and applying bibliography and previous studies
- Constructing a theoretical framework
- Gathering and analysing primary and secondary material
- Implementing and reporting the research and development work
- Maturity test and constructive opposition

The student will be able to:

- carry out development work and applied research independently in their fields;
- analyse the theoretical starting points for development work and evaluate development tasks through clear documentation;
- generate new, reliable information for solving delineated problems;
- evaluate the effects of the methods they use on the reliability of the information generated;
- understand the meaning of researched information for supporting business decisions, and
- apply research data in their work by developing new operating methods and models;

Learning process:

The thesis conducted as a development project forms the core of the Master's degree. Its implementation is supported in all of the study units. Work on the thesis can begin already during the first study units. The thesis is public.

The thesis is an applied research or development task focused on developing the region and the field, on the challenges of developing the employment sector, and on professional growth. Thus the theses respond to employer needs, use process-based and applied methods and aim to generate new information and innovations. The work serves as proof of a student's expertise and innovativeness to solve development challenges related to the workplace. The theses are a learning process which allow students to prove their ability to apply competence gained through their studies to practical needs of change in the employment sector, whilst paying attention to its generic competences: ethical, reflection, network, innovation and globalisation competence.

The thesis is usually organised as a shared development process with various organisational participants, which means that the participating organisation develops itself and in addition the surrounding sector and the labour market as a whole.

00415 Thesis, 30 cr