

ITBBA Business Information Technology
Bachelor of Business Administration, 210 ECTS
Bachelor of Business Administration

Programme

Name and level of education

Bachelor of Business Administration (BBA) and the Finnish title of tradenomi

Admission requirements and applications

Universities of Applied Sciences Act 932/2014, Section 25
Before applying see the admission criteria at [Studyinfo](#).

Scope and duration

Scope of the degree is 210 ECTS credits.
The duration of the degree is 3.5 years.

Recognition of learning

[Read more about the principles of recognition of learning at Haaga-Helia.](#)

Mode of study

Day-time studies

Language of tuition

The degree is conducted in English.

Requirements and decrees

Completion of the courses specified in the curriculum, compulsory work placement, a thesis and maturity test.

The Government Decree on Universities of Applied Sciences 1129/2014.

Study attainments and assessment

[Find out more about the degree regulations and assessment process of Haaga-Helia.](#)

Targets and structure

Majors (Specializations)

Software Development

Learning paths: Full Stack developer, Back End developer, Front End developer

By completing this major (specialization) you will be able to:

- specify, design and implement software applications according to customer requirements.
- identify and use suitable software development methods, tools, and programming languages for a project.
- understand the role of testing, quality assurance and project management in a successful

software project.

ICT and Business

Learning paths: ICT Solution Consultant, Data Analytics Developer

This major (specialization) prepares you to develop enterprises' business processes and service processes by utilizing information technologies. By completing this major you will:

- be able able to source IT solutions for business use, evaluate the suitability, usability and security of solutions, and participate in their integration and deployment in an organisation.
- be able to act as a change agent in the introduction of new software and ICT services.
- have knowledge of different information management models and frameworks of reference.

Digital Services

Learning paths: Digital Services Developer, 3D-developer

This major (specialization) prepares you to operate as a business oriented digital services developer. By completing this major you will:

- have the ability to understand the needs of both the business organisation and the end users.
- have a holistic understanding of the customer value creation process.
- have the ability to formulate and communicate requirements in a way that facilitates communication between software developers and business professionals.
- be able to ensure that developed digital solutions are the most suitable and cost-effective solution available and that it responds to a real need.

ICT Infrastructures and Cloud Services

Learning paths: Cloud Services Specialist

By completing this major (specialization) you will be able to operate as a cloud service specialist in various organisations that use cloud based IT systems and network services. You will also be able to provide support and participate on deployment projects related to ICT infrastructures and information security.

Internationalisation

The field of ICT is international by its nature: customers, vendors and organizations typically operate on international markets regardless of the size of the company, and English language is the lingua franca of ICT business.

All students are encouraged to include exchange studies or work placement abroad. There are plenty of international exchange opportunities available in our international partner institutions: you can apply for student exchanges at more than 200 partner universities in 44 countries. We also offer a Double Degree option for our students in co-operation with HES-SO University of Applied Sciences and Arts Western Switzerland. Business Information Technology student can apply for the Double Degree programmes during his or her fourth semester. The Double Degree studies abroad are accomplished typically during the third study year.

Students in Business Information Technology represent various nationalities from all over the world, and English-language courses are open to students from Haaga-Helia's partner institutions. Depending on your interests, it is also possible to combine studies from Haaga-Helia's other English-language study offerings across degree borders (e.g. language studies).

Work placement and cooperation with the business community

Studies in Business Information Technology include a compulsory work placement. Student searches for and chooses a suitable IT traineeship, internship or job that fits to his or her study and career plans. It is possible to complete the work placement abroad.

The studies typically include content and practical application arranged in cooperation with partnering IT and other companies. This collaboration with both local and international companies is an integral part of the degree and enables you to learn the skills and acquire the experience to work in multicultural teams and on multinational projects. Each year, the students and lecturers of Haaga-Helia have a number of joint projects and seminars with businesses, NGOs and industry representatives. We also invite various ICT professionals to give lectures and training sessions to our students and staff members.

Career opportunities

The role of ICT in business is increasing, and it is a strategic focus area of organisations across all industries. In addition to providing infrastructures and tools that facilitate traditional business operations, ICT is becoming an integral part of products, services and sales.

Digitisation of operations and diversifying uses of ICT offer excellent career opportunities for ICT business graduates in both ICT companies as well as a range of organisations that utilise the technologies. Graduates in this industry typically have a good employment rate. For example, you can work as a digital services developer, software developer and programmer, system and cloud services specialist, or business developer. You will have a wide range of work opportunities on an international and fast changing sector requiring multidisciplinary professionals with strong technological background. Another option is self-employment with the help of [Haaga-Helia StartUp School](#) services.

The competencies gained during the studies and the resulting higher education degree ensure continuous career development, since the degree offers a good range of postgraduate options through specialisation and Master's degree programmes.

Postgraduate studies

Master level studies in universities of applied sciences and universities in Finland and abroad.

Examples of Master level studies Haaga-Helia offers:

[Master's Degree Programme in Business Technologies \(English\), Pasila](#)

[Master's Degree Programme in Business Technologies \(Finnish\), Pasila](#)

Contact information

Haaga-Helia University of Applied Sciences

Degree in Business Information Technology (day-time)

Pasila campus

Ratapihantie 13

00520 Helsinki, Finland

Tel. +358 (0)9 229 611

[Study Services](#)

Degree Director

Antonius Camara, tel. 040 832 5655

Email addresses are in the following format: `firstname.lastname@haaga-helia.fi`

Degree Programme in Business Information Technology, Full Time Learning, Pasila Campus

Code	Name	Sum
ITBBA22	Degree Programme in Business Information Technology, Full Time Learning, Pasila Campus	210
ITBBAKEYS	Key Competencies	65
ITBBABRUSHUP	Brush up Studies	0-6
SWE000HH1A	Ruotsin tasotesti	0
SWE002HH1A	Ruotsin valmentavat opinnot	3
ENG000HH1AE	English Placement Test	0
ENG002HH1AE	Brush up English	3
ITBBAHHKEYS	Haaga-Helia Key Competencies	40
COM001HH1AE	Professional Communication	5
MAR001HH1AE	Customer Insight and Marketing	5
ICB001HH1AE	ICT Competencies	5
SAL001HH1AE	Customer Experience and Sales	5
HRL001HH1AE	Teamwork and Project Management	5
ANA001HH1AE	Research and Development Skills	5
ECO001HH1AE	Basics of Financial Management	5
ENT001HH1AE	Entrepreneurship and Business Operations	5
ITBBAKEYSCAREER	Keys to Studies and Career	5
ITBBACAREERCOMMON	Common Part	1
STU001HH1AE	Introduction to Studies	1
ITBBACAREERSELECT	Optional Part	4
STU002HH1AE	Introduction to Digital Learning Environments	1
STU003HH1AE	Study Skills	1
STU004HH1AE	Time Management	1
STU005HH1AE	Wellbeing and Self-Leadership Skills	1
STU006HH1AE	Recognise and Communicate Your Strengths	1
STU007HH1AE	Career Planning	1
STU008HH1AE	Job-Seeking Skills	1
STU009HH1AE	Speed Up Your Career with Alumni	1
STU010HH1AE	Studies and Entrepreneurship	1
STU011HH1AE	Employment in Finland	1
ITBBADEGREEKEYS	Key Competencies in Business Information Technology Studies	20
DIG001IT1AE	Introduction to Digital Services	5
ICB001IT1AE	Introduction to Business Driven ICT	5
ICI001IT1AE	Introduction to ICT Infrastructure and Cloud Services	5
SOF001IT1AE	Introduction to Software Development	5
ITBBAPROF	Professional Competencies	100

ITBBAOWNPROF	Professional Competencies in Business Information Technology Studies	60-85
ITBBAMAJOR	Major	30-60
ITBBADIGI	Digital Services	30-60
ICB011AS2AE	Basics of Artificial Intelligence (AI)	5
DIG016AS2AE	Internet of Things: a Business Perspective	5
DIG002AS2AE	Innovation and Prototyping	5
DIG012AS2AE	Basic 3D Design with Blender	3
DIG006AS2AE	Digital User Experience	5
DIG003AS2AE	Digital Service Prototyping	5
DIG005AS3AE	3D Printing	3
SOF002AS2AE	Software Requirements Analysis	5
ICB008AS2AE	ICT Project Management	5
ICB013AS3AE	Applied Artificial Intelligence (AI)	5
DIG013AS2AE	Digital Business Ecosystems	5
DIG008AS3AE	IoT Experimental Project	5
COM002AS3AE	Website Design and Development	5
DIG006AS3AE	3D Extended Course	3
DIG009AS3AE	Digital Service Project	10
DIG015AS2AE	Digital Service Design	5
DIG007AS3AE	3D + Robotics	3
ITBBASOF	Software Development	30-60
SOF005AS2AE	Programming 1	5
SOF001AS3AE	Programming 2	5
SOF001AS2AE	Data Management and Databases	5
SOF003AS3AE	Back End Programming	5
SOF002AS2AE	Software Requirements Analysis	5
SOF004AS3AE	Front End Programming	5
SOF005AS3AE	Software Development Project 1	5
SOF008AS3AE	Mobile Programming	5
SOF004AS2AE	Python Programming	5
SOF012AS3AE	Software Testing	5
SOF009AS3AE	Software Development Technologies	5
SOF007AS3AE	Software Development Project 2	10
SOF011AS3AE	Softala Project	10
SOF013AS3AE	Database Developer	5
ITBBAICTBUS	ICT and Business	30-60
ICB001AS2AE	Business Process Management	5
ICB014AS2AE	Business Requirements Management	5
SOF001AS2AE	Data Management and Databases	5
COR004AS2AE	ERP 1	5
ANA001TR1AE	Introduction to Data Analytics for Business	5

ANA002AS2AE	Advanced Use of Excel	5
ICB008AS2AE	ICT Project Management	5
ICB005AS2AE	Business Intelligence	5
ICB006AS2AE	Managing CRM Processes	5
ICB011AS2AE	Basics of Artificial Intelligence (AI)	5
ICB012AS3AE	Business Intelligence Development Project	5
ICB013AS3AE	Applied Artificial Intelligence (AI)	5
ICB004AS3AE	Robotic Process Automation	5
COR005AS2AE	ERP 2	5
ICB015AS3AE	Business Data Management and Data Analytics	5
ICB006AS3AE	Selling ICT Solutions	5
ICB003AS3AE	Business ICT Project	10
ICB014AS3AE	Financial Accounting, Processes and Systems	5
ITBBAICTINF	ICT Infrastructures and Cloud Services	30-60
ICI001AS2AE	Windows Servers	5
ICI002AS2AE	Information Security	5
ICI004AS2AE	Introduction to Networks	5
ICI003AS2AE	Linux Servers	5
ICI003AS3AE	Cloud Service Technologies	5
SOF004AS2AE	Python Programming	5
ICI010AS3AE	Cloud Architectures - AWS	10
ICI009AS3AE	Cloud Operations - AWS	10
ITBBAOWNMINOR	Complementary Professional Competencies in Business Information Technology Studies	0-55
ITBBAMINOR	Complementary Professional Competencies	0-25
ITBBAMINOR2	Minor Package	0-25
ITBBALANGUAGES	Languages and Culture	15
FIN001AS2AE	Finnish Language and Culture 1	5
FIN002AS2AE	Finnish Language and Culture 2	5
FIN003AS2AE	Finnish Language and Culture 3	5
FIN004AS2AE	Finnish Language and Culture 4	5
FIN005AS2AE	Let's Speak Finnish!	5
SWE001HH1A	Svenska för arbetslivet	5
FIN014AS2AE	Finnish Business Communication (for Finnish-speaking students)	5
ENG001HH1AE	Professional English	5
ENG001AS2AE	Advanced Professional English	5
ENG006AS2AE	English for Professional Presentations	5
ITBBAWORKPLA	Work Placement	30
PLA001HH1AE	Basic Work Placement	0-15
PLA001HH2AE	Professional Work Placement	0-15
ITBBATHESIS	Thesis	15

THE7HH801	Thesis Phase 1	0-5
THE7HH802	Thesis Phase 2	0-5
THE7HH803	Thesis Phase 3	0-5
THE7HH804	Maturity Test	0

ITBBA22 Degree Programme in Business Information Technology, Full Time Learning, Pasila Campus: 210 op**ITBBAKEYS Key Competencies: 65 op****ITBBABRUSHUP Brush up Studies: 6 op****SWE000HH1A Swedish Placement Test: 0 op****SWE002HH1A Brush up Swedish: 3 op****Learning objectives**

Objectives of the course: After successful completion the student is able to

- make use of general vocabulary
- express themselves orally and in writing
- understand elementary texts and simple speech
- use the most central structures of Swedish
- assess and develop their language learning skills
- take part of the course Svenska för arbetslivet

Starting level and linkage with other courses

To be able to successfully participate in this course, student needs to know the following knowledge, skills and tools:

The course is intended for students who have not passed the placement test in Swedish. The course prepares the student for the Key Competence course Svenska för arbetslivet.

The starting level of the course is A2 in the Common European Framework of Reference for Languages.

?

ENG000HH1AE English Placement Test: 0 op**ENG002HH1AE Brush up English: 3 op****Learning objectives**

After completing the course the student:

- is able to communicate professionally in English in working life
- is able to apply the basic structures of English language
- is familiar with basic academic English usage

Starting level and linkage with other courses

Prerequisite for attending the course:

Upper secondary school English language syllabus or equivalent.

This course is recommended prior to the compulsory key competence English courses for students who have not passed the English level test.

ITBBAHHKEYS Haaga-Helia Key Competencies: 40 op**COM001HH1AE Professional Communication: 5 op****Learning objectives**

After having completed this course or attained an equivalent competence level, the student:

- communicates responsibly orally and in writing, according to the demands of situation and the target groups
- is able to use professionally different communication methods, channels and platforms
- identifies own competence level and is able to market own competencies convincingly
- is able to interact with others, give and receive feedback with respect in various intercultural environments
- is able to critically evaluate different communication sources, their operating practices and motives as well as the different responsibilities connected to the information they convey.

Assessment criteria**Grade 1**

Student:

- can communicate appropriately orally and in writing according to the situation
- knows different professional communication channels and platforms.

Grade 3

Student:

- produces communication content that fulfills task requirements with regard to the target group in various cultural environments
- confidently uses communication channels and platforms
- can identify own strengths and areas for development in interpersonal communication situations.

Grade 5

Student

- produces professional communication content in accurate English for multiple channels, with consideration to different cultural perspectives
- is able to critically assess contents and make use of different communication channels and platforms
- performs professionally and responsibly in demanding communication situations.

MAR001HH1AE Customer Insight and Marketing: 5 op

Learning objectives

After having completed this course or attained an equivalent competence level, the student

- Can define basic concepts and processes of marketing
- Can describe customer-centric orientation, brand and service promises
- Knows how to utilise different sources and channels to find information that supports global customer understanding
- Can describe customer needs and customer journeys
- Can recognise the importance of cultural background in developing customer insights
- Knows how to recognise competitive means of marketing and can apply them in an ethical, responsible and sustainable manner

Contents

- Comprehensive understanding of consumer behavior and customer-related data to draw customer insights
- Comprehensive and in-depth coverage of the Marketing Mix/4Ps (Product, Price, Place, Promotion), and extended to the 7Ps (People, Physical Evidence & Processes) to develop a holistic marketing strategy

Assessment criteria**Grade 1**

Knows the basic concepts, processes and the main goals of marketing. Understands the importance of customer focus in operations. Can describe the competitive means and customer needs in marketing. Can name global sources and channels from which customer related information is available.

Grade 3

Can formulate marketing goals and understand the importance of branding and the service promise. Can compare competitive means of marketing and understands their connection to marketing and sales goals. Understands the principles of sustainable development, and the influence of culture on marketing and sales. Can collect information that supports customer insights from various sources. Can develop solutions to customer needs and communicate his or her own ideas.

Grade 5

Can justify the advantages and challenges of different means of competition and apply them to achieve marketing and sales goals. Is able to analyse the implementation of the principles of sustainable development in marketing. Understands the influence of culture in marketing and sales. The student is able to analyse customer needs and use marketing measures to develop added value for the customer and to communicate his/her own solutions professionally.

ICB001HH1AE ICT Competencies: 5 op**Learning objectives**

The student who completes this course or has acquired equivalent competence is able to:

- Use Office Applications to succeed in individual- and teamwork in Haaga-Helia studies.
- Apply data security and protection practices in own work and studies.
- Use modern collaboration tools appropriately.
- Create accessible Office documents.

Contents

Collaboration tools (M365: Microsoft Teams and OneDrive)

Data security and data protection
Word processing (Word)
Spreadsheet (Excel)
Presentation graphics (PowerPoint)

Starting level and linkage with other courses

Prerequisite Digital skills (1 cr) or comparable knowledge.

This course belongs to Haaga-Helia Key Competencies for all degrees.

Further information

The course material is based on English versions of Microsoft Office Word, Excel ja PowerPoint applications.

To complete the course assignments, you must install Microsoft Office Word, Excel and PowerPoint applications on your computer, their browser based online versions are not sufficient.

Course material is for Windows versions of apps, Mac users are not supported.

Assessment criteria**Grade 1**

Student

- Can create, edit, and save files using Office tools
- Is able to share files with different permissions
- Masters basic concepts of data security and data protection

Grade 3

Student

- Knows how to independently use office tools to speed up work tasks.
- Is able to act securely while respecting data protection.
- Knows the basic concepts of systems and web applications.

Grade 5

Student

- Is able to apply tools for practical tasks.
- Knows the risks of your network environment and knows how to protect your files and folders.
- Know the basics of systems and application procedures.

SAL001HH1AE Customer Experience and Sales: 5 op**Learning objectives**

After having completed this course or attained an equivalent competence level, the student:

- is able to define sales processes and basic concepts
- identifies customer needs and development targets
- identifies and describes the stages of a sales process and can sell their own ideas
- operates in a service-oriented manner and provides solutions to customer needs and understands the influence of culture in the sales process
- is able to evaluate the factors influencing the customer experience, including ethics, sustainability and global megatrends.

Contents

This class is structured around the following themes:

- The sales function, sales roles and responsibilities, B2C vs. B2B
- Sales process and typical sales cycle
- FAB-analysis
- Customer Experience and purchase process
- Key elements of a successful sales interaction

Starting level and linkage with other courses

This class is part of the Haaga-Helia key competences.

Assessment criteria

Grade 1

Student:

- can define sales-related concepts and processes and name sales-related goals. Identifies internal and external customers.
- can describe the stages of a sales encounter and the factors that affect the customer experience.

Grade 3

Student:

- can formulate goals related to sales and customer encounters.
- can collect information related to the customer experience from various data sources and channels. Understands the importance of long-term and profitable customer relationships in business.
- can act in a service-oriented and customer-oriented manner in a sales situation.
- can also evaluate the factors influencing the customer experience from the perspective of sustainable development and culture.
- can present their own ideas.

Grade 5

Student:

- can evaluate sales and customer interaction goals.
- can analyse customer needs to develop customer experience.
- can act purposefully in a sales situation and produce various solutions to customers' needs.
- can also evaluate the factors influencing the customer experience from the perspectives of ethics, sustainable development and global megatrends.
- can present his/her own solutions professionally.

HRL001HH1AE Teamwork and Project Management: 5 op

Learning objectives

After having completed this course or attained an equivalent competence level, the student:

- identifies the principles and challenges of multi-cultural teamwork
- recognizes different tools and practices of project management
- develops teamwork and works purposefully in diverse teams
- takes advantage of good practice in project work
- sees opportunities and advantages of diversity in project teams
- collaborates inclusively, ethically, sustainably and responsibly in multi-cultural teams

Contents

- principles of efficient teamwork
- team roles, team development and team structure
- advantages of and challenges in multi-cultural teams
- principles of project management
- project planning and executing
- evaluation of project completion

Starting level and linkage with other courses

No prerequisites.

Assessment criteria**Grade 1**

The student can describe group dynamics and the basics of project management. He/she understands the challenges related to multi-cultural team work. He/she is able to conduct appointed tasks in a project under guidance.

Grade 3

The student can analyse group dynamics and is able to apply project management tools in their own tasks. S/he participates actively in multi-cultural team work with taking responsibility for reaching the goals in the project realisation. S/he is able to give and receive both team and peer feedback as well to conduct self-assessment. S/he is able to set objectives and work in a team as agreed.

Grade 5

The student can plan, execute and evaluate team work and projects and set development objectives both personally and for a team. S/he can take advantage of multi-cultural teams and is able to analyse the team effectiveness and performance. The student is able to use feedback for reflecting and analysing both a team's work and their own actions.

ANA001HH1AE Research and Development Skills: 5 op**Learning objectives**

A student who has completed this course or acquired similar competence is able, in his/her own thesis or in other development project:

- gather relevant information and critically evaluate sources and reliability of the information
- describe the research process in a matter-of-fact and structured way and mark the sources appropriately
- use a method suitable for one's own thesis or project to gather and analyse data and working life information
- justify the choices made and make concrete development proposals
- apply ethical principles at all stages of one's own research or development work
- develop a topic for one's own thesis
- identify the method options needed to complete one's thesis, and recognize the stages of Haaga-Helia's thesis process.

Contents

Please see the learning targets. More detailed information of the content can be found in the implementation descriptions.

Starting level and linkage with other courses

The course precedes the Bachelor's thesis. During or after the course, the student registers for a

thesis process in Wihi-system.

Assessment criteria**Grade 1**

Assessment criteria - grade 1

The student

- Is able to find sources necessary for development and research work and masters reference techniques.
- Is able to write a research and development plan.
- Recognizes different research methods and ethical questions related to research work.

Grade 3

Assessment criteria - grade 3

The student (in addition to the previous)

- Is able to choose and apply suitable methods for gathering working life information.
- Can analyse information and data, and justify one's choices.
- Can describe the research process and suggest concrete development proposals.

Grade 5

Assessment criteria - grade 5

The student (in addition to the previous)

- Is able to critically assess the reliability of information, analyses and research.
- Can apply ethical principles throughout one's research and development work.
- Is able to assess development proposals and their implementation in working life.

ECO001HH1AE Basics of Financial Management: 5 op**Learning objectives**

After having completed this course or attained an equivalent competence level, the student:

Can calculate and apply simple and compound interest calculations in various business cases,
Knows how to analyze the income statement, balance sheet, and cost structure, and understands their cause-effect relationships

Knows how to calculate key figures based on the financial information of a company and how to interpret them.

Introduction to "3 P" model: profit, people and planet" with focus on the profit side of this.

Knows the basics of cost-volume-profit analysis

Knows basic pricing models and is able to apply VAT (value-added tax) in pricing.

The course includes various examples and business case of international companies.

Contents

Business Mathematics, simple and compound interest calculations

Basics of Financial Accounting: Financial statements, Balance Sheet, and Income statement

Basics of Managerial Accounting: Cost behavior, Cost Volume Profit, Break-even point, and related calculations

Principles of pricing and VAT.

Assessment criteria**Grade 1**

1. The student is able to calculate basic simple and compound interest exercises. Is able to describe cost and profitability concepts and categories.

Grade 3

3. The student is able to select and apply the correct interest calculation method. Is able to describe the core principles of management and financial accounting. Is able to describe the effects of business transactions on the company's income statement, balance sheet and profitability. Is able to independently calculate the key figures of the income statement and balance sheet.

Grade 5

5. The student Is able to apply simple and compound interest independently in various business cases. Is able to analyze and interpret the income statement and balance sheet as well as key figures based on them. Is able to make decisions based on financial information as well as combine theoretical and practical information. Is able to apply VAT (value-added tax) in simple pricing.

Approved/ Failed

Based on exams, quiz,zes and exercises in class. Shared in the implementation depending on the type of course

ENT001HH1AE Entrepreneurship and Business Operations: 5 op**Learning objectives**

After having completed this course or attained an equivalent competence level, the student can:

- act entrepreneurially alone and in multicultural groups,
- describe ways of becoming an entrepreneur, entrepreneurship modes and company forms,
- analyze entrepreneurship from perspectives of individual, organization and operating environment,
- utilize the knowledge base, taking into account sustainability,
- describe the business using BMC as a tool,
- evaluate various business opportunities as well as
- analyze own and company networks.

Contents

Entrepreneurship in society

Entrepreneurship opportunities

Entrepreneur's networks

Becoming an entrepreneur

Me and entrepreneurship

Operating environment and economic models

Strategy and sustainability

Business model

Assessment criteria**Grade 1**

Student

- participates in tasks
- can describe entrepreneurship
- is familiar with basic theories of business

Grade 3

In addition to the previous part, students

- can evaluate their own potential as entrepreneurs
- can evaluate business opportunities, ways of becoming an entrepreneur and company forms
- can identify and create own network and
- are well acquainted with the knowledge base of business and the connections between sustainable development and business.

Grade 5

In addition to the previous part

- evaluate the challenges and opportunities of entrepreneurship and
- analyze and evaluate business opportunities, strategic choices and business models.

ITBBAKEYSCAREER Keys to Studies and Career: 5 op**ITBBACAREERCOMMON Common Part: 1 op****STU001HH1AE Introduction to Studies: 1 op****Learning objectives**

After having completed this or a corresponding course the student

- can interpret and utilize degree regulations in his/her studies
- can use library services, student wellbeing services, FSHS (Finnish Student Health Service) and international services.
- recognizes the special characteristics of studying at university of applied sciences
- is familiar with the structure of ISP and is able to update it, and identifies the basis of planning studies
- is able to search for work placement related information
- recognizes the basics and characteristics of his/her field
- appreciates and accepts the rules and conditions of his/her studies

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

ITBBACAREERSELECT Optional Part: 4 op**STU002HH1AE Introduction to Digital Learning Environments: 1 op****Learning objectives**

Students who have completed this course or have acquired equivalent competence will be able to:

- use the Haaga-Helia network and remote access securely
- use Haaga-Helia's Moodle and e-learning environments
- use Peppi

- use Haaga-Helia student pages
- use the Haaga-Helia Office 365 environment and its various services, and
- use Haaga-Helia email

In addition, the student will identify the skills needed for independent virtual learning online.

Contents

Computer network and remote access

Peppi

Haaga-Helia student pages

Email and calendar

Office 365

Moodle

Starting level and linkage with other courses

No pre-requisites.

The course teaches the necessary IT skills to enable the student to use Haaga-Helia's IT systems, which is why the completion of this course is essential for all subsequent courses.

STU003HH1AE Study Skills: 1 op**Learning objectives**

After having completed this course or a corresponding course, the student:

- is able to study in a university of applied sciences
- recognizes the benefits of group work and project-like work
- recognizes the basics of effective reading and note-taking techniques
- identifies and develops study skills and understands their importance for studies
- appreciates the importance of peer support as a facilitator of study progress

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU004HH1AE Time Management: 1 op**Learning objectives**

After having completed this course or a corresponding course, the student

- identifies the meaning of cognitive control and importance of time management
- is able to manage his/her time
- can plan and follow his/her studies utilizing time management skills
- appreciates the importance of peer support in supporting time management
- is able to realistically plan his/her time taking well-being into account

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU005HH1AE Wellbeing and Self-Leadership Skills: 1 op

Learning objectives

After having completed this course or a corresponding course, the student

- recognizes the connection between wellbeing and ability to study
- is able to contribute to one's wellbeing in a changing environment
- identifies the different dimensions of self-leadership and is able to assess them from the perspective of one's own life
- identifies one's tolerance for pressure
- recognizes tools that support stress management
- is willing to discuss and analyze his/her wellbeing and self-leadership skills

Contents

The course includes four themes, which you'll look into independently as well.

- Self-knowledge and one's own values
- Pillars of wellbeing
- Study motivation
- Wellbeing challenges and stress management

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU006HH1AE Recognise and Communicate Your Strengths: 1 op**Learning objectives**

After having completed this course or a corresponding course, the student:

- identifies one's personal and professional strengths and development needs
- can describe and analyze one's strengths
- can tell about his/her strengths to others
- recognizes the significance of communicating his/her strengths

Contents

The course includes four themes, and you'll be guided to have a closer look. The themes are working life skills, values, character strengths and competences.

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU007HH1AE Career Planning: 1 op**Learning objectives**

After having completed this course or a corresponding course, the student:

- is able to search and utilize labour market data, e.g. information about salaries and employability in different fields, while planning one's career
- identifies one's strengths and development areas in relation to career plan

- recognizes different possibilities for further education
- is able to create and develop a career plan
- identifies the significance of career planning

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU008HH1AE Job-Seeking Skills: 1 op**Learning objectives**

After having completed this course or corresponding course, the student:

- recognizes career opportunities in one's field
- identifies where and how to look for employment
- is able to create a distinguishable and targeted CV
- is able to create a personal and targeted job application
- is able to prepare for recruitment interview
- identifies and appreciates the importance of job-seeking skills

Starting level and linkage with other courses

No prerequisites.

This course is included in Keys to Studies and Career which is one of the Haaga-Helia key competences.

STU009HH1AE Speed Up Your Career with Alumni: 1 op**Learning objectives**

After having completed this course or attained an equivalent competence level, the student

- can clarify and strengthen one's expert identity
- can build a professional network
- understands the value of experience and implicit knowledge at work
- can reflect on one's expectations and targets related to roles at work
- can see his/her future at work, career and life in general

Contents

The mentoring program is a development process between the mentee (Haaga-Helia student) and the mentor (alumni). Mentoring is about learning together, sharing experiences and knowledge through interaction. The aim is to support the student's professional growth, graduation and employment. The individual goals of the mentoring program arise from the personal needs of the mentee.

The mentoring program consists of two-way mentoring meetings between the mentor and the mentee, as well as joint group meetings and self-study materials in Moodle. The content of mentoring meetings can be related to, for example, career planning, challenges in working life, challenges in the final stages of study, self-development or deepening expertise. The initial group meeting reviews the goals and rules of mentoring, draws up a mentoring agreement, shares experiences of the mentoring process and develops interaction skills.

STU010HH1AE Studies and Entrepreneurship: 1 op**Learning objectives**

Learning objectives

Students who have completed this course or have acquired equivalent competence will be able to:

- Recognize the opportunities created by the entrepreneurship studies, the thesis, and the work placement offered by Haaga-Helia to boost and develop the student's own business.
- Recognize the study, coaching, and networking opportunities offered by Haaga-Helia's networks.
- Recognize and find internal and external entrepreneurship advising services.
- Understand the forms of financial support for entrepreneurship and for studies, as well as their interaction.
- List the entrepreneurship courses or modules of interest and their potential effect on the student's career plan.

Contents

The course covers the following themes. Students complete assignments on these themes in Moodle.

- Expanded understanding of entrepreneurship.
- The forms of financial support for studying entrepreneurship.
- The advising services for entrepreneurship.
- Studying entrepreneurship at Haaga-Helia (incl. networks).
- Create your own summary.

Starting level and linkage with other courses

No prerequisites.

STU011HH1AE Employment in Finland: 1 op**Learning objectives**

After having completed this or a corresponding course the student

- recognizes the features of Finnish labor market and work culture
- is able to apply for a job or work placement
- shows development of his/her job seeking skills
- is able to apply networking skills in job seeking
- is willing to understand the Finnish labour market

Contents

- Work in Finland and Competences for the Future
- Job Search in Finland
- Building networks
- CV, application
- Social media in Job Search

- CV workshop
- Ending seminar

Starting level and linkage with other courses

NOTE: this course is not master -level course and course can not be attached to Master's degree. However master students are welcomed.

Further information

Guest lecturers from the industry and / or from HR and recruitment field.

ITBBADEGREEKEYS Key Competencies in Business Information Technology Studies: 20 op

DIG001IT1AE Introduction to Digital Services: 5 op

Learning objectives

After passing this course, the student

- * Recognizes the potential of digital services and related terms and concepts.
- * Understands the significance of user experience, usability, accessibility and service design
- * Is able to analyze, evaluate, design, code and test a simple web user interface.

Contents

- * Digitalization and digital services in general
- * The concepts of usability, user experience and accessibility
- * User-centered design process and heuristic analysis of digital services
- * Design, implementing (html and css) and testing of a responsive user interface
- * Assessing own learning and professional growth.

Further information

This course includes a small web site project (from idea to publication) as a mandatory part. Optionally, the project can have an organization or a company as a customer.

Assessment criteria

Grade 1

The student recognizes a digital service, knows the basics of user experience, usability and accessibility. Is able to design and develop a web user interface under guidance. The student understands the significance of digital service analysis.

Grade 3

The student recognizes the potential of a digital service, understands the significance of user experience, usability and accessibility. Is able to independently design and develop a web user interface. The student is able to analyze a digital service.

Grade 5

The student is able to utilize effectively the potential of a digital service, utilizes user experience, usability and accessibility in an effective way. Is able to independently design and develop a high-quality web user interface. The student is able to analyze a digital service in a professional manner.

ICB001IT1AE Introduction to Business Driven ICT: 5 op

Learning objectives

The student is familiar with a variety of corporate ICT systems and tools. He/she knows the main resources and structure of common systems. Business centered approach is introduced and advocated.

The goal is that the student:

- Realizes the importance and the role of data and data transformations in the business environment
- Recognizes the most common systems and their role in business

- Understands the role of IT systems in support and development of business activities
- Is familiar with the System Development Life Cycle, understands the role of different development stages
- Use of UML and embraces business and agile oriented development principles
- Understand the role and need of the information systems and services management

Contents

Data and information and their role in business operations

System resources

Business environment

Practical introduction to business applications in the business environment (for example ERP, CRM, BI-tools)

Business driven system development and projects

Essential ICT and Business concepts

The System Development Life Cycle

Modelling users requirements e.g. UML and Use cases, user stories.

IT services management frameworks e.g. ITIL and Business Technology standard.

Starting level and linkage with other courses

This course is an introductory course to the ICT and Business profile. No prerequisites.

Assessment criteria**Grade 1**

Student:

Recognizes the most common integrated systems in companies

Understands the company main functions

Understands the role of ICT in the company

Understands the coupling between Business and ICT

Is familiar with a ICT and business terminology

Grade 3

Student in addition:

Realizes the importance of data in the business environment

Understands the main purpose of integrated systems

Recognizes the role of ICT in enablement and development of the business

Can act responsibly in a team

Understands the role of ICT and ICT management

Understands the connection between ICT system development and business development

Grade 5

Student in addition:

Can describe data as a business enabler

Understands the connection between the most common integrated systems and business steering and development

Understands the coupling between ICT management and different IT frameworks

ICI001IT1AE Introduction to ICT Infrastructure and Cloud Services: 5 op

Learning objectives

The goal is that the student:

- recognizes structure and operation of the computer
- can perform administrative operating system tasks
- recognizes the structure and operation of the ICT infrastructure
- recognizes operational principles of virtualization platforms and cloud services
- recognizes operational principles of information networks and networked services
- recognizes information security threats
- can work in information network and system environments in a manner that takes information security into account

Contents

- hardware assembly and couplings
- operating systems: Windows and Linux
- virtualization platforms
- cloud services
- structure and operation of information network, TCP/IP protocol, networking hardware
- information security, malware, information security of cloud services
- risk management

Starting level and linkage with other courses

No prerequisites.

Assessment criteria**Grade 1**

Student:

- demonstrates adequate activity in their studies
- can explain the basics of matters went through during the study module
- can utilize common core of the matters went through during the study module
- may often require guidance when facing problems and interpreting study module materials

Grade 3

Student:

- demonstrates good activity in their studies
- can explain in good fashion the matters went through during the study module
- can utilize diverse set of matters went through during the study module
- may sometimes require guidance when facing problems and interpreting study module materials

Grade 5

Student:

- demonstrates excellent activity in their studies
- can explain in excellent fashion the matters went through during the study module
- can apply diverse set of matters went through during the study module
- is able to independently identify and plan the steps that are necessary to take when solving a problem
- is able to independently search for information from various sources

SOF001IT1AE Introduction to Software Development: 5 op**Learning objectives**

Upon successful completion of the course, the student is able to

- * explain roughly the content of the courses related to software development
- * communicate the components and phases of software development
- * create simple program logic and write the code in JavaScript
- * implement simple web page functionality with browser programming
- * use development tools and publish web functionality on a web server
- * use technical documentation for information or help.

Contents

The course gives a broad view on software development, and brief basics of programming:

- * software development; goals, main concepts, and challenges
- * main phases/disciplines in software development processes
- * development environment and publishing the web site on a web server
- * linkages between a web page and a JavaScript program
- * designing and implementing simple programming logic (with JavaScript)
- * using following features of the programming language: selection and repetition structures, arrays, functions, very basics of objects
- * the technical documentation needed in basic web development and the ways to utilize it

Starting level and linkage with other courses

We recommend studying this course at the same time with (or after) Introduction to Digital Services (to understand profoundly the web environment).

Assessment criteria

Grade 1

Student shows activity in class and individual studying. Has understanding of the course contents, core concepts and terminology. Has knowledge and skills in creating an application using the skills taught on the course. Often needs some assistance in solving basic problems. Has some difficulties in using the course materials to support own learning.

Grade 3

Student shows good activity in class and individual studying. Has good understanding of the course contents, basic concepts and terminology. Has good knowledge and skills in creating an application using the skills taught on the course. Sometimes needs assistance in solving basic problems. Can use the course materials in an effective way to support own learning. Can find some more information from other sources.

Grade 5

Student shows excellent activity in class and individual studying. Has excellent understanding of the course contents, basic concepts and terminology. Has excellent knowledge and skills in creating an application using the skills taught on the course. Is able to ask for help and admits not knowing all topics. Can solve problems. Can fluently use the course materials and other sources to support own learning. Can find more information from other sources. Can learn more details of course topics.

ITBBAPROF Professional Competencies: 100 op

ITBBAOWNPROF Professional Competencies in Business Information Technology Studies: 85 op

ITBBAMAJOR Major: 60 op**ITBBADIGI Digital Services: 60 op****ICB011AS2AE Basics of Artificial Intelligence (AI): 5 op****Learning objectives**

Upon completion of the course, the student is able to:

- * understand what is AI and how it can affect business
- * recognize opportunities of AI in different domains
- * is able to analyze and visualize data
- * knows the basic statistical methods used in data analysis
- * knows how to use software to perform data analysis
- * knows how to apply some basic methods used in AI
- * knows trends in AI
- * can recognize ethical challenges related to applying AI in business

Contents

- * definition of AI and basic concepts related to it
- * business cases where AI is used
- * methods and software for data analysis and visualization
- * basics of statistical data analysis methods
- * application of AI methods in a project work
- * recent trends in AI
- * ethical issues in AI

Starting level and linkage with other courses

No pre requirements

Assessment criteria**Grade 1**

The student:

- Knows the basic concepts of artificial intelligence
- Recognizes the importance of artificial intelligence in business
- Knows the most common AI methods
- Knows the basics of technical solutions
- Knows the needs and challenges of artificial intelligence projects and continuous development
- Recognizes AI trends and ethical challenges

Grade 3

In addition to the above the student:

- Understands how artificial intelligence affects business
- Understands in general the possibilities and limitations of various artificial intelligence software, platforms and services
- Understands how it is possible to improve practices in artificial intelligence projects and continuous development
- Understands the implications and ethical challenges of AI trends

Grade 5

In addition to the above the student:

- Is able to assess the best methods for the practical applications of artificial intelligence
- Is able to compare the capabilities and limitations of different AI software, platforms and services
- Is able to contribute to the organization's artificial intelligence projects and continuous development
- Is able to analyze the effects of artificial intelligence trends and ethical challenges from the perspectives of individual organizations and society

DIG016AS2AE Internet of Things: a Business Perspective: 5 op

DIG002AS2AE Innovation and Prototyping: 5 op

Learning objectives

After completing this course the student is able to use ideation methods to a problem, acting creatively and focusing on the client and the solution. The student can present an innovative product using visual aids. The student knows how to use methods of concept building and is able to produce a working solution based on the concept.

The course is mostly based on exercises and group work.

Contents

The course focuses on problems from either client companies or the students themselves. Innovations are then developed starting from ideas related to the problems.

Central themes include:

- innovation: concepts, stages and demands of the innovation process, ideation and analysis methods, and tools for structuring the work
- concepting: defining and describing a concept, presenting and testing a concept, and how to present a concept

Starting level and linkage with other courses

This course is part of the Digital Services orientation of the Bachelor in Business IT degree programme.

Assessment criteria

Grade 1

The student knows innovation methods, has a basic understanding of the central tenets of innovation, and knows the main features of the innovation process.

Grade 3

The student knows the basic concepts of innovation work, is able to choose applicable innovation methods for solving real life problems, recognizes the phases of an innovation process, and is able to function as a team member in an innovation project.

Grade 5

The student knows the basic concepts of innovation work, is able to choose applicable innovation methods for solving real life problems, knows the phases and requirements of an innovation process well, and is able to manage an innovation project in a solution-oriented and customer-oriented manner. The student shows initiative in developing an innovation process.

Approved/ Failed

Grade 1 - 5

DIG012AS2AE Basic 3D Design with Blender: 3 op

Learning objectives

Upon successful completion of the course, the student knows how to create valid and complete 3D meshes for use in visualisation, games design, and 3D printing.

Contents

Introduction to 3D modeling
Blender installation and environment
3D Modeling Basics
Learning to use the Blender environment
Transforming objects in Blender
Tool Shelf and Properties window
Adding and moving more objects in Blender
Subdivision and Extrusion
Subdivision Surface
Using curves and background images
Materials and textures using Blender internal renderer
Using the Simple Deformers
Basic Lighting and Cameras
Modifiers and Add-Ons
Rendering the scene
Basic UV Mapping
Introduction to 3D modeling
Blender installation and environment
3D Modeling Basics
Learning to use the Blender environment
Transforming objects in Blender
Tool Shelf and Properties window
Adding and moving more objects in Blender
Subdivision and Extrusion
Subdivision Surface
Using curves and background images
Materials and textures in meshes
Using the Simple Deformers
Basic Lighting and Cameras
Modifiers and Add-Ons
Rendering the scene Eevee and Cycles
Basic UV Mapping

Starting level and linkage with other courses

No demands on previous courses.

Followed by an extended, problem-based learning course DIG006AS3AE Extended 3D.

This course is a NECESSARY PREREQUISITE for DIG005AS3AE 3D Printing.

Assessment criteria

Grade 1

The student has limited understanding of 3D and Blender. Meshes created are very simple and

texturing is rudimentary.

The student has satisfactory skills to produce small, textured meshes and rendered scenes in Blender.

The student shows satisfactory activity and initiative in learning process.

Grade 3

The student knows partly the Blender application. Meshes created are more complex and have good texturing.

The student has good skills to produce intermediately complex meshes and scenes.

The student shows activity and initiative in learning process. He/she is willing to develop his/her 3D skills further.

Grade 5

The student understands the Blender system to a large extent and can produce complex and well textured meshes.

The student shows activity and initiative in learning process. He/she is willing to develop his/her 3D skills further.

The student shows excellent activity and initiative in the learning process. He/she is independently taking his/her skills further using other online tutorials than those in the course.

Approved/ Failed

Grades 1 - 5.

DIG006AS2AE Digital User Experience: 5 op

Learning objectives

Upon successful completion of this course, the student should be able to understand why and how to create better services by bringing the voice of the customer as part of service development

He/she understands that user experience consists of chain of actions that generate a meaningful and valuable entity from the user's perspective. This chain can contain different kinds of service moments, contact points and interactions with service providers, user interfaces and other service users

He/she can examine and develop the experience as a whole as well as its parts

He/she can use different methods for mapping the user experience and apply the methods purposefully

He/she understands the importance of making the stakeholders participate in the design process and apply different working ways and methods of participatory design

He/she can transform the problems arising from the user's experience or other relevant moments into meaningful service solutions and describe the outcome of development in a manner that is communicable to different stakeholders

He/she can validate the plan created in the process and modify it according to the validation results

Contents

Methods for developing user experience:

- for mapping the user experience
- for analysing the user information
- for utilizing the information in design
- for testing and evaluating the designs

Further information

Connections to business

Real life business cases may be used on the course.

INTERNATIONALITY

International materials and examples may be used on the course

Assessment criteria**Grade 1**

Knows partially the concepts related to user experience and understands the meaning of user experience in service development. Knows the basic principles of designing user experience.

Grade 3

Knows the basic concepts related to user experience, can map the user experience and utilize the findings in designing user experience.

Grade 5

Masters the entity of user experience, can map the entire user experience and skilfully applies the knowledge gained in designing user experiences.

Approved/ Failed

Accepted course is evaluated with grades 1 to 5.

DIG003AS2AE Digital Service Prototyping: 5 op**Learning objectives**

Upon successful completion of this course, the student is able to

- apply brainstorming techniques
- systematically and purposefully use prototypes in the construction of digital services
- design a digital service visual user interface
- apply the techniques used to build prototypes.
- validate the prototype he has built using different test methods.

Furthermore, student learn the usability evaluations methods and approaches

Contents

Topics to be covered in the course include the following:

- Iterative design (lo/hi fidelity)
- Graphical User Interface (UI design principles)
- Tools for prototyping (Semi functional prototyping tools)
- Usability Evaluations and inspections

** Test Cases

** Test Plan

Assessment criteria**Grade 1**

The student understands the importance of prototyping in the design of a digital service and is able to use prototyping tools to implement a rudimentary prototype.

Grade 3

The student is able to use prototyping as a systematic method and implement a prototype of a justified digital service with the help of prototyping tools. The student is able to justify the functionality of the hypotheses he / she has made in the design with the help of the data collected by the prototype.

Grade 5

The student is able to use prototyping in a versatile way as a systematic method and to collect credible data to validate his hypotheses. The student is able to implement a visually finished and technically extensive prototype for a digital service.

Approved/ Failed

The approved course is assessed on a scale of 1-5

DIG005AS3AE 3D Printing: 3 op**Learning objectives**

Upon successful completion of the course, the student is able to

- operate and maintain the various printer types of the 3D LAB
- design a mesh in Blender
- export it to STL file format
- check the manifold properties of the mesh
- use RepetierHost or Cura to manage the printing process
- adjust the mesh and re-export the mesh until perfect

Contents

- Understanding 3D printing
- Understanding the path from Blender meshes via manifold checking to STL file and printer
- Printer materials (ABS, PLA, nylon)
- Fused Deposition Manufacturing type printers (MiniFactory, CoLiDo models, BCN3D)
- RepetierHost printer management software and using memory card for transferring print jobs
- Managing the printing process
- Hands-on training on a variety of 3D printer models

Starting level and linkage with other courses

DIG012AS2AE Basic 3D Design with Blender MUST be taken prior to this course with a good grade, or, the student must display adequate design competence using Blender, 3DS Max, or Cinema 4D.

Any other 3D package can be considered, if it exports STL file format files.

Further information

Should a student already possess the knowledge and practice of 3D printing, it is possible for that student to design a mesh in the 3D package of his/her choice and then take it through the printing process from the STL file stage onwards. If the person has 3D prints that he/she has printed previously and individually, these can be considered at the teacher's contact hour.

Assessment criteria**Grade 1**

The student

has a passable knowledge of the 3D design process

understands the use of different file formats
understands the significance of the concept of manifold objects
manages to create a very simple printable mesh
manages to take the object through the printing process and the result is a small and simple 3D printed object

Grade 3

The student

has a good knowledge of the 3D design process
understands the use of different file formats and is able to move between file formats as necessary
understands the significance of the concept of manifold objects and uses tools to check for manifold properties
manages to create a more complex printable mesh
manages to take the object through the printing process and the result is a relatively complex 3D printed object

Grade 5

The student

has an extensive knowledge of the 3D design process
understands the use of different file formats and is able to move between file formats as necessary
understands the significance of the concept of manifold objects and uses tools to check for manifold properties
manages to create a very complex or multi-part printable mesh
manages to take the object through the printing process and the result is a complex or multi-part 3D printed object

Approved/ Failed

Grades 1 - 5.

SOF002AS2AE Software Requirements Analysis: 5 op**Learning objectives**

After completing this course a student will be able to

- * identify business processes and interest groups in the development project
- * define objectives for the development project
- * extract requirements from the interest groups
- * analyze and clarify requirements
- * support interest groups in the prioritization of requirements
- * model requirements with UML (Use Cases, Class Diagram)
- * form test cases based on use cases

Contents

- * stages, tasks and methods in software requirements analysis
- * requirements elicitation
- * requirements analysis, clarification and prioritization
- * requirements modeling with UML notation
- * test case development

Starting level and linkage with other courses

The course has no formal prerequisites but students who have a grade on the following courses are in the best position to get the full gain of this course

Orientation to Software Engineering (SOF001IT1A) and

Orientation to Business and ICT (ICB001IT1A),

Orientation to Digital Services (DIG001IT1A)

This course is positioned within the IT bachelor degree programme's profiles Software Development and Digital Services.

Assessment criteria**Grade 1**

The student is able to

- * identify business processes and interest groups moderately
- * define user requirements moderately.
- * specify use cases and information content with UML imoderately.
- * form test cases from use cases moderately.
- * demonstrate some activity in studies.
- * use course materials limitedly to construct own learning.

Grade 3

The student is able to

- * identify business processes and interest groups well.
- * define, clarify and prioritize software requirements well.
- * specify use cases and information content with UML well.
- * form multiple test cases from use cases well.
- * demonstrate activity in studies.
- * use course materials to construct own learning.

Grade 5

The student is able to

- * identify business processes and interest groups creditably.
- * define, clarify and prioritize software requirements creditably.
- * specify use cases and information content with UML creditably.
- * form multiple test cases from use cases creditably.
- * demonstrate interest and activity in studies.
- * seek and find additional materials in addition to course materials to construct own learning.

ICB008AS2AE ICT Project Management: 5 op**Learning objectives**

A student gets knowledge and understanding of the techniques and methods of defining and managing corporate IT development projects/ IT-projects and their implementation as the disciplined and managed projects.

A student gets the ability to plan information systems development projects and to contribute in such projects.

A student is capable to work in a role of junior level project manager or in project management team

Contents

Module 1: Why do IT-projects fail? Understanding the causes behind failures and challenges in IT-projects as well as the characteristics of successful IT-projects.

Topics: Rationale for failures, How to improve the successfulness of IT-Projects in terms of disciplined IT Proj Mgmt methodology

M2: Responding to the challenges: A proper preparation in the initiation phase of IT-project is a must. The topics of M2 are run thru of the required key activities in initiation phase such as business case, establishing the project organisation and stakeholder management.

M3: Responding to the challenges by a proper planning – focus here in module 3 is on scope and schedule management, effort estimation and project management plan

M4: Responding to the challenges by a properly managed people perspective – focus area ara such as Project integration including project manager and project team working and principles of project organizations

M5 is about two themes: 1) benefits realization management is after closing the project and 2) basics of change management.

M6: Study by free choice which is deepening understanding of the chosen subject (related to IT-project management).

Starting level and linkage with other courses

Mandatory requirements: (1) The orientation course – orientation to business driven ICT is completed. (2) Innovation and project working course is completed

Highly recommended prerequisites: (1) Student has done the work placement and has basic knowledge and/or experience of project work and the development process of business information systems.

Note that the Project management course offers a launch pad for other courses which are structured by means of project working. Moreover, participation on the project management championship - PMC - goes effortlessly and enable a student earn 3 credits (PMC is studied as a course, too).

Further information

Evaluation is based on the assignments (ca. 3 assignments per module) ; (2) study by free choice and (3) activity on lessons (basically the presentations) + brief key terms questionnaires (5-10 questions of the key terms answered by one sentence). No exam.

Assessment criteria**Grade 1**

A student has a bounded understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is exercising the given tools and methods just passably. The output (essays) is just loosely if not at all bounded on the references.

The overall command of project management framework is modest and naming the uses of particular methods, tools and practises along the project lifecycle is uncertain and debatable.

Grade 3

A student has a fair understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is exercising the given tools and methods somewhat properly. The output (essays) is grounded tolerably on the references.

A student is able to bring his/her own thoughts and examples on top of the written essays.

The overall command of project management framework is in progress and some misunderstandings of the appropriate uses of particular methods, tools and practises may occur.

Grade 5

A student has an excellent understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is mastering the given/needed tools and methods in a profound way. The output (essays) is grounded comprehensively on the given references as well as own searches of appropriate references.

A student is able to bring his/her own thoughts and examples on top of the written essays and the quality of producing text is more like a synthesis on top of the source material and own observations. He/she has a clear command about the project management framework, how and when to use particular tools and methods and practises in managing project.

Approved/ Failed

Not in use

ICB013AS3AE Applied Artificial Intelligence (AI): 5 op**Learning objectives**

The overall learning objective of the course is to give the students insight into machine learning and natural language processing (NLP) technologies and their application in practice.

Upon successful completion of the course, the student:

- knows the main concepts of machine learning and natural language processing,
- can apply a machine learning method in a business case,
- can build a simple chatbot,
- has gained basic skills in using selected machine learning and NLP tools and
- is capable of planning and implementing a project involving AI technologies

Contents

- Main concepts of machine learning and natural language processing.
- Business cases where machine learning and natural language processing methods are used.
- Tools (e.g. Anaconda, Python library scikit-learn) for machine learning.
- Tools (e.g. Google Dialogflow, IBM Watson Virtual Assistant)
- Course project involving AI technologies.

DIG013AS2AE Digital Business Ecosystems: 5 op**Learning objectives**

Student is able to:

- Define the basic terms
- Define the relevant concepts, as digital platform, ecosystem, digital ecosystem
- Understand the basics of digital layered architecture
- Understands what is an ecosystem and business model of ecosystems, and what are the different types of ecosystems.

Contents

Defining the basic terms and relevant concepts of digital ecosystems
Digital layered architecture
Digital Business Ecosystems and their meaning in today's digital environment
Business model of ecosystems
Study of different types of a business ecosystems

Assessment criteria**Grade 1**

Student is able to:

- Define the basic terms
- Define the relevant concepts, as digital platform, ecosystem, digital ecosystem
- Understand the basics of digital layered architecture
- Understands what is an ecosystem and business model of ecosystems, and what are the different types of ecosystems.

Grade 3

Student is able to:

- Define well the basic terms
- Define the relevant concepts, as digital platform, ecosystem, digital ecosystem, and give and study examples
- Understand the basics of digital layered architecture
- Understands what is an ecosystem and what are the different types of ecosystems, and business model of ecosystems

Grade 5

Student is able to:

- Define well the basic terms
- Define well the relevant concepts, as digital platform, ecosystem, digital ecosystem, and give and study examples
- Understand the basics of digital layered architecture
- Understands well what is an ecosystem and what are the different types of ecosystems, and business model of ecosystems, and is able to make analysis of different types of ecosystems

DIG008AS3AE IoT Experimental Project: 5 op**Learning objectives**

Upon successful completion of the course, the student is able to ideate, research, design, and implement an IoT device that complies with the design requirements set by the client.

Contents

- Introduction to IoT
- Non-connected System on a Chip (SoC) devices such as Arduinos
- Basic sensors and Arduino shields
- Basic circuitry
- Basic sensors and actuators (ultrasound, light, sound, touch, servos, DC motors)
- Bluetooth capable SoC devices
- Network-aware devices such as ESP32, LORAWan etc.
- IoT devices built out of the basic parts
- Sending and receiving data via the Internet
- Ideation, idea research, implementation cycle

- Building the device
- Testing and maintaining

Starting level and linkage with other courses

DIG002AS2A Innovation and Prototyping is a good basis for this course.

Assessment criteria**Grade 1**

Knowledge - The student has limited understanding of IoT. He/she is able to describe how a basic IoT device can be made

Skills - The student has good skills in using available parts in IoT design and can come up with a simple device.

Competence - The student shows satisfactory activity and initiative in learning process.

Grade 3

Knowledge - The student is able to ideate and describe how to produce an IoT device as part of the team.

Skills - The student has good skills in using available parts in IoT design and can come up with a simple device.

Competence - The student shows activity and initiative in learning process. He/she is willing to develop his/her IoT skills further.

Grade 5

Knowledge - The student has a good understanding of the IoT world and able to ideate various credible approaches towards a given IoT device

Skills - The student has excellent skills in designing innovative approaches towards the IoT device and delivering a competent, working device.

Competence - The student shows excellent activity and initiative in the learning process. He/she is independently taking his/her skills further using other online tutorials than those in the course.

Approved/ Failed

Grades 1 - 5.

COM002AS3AE Website Design and Development: 5 op**DIG006AS3AE 3D Extended Course: 3 op****Learning objectives**

Upon successful completion of the course, the student has a deep understanding of one feature of Blender that he/she has researched, or, has produced work in the field of 3D to a client.

Contents

This course is a problem-based learning style course, in which the student selects a feature of Blender and produces a tutorial on it. Previous topics of choice have included, but are not limited to:

Rigging
Animation
Procedural materials
Compositing

Physics engine
Game engine
Node-based material systems
Cycles rendering engine
Geometry nodes

Starting level and linkage with other courses

This course follows DIG008AS3AE Basic 3D Design with Blender, which must be passed before enrolling in this one.

Further information

This course follows DIG008AS3AE Basic 3D Design with Blender, which must be passed before enrolling in this one.

Assessment criteria**Grade 1**

The student has put together a very basic tutorial. Using the tutorial it is possible to gain a narrow idea of the topic.

The student has satisfactory skills to produce a small and limited-scope tutorial on his/her selected topic.

The student's work shows limited capability in the learning process.

Grade 3

The student's tutorial makes it possible to see the potential of the subject matter. The tutorial provides a good scope of the subject matter.

The student has good skills to act as a tutor into using Blender in a more complex way.

The student shows activity and initiative in learning process. He/she is willing to develop his/her 3D skills further.

Grade 5

The student provides a complete and well-functioning tutorial with which the reader can fully understand the potential of the subject matter and is able to go further with it.

The student has excellent skills to assist new learners into the subject matter of the tutorial. His/her skills provide a solid support for new users.

The student shows excellent activity and initiative in the learning process. He/she is independently taking his/her skills further and provides full coverage on the topic.

Approved/ Failed

Grades 1- 5

DIG009AS3AE Digital Service Project: 10 op**DIG015AS2AE Digital Service Design: 5 op****DIG007AS3AE 3D + Robotics: 3 op****Learning objectives**

After passing this course, the student has enhanced skills for 3D modeling, 3D scanning, 3D printing or working with robotics or IoT. He/she is able to apply skills and knowledge from past courses.

It is recommended that the student has passed some previous courses such as Innovation and Project Work, Basic 3D Design using Blender, or IoT Experimental.

This course is for the most part individual study, but guidance will be made available for 2 h / week either on site or online.

Contents

This is an eight week nonstop course. Its structure and contents will vary depending on the student project. The project can be a student project, a project for use at the 3D + Robo Lab, or a client project. Example topics for students to choose from:

- 3D Modeling for gaming or virtual world applications
- 3D Printing
- 3D Scanning
- Robotics and SoC (System on a Chip, such as Arduino, Raspberry Pi tai ESP32) projects
- Internet of Things projects with Raspberry Pi- tai ESP32 devices
- Developing the Haaga-Helia 3D + Robo Lab with modeling, scanning, printing or robotics projects
- Teaching 3D printing to other students as tutors
- Student project in which the topic and the scope are agreed upon individually.

Starting level and linkage with other courses

It is recommended that the student has completed Innovation and Project Work, Basic 3D Design using Blender, or IoT Experimental, but these are not prerequisites.

Further information

This course is intended to enable wider use for the 3D + Robo Lab, and to allow for client projects to start even in the middle of terms.

Assessment criteria

Grade 1

The student produces a minimum viable product which satisfies at least the basic requirements set for the project at the start. The student learning diary fulfils the minimum criteria regarding content, understandability and readability. The diary shows scant development in student capabilities.

Grade 3

The student produces a functioning project which satisfies most of the requirements set for the project at the start. The student learning diary is of good content, understandability and readability. The diary shows good development in student capabilities.

Grade 5

The student produces a functioning project which completely satisfies or exceeds the requirements set for the project at the start. The student learning diary is very well made and has high quality content, understandability and readability. The diary shows excellent development in student capabilities. The student learning diary contains ideas and opportunities for further development or alternative methods for the project.

Approved/ Failed

Grades 1 - 5.

ITBBASOF Software Development: 60 op

SOF005AS2AE Programming 1: 5 op

Learning objectives

Upon successful completion of the course, the student should be able to

- * Explain basic concepts and terminology of the Java programming language and object-oriented programming
- * Design and write small and simple Java programs in the object-oriented way
- * Use an IDE for writing and debugging Java programs

Contents

The Java Language, Java API, JDK, JRE, and IDE

- * Creating, running, and debugging small stand-alone Java programs in a modern IDE
- * Java program structure and life cycle

Elementary programming techniques in Java

- * Console input and output
- * Data types, variables, and type conversions
- * Statements, expressions, and operators
- * Control structures
- * Sub-programs (methods)

Exception handling

String handling and regular expressions in Java

Manipulating aggregate data structures

- * Arrays and lists

Object-oriented thinking

- * Object-oriented programming with classes and objects

Starting level and linkage with other courses

This course is a part of the Software Development study profile.

The course prerequisite is that you have passed the course Introduction to Software Development (SOF001IT1AE), or you can demonstrate equivalent skills and knowledge in the basics of programming prior commencing the course.

Assessment criteria

Grade 1

The student

- * shows passable activity and punctuality on the course
- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing simple Java programs in the object-oriented way
- * needs often assistance in problem situations, and in the interpretation of the course material.

Grade 3

The student

- * shows good activity and punctuality on the course
- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing simple Java programs in the object-oriented way
- * uses the course materials and other sources in an effective way to support own learning
- * needs sometimes assistance in problem situations.

Grade 5

The student

- * shows excellent activity and punctuality on the course
- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing simple Java programs in the object-oriented way
- * uses the course materials and independently found sources fluently to support own learning
- * can independently examine and solve almost all problem situations
- * shows that he/she can acquire more knowledge and skills independently and apply them creatively.

SOF001AS3AE Programming 2: 5 op

Learning objectives

Upon successful completion of the course, the student should be able to

- * explain basic web application concepts and terminology
- * use a web server for developing and testing a web application
- * create small and simple web applications where the back-end is written in Java
- * access databases programmatically to retrieve data and modify data in the database

Contents

Introduction to web application development

- * Web application architecture
- * Using a development web server
- * HTTP communication with requests and responses
- * Creating a small and simple back-end in Java
- * Programmatic database access in Java
- * Creating a small and simple front-end

Basics of unit testing

Basics of version management

Starting level and linkage with other courses

This course is a part of the Software Development study profile.

The course prerequisite is that you have passed the course Programming 1 (SOF005AS2AE), or can demonstrate equivalent skills and knowledge prior commencing the course.

We recommend that you take the course Data Management and Databases (SOF001AS2AE) alongside the Programming 2 course if you don't already have equivalent skills in basics of databases and SQL.

Assessment criteria

Grade 1

The student

- * shows passable activity and punctuality on the course
- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing small and simple web applications
- * needs often assistance in problem situations, and in the interpretation of the course material.

Grade 3

The student

- * shows good activity and punctuality on the course
- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing small and simple web applications

- * uses the course materials and other sources in an effective way to support own learning
- * needs sometimes assistance in problem situations.

Grade 5

The student

- * shows excellent activity and punctuality on the course
- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing small and simple web applications
- * uses the course materials and independently found sources fluently to support own learning
- * can independently examine and solve almost all problem situations
- * shows that he/she can acquire more knowledge and skills independently and apply them creatively.

SOF001AS2AE Data Management and Databases: 5 op**Learning objectives**

Upon successful completion of this course, the student should be able to

- * explain the basic concepts and terminology of data management and databases
- * explain the principles, structure, and terminology of the relational database
- * explain the DBMS services and their importance and value in software development
- * explain what database transaction is and why it has a crucial role in reliable software systems
- * explain the database design methodology
- * use data-oriented ER diagrams and database diagrams written in UML
- * create a small and simple database in SQL Server and MariaDB
- * write intermediate-level SQL queries to retrieve and manipulate the database's data.

Passed courses are assessed on a scale of 1 to 5.

Contents

Basic concepts and terminology of data management and databases

Principles, structure, and terminology of the relational database

DBMS services and their importance and value in software development

Database transactions

Database design methodology

Data-oriented ER diagrams and database diagrams written in UML

Creating create a small and simple database in SQL Server and MariaDB

Writing intermediate-level SQL queries to retrieve and manipulate the database's data.

Starting level and linkage with other courses

This course is a part of the Software Development study profile.

The **prerequisite** is that you have passed the course ***Introduction to Software Development*** (SOF001IT1AE), or you can demonstrate equivalent skills and knowledge prior commencing the course.

The course Introduction to ICT Infrastructure and Cloud Services (ICI001IT1AE) is recommended to be completed before taking the Data Management and Databases course.

Assessment criteria**Grade 1**

The student

- * shows passable activity and punctuality on the course

- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing database queries in SQL
- * has passable knowledge and skills in using data-oriented diagrams
- * has some difficulties in using the course materials to support own learning.

Grade 3

The student

- * shows good activity and punctuality on the course
- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing database queries in SQL
- * has good knowledge and skills in using data-oriented diagrams
- * has sufficient knowledge and skills in creating a small and simple database
- * can use the course materials in an effective way to support own learning.

Grade 5

The student

- * shows excellent activity and punctuality on the course
- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing database queries in SQL
- * has excellent knowledge and skills in using data-oriented diagrams
- * has good knowledge and skills in creating a small and simple database
- * uses the course materials and independently found sources fluently to support own learning.

SOF003AS3AE Back End Programming: 5 op**Learning objectives**

Upon completion of the course, the student is able to

- Understand and describe the role of the back-end development in modern web applications
- Design and implement back-end program using Spring Boot
- Utilize version control system
- Able to analyze problems, seek for needed information, apply a solution, verify it

Contents

- Introduction to server side programming by using Spring Boot framework
- Model and view levels in Spring applications
- Database programming on server side (ORM, JPA..)
- Spring security (authentication and authorization)
- Spring REST
- Junit and testing
- Spring Boot -application deployment (for instance to Heroku)

Starting level and linkage with other courses

The course prerequisite is that you have passed

- a) the course Programming 2 (SOF001AS3AE), or can demonstrate equivalent skills and knowledge prior commencing the course.
- b) the course Databases and Data management (SOF001AS2A), or can demonstrate equivalent skills and knowledge prior commencing the course.

Assessment criteria**Grade 1**

- Knows the basic concepts of server programming.
- Shows passable activity in class and individual studying
- Has skills in creating an application using the technologies taught on the course

Grade 3

- Knows the server programming concepts well
- Shows good activity in class and individual studying
- Has good knowledge and skills in creating an application using the technologies taught on the

Grade 5

- Knows the server programming concepts in depth.
- Has excellent knowledge and skills in creating an application using the skills technologies on the course
- Able to develop security practices.
- Can fluently use the course materials and other sources to support own learning
- Can independently solve problems

SOF002AS2AE Software Requirements Analysis: 5 op**Learning objectives**

After completing this course a student will be able to

- * identify business processes and interest groups in the development project
- * define objectives for the development project
- * extract requirements from the interest groups
- * analyze and clarify requirements
- * support interest groups in the prioritization of requirements
- * model requirements with UML (Use Cases, Class Diagram)
- * form test cases based on use cases

Contents

- * stages, tasks and methods in software requirements analysis
- * requirements elicitation
- * requirements analysis, clarification and prioritization
- * requirements modeling with UML notation
- * test case development

Starting level and linkage with other courses

The course has no formal prerequisites but students who have a grade on the following courses are in the best position to get the full gain of this course

Orientation to Software Engineering (SOF001IT1A) and

Orientation to Business and ICT (ICB001IT1A),

Orientation to Digital Services (DIG001IT1A)

This course is positioned within the IT bachelor degree programme's profiles Software Development and Digital Services.

Assessment criteria**Grade 1**

The student is able to

- * identify business processes and interest groups moderately

- * define user requirements moderately.
- * specify use cases and information content with UML imoderately.
- * form test cases from use cases moderately.
- * demonstrate some activity in studies.
- * use course materials limitedly to construct own learning.

Grade 3

The student is able to

- * identify business processes and interest groups well.
- * define, clarify and prioritize software requirements well.
- * specify use cases and information content with UML well.
- * form multiple test cases from use cases well.
- * demonstrate activity in studies.
- * use course materials to construct own learning.

Grade 5

The student is able to

- * identify business processes and interest groups creditably.
- * define, clarify and prioritize software requirements creditably.
- * specify use cases and information content with UML creditably.
- * form multiple test cases from use cases creditably.
- * demonstrate interest and activity in studies.
- * seek and find additional materials in addition to course materials to construct own learning.

SOF004AS3AE Front End Programming: 5 op**Learning objectives**

Upon completion of the course, the student is able to

- understand and describe the role of front-end development in modern web applications
- act like a professional front-end developer. Able to analyze problems, seek for needed information, apply a solution, verify it
- see the alternative ways for creating a front-end
- able to discuss and take into use more front-end technologies

Contents

- The set of needed tools and their relevance
- Mastering HTML, CSS, JavaScript, browser developer tools, e.g. JavaScript debugger and JavaScript console
- Verification and error-tracking
- Document Object Model, Browser Object Model and their relationship and linkages with JS,
- Request-Response model. Understanding http request methods. Understanding how the browser communicates with the web server.
- Understanding how to connect to the back-end. Understanding how to specify and use back-end services in the front-end.
- Creating different kind of front-ends that use the given ready-made back-end services
- JSON as response format
- React.js

Starting level and linkage with other courses

The course prerequisite is that you have passed the course Programming 2 (SOF001AS3AE), or can demonstrate equivalent skills and knowledge prior commencing the course.

Assessment criteria**Grade 1**

- Knows the basic concepts of front end development.
- Shows passable activity in class and individual studying
- Has skills in creating an application using the technologies taught on the course

Grade 3

- Knows the front end development concepts well
- Shows good activity in class and individual studying
- Has good knowledge and skills in creating an application using the technologies taught on the course
- Can use the course materials in an effective way to support own learning

Grade 5

- Knows the front end development concepts in depth.
- Has excellent knowledge and skills in creating an application using the skills technologies on the course.
- Can fluently use the course materials and other sources to support own learning
- Can independently solve problems

SOF005AS3AE Software Development Project 1: 5 op**Learning objectives**

Upon successful completion of the course, the student is able to work as a valuable member of the software team, implement application programming interface and work with client organization.

After course student can

- * design and implement application which is using REST interface between Back end and Front end.
- * act as a member of software team and use agile methods (SCRUM)
- * utilize version management system to support team work
- * co-operate with the customer side

Contents

- * iterative and incremental development (based on SCRUM)
- * design and implement REST
- * implementing the software by using Spring boot and some Front end technique (React/JQuery/JavaScript)
- * software development phases (requirements, design, implementation, testing, deployment)
- * GIT version management
- * SCRUM events (Spring planning, Daily Scrum, Sprint Review, Retrospective)

Starting level and linkage with other courses

Pre-requisites

Backend programming (SOF003AS3A) or corresponding knowledge

Recommend: Front end programming (SOF004AS3A) or corresponding knowledge

Assessment criteria**Grade 1**

The student participates to team work in some level. S/he can describe in final essay own and team

work thinly. The result of team work is not fulfilled and the co-operation with the customer has been weak.

Grade 3

The student is active member of the team. S/he can implement issues but doesn't lead any area of the project. S/he describes in good level own own and team work during project. Essey is declarative but doesn't contain deeper analysis. The result of team work is partly fulfilled and the co-operation with the customer has been in medium level.

Grade 5

The student is active member of the team. S/he can lead one or many sub areas of the project. S/he can propose tools and technologies for team. The student can plan, execute and evaluate team work and projects and set development objectives both personally and for a team. The student is able to use feedback for reflecting and analysing both a team's work and their own actions.

SOF008AS3AE Mobile Programming: 5 op**Learning objectives**

Upon successful completion of this course, the student should be able to

- understands the mobile development characteristics
- develop professional mobile applications on 1-2 platforms
- further develop his/her development skills.
- knows the limitations of his or her skills

Contents

Topics to be covered in the course include the following:

- Mobile development characteristics
- Android platform basics
- Selected mobile development technologies
- Usage of mobile device functionalities

Starting level and linkage with other courses

The course prerequisite is that you have passed the course Programming 2 (SOF001AS3AE), or can demonstrate equivalent skills and knowledge prior commencing the course.

Assessment criteria**Grade 1**

Knows the basic concepts of mobile development.

Shows passable activity in class and individual studying

Has skills in creating an application using the technologies taught on the course

Grade 3

Knows the mobile development concepts well

Shows good activity in class and individual studying

Has good knowledge and skills in creating an application using the technologies taught on the course

Can use the course materials in an effective way to support own learning

Grade 5

Knows the mobile development concepts in depth.

Has excellent knowledge and skills in creating an application using the skills technologies on the course
Able to develop security practices.
Can fluently use the course materials and other sources to support own learning
Can independently solve problems

SOF004AS2AE Python Programming: 5 op

Learning objectives

Upon successful completion of the course, the student should be able to

- * Explain basic concepts and terminology of the Python programming language
- * Design, write, test and debug small command-line applications in Python

Contents

The Python programming language

- * Creating, running, testing and debugging small stand-alone Python programs
- * Python program structure and life cycle

Elementary programming techniques in Python

- * Console input and output
- * Data types, variables and type conversions
- * Statements, expressions, and operators
- * Control structures

Functions

String handling

Data structures including lists, dictionaries, tuples, and files

Starting level and linkage with other courses

This course is a part of the 'ICT Infrastructure and Cloud Services' and the 'Software Development' study profiles.

The **prerequisite** is that you have passed the course ***Introduction to Software Development*** (SOF001IT1AE), or another equivalent course, or you can demonstrate equivalent skills and knowledge in the basics of programming prior commencing the course.

Please contact the teacher of the course if you need any advice on this matter.

Assessment criteria

Grade 1

The student

- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing simple Python programs
- * needs often assistance in problem situations, and in the interpretation of the course material.

Grade 3

The student

- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing simple Python programs
- * uses the course materials and other sources in an effective way to support own learning
- * needs sometimes assistance in problem situations.

Grade 5

The student

- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing simple Python programs
- * uses the course materials and independently found sources fluently to support own learning
- * can independently examine and solve almost all problem situations
- * shows that he/she can acquire more knowledge and skills independently and apply them creatively.

SOF012AS3AE Software Testing: 5 op

Learning objectives

After completion, the student

- understands the fundamentals of software quality assurance and testing and their relation to software development life cycle,
- knows the strategies and types of testing and is able to apply them in a testing case,
- is able to plan, implement and execute relevant test cases for a testing case and evaluate their effectiveness and coverage based on feasible criteria,
- knows approaches for automating testing and is able to build automated test cases, and
- knows relevant quality assurance and testing related tools and understands how to use them to support testing.

Contents

An essential part of assuring the quality of a software product is to evaluate its actual runtime behaviour against its expected behaviour based on specifications, design and requirements.

In Software Testing, you will learn

- the fundamentals of software testing as a part of software quality assurance and its relation to the software development life cycle,
- the strategies and types of testing and to apply them in a testing case in order to plan, implement and execute relevant test cases and evaluate their effectiveness and coverage based on feasible criteria, and
- approaches for automating testing and to plan and build automated test cases with an overall understanding on available tool support.

In Software Testing, the broader context of software quality assurance is introduced with its relation to the system development lifecycle and development models using concrete examples. Throughout the implementation, a testing case is used as an example and you will work on tasks illustrating different strategies and types of testing gaining practical experience in a concrete setting as well as learning to evaluate the testing and its results. Relevant tools are used to implement and automate the execution of test cases while discussing alternatives to provide an overall understanding of the available tools.

Starting level and linkage with other courses

This course belongs to Degree Programme in Business Information Technology (ITBBA) and is under Software Development.

Successful participation requires basic understanding on programming and software development meaning completed Programming 1 (SOF001AS2AE) and Introduction to Software Development (SOF001IT1AE) or that the participant has the corresponding starting level. Software testing is related to the requirements, so knowledge on requirements analysis such as from Requirements Analysis (SOF002AS2A) is beneficial, but not required.

Assessment criteria

Grade 1

Student understands the fundamentals of software quality assurance and testing and can connect different types of testing to the phases in software development life cycle. Student can name different testing strategies and knows their meaning. Student is able to plan and implement test cases and knows how they can be executed and how their effectiveness and coverage could be measured. Student has a basic understanding of testing automation and relevant tools for testing and quality assurance.

Grade 3

Student understands the fundamentals of software quality assurance and testing and can apply different types of testing in different phases in software development life cycle of a testing case. Student knows and is able to apply different testing strategies. Student is able to plan, implement and execute test cases in a testing case and knows how the effectiveness and coverage of testing is measured in the testing case. Student has a good understanding of testing automation and relevant tools for testing and quality assurance.

Grade 5

Student understands the fundamentals of software quality assurance and testing and can select and apply feasible types of testing for different phases in software development life cycle of a testing case. Student knows and is able to analytically apply different testing strategies. Student is able to plan, implement and execute test cases in a testing case and is able to correctly evaluate the effectiveness and coverage of testing in the testing case. Student is able to automate test cases using relevant tools and has a very good understanding of relevant tools for testing and quality assurance overall.

SOF009AS3AE Software Development Technologies: 5 op**Learning objectives**

Able to use and further learn software development, version management and project management tools and techniques needed on the Software Project course.

Contents

Software Development, Database, Version management and team work management tools and technologies. Contents change for each semester depending on the need.

Starting level and linkage with other courses

Pre-requisite courses:

Data Management and Databases SWD4TF003

Server Programming SWD4TF021 Front End Development SWD4TF022

Note: This course is meant only for Software Development oriented students.

Further information

Working life connections:

The tools on this course will be based on the project commissioned by a customer company or organization.

Internationality:

Teams consist of both Finnish and multinational students. All used materials, technologies and methods are international.

Assessment criteria**Grade 1**

Knows about the tools

Grade 3

Can use the tools independently without help

Grade 5

Also understands the broader meaning of the tools and can evaluate their strengths and weaknesses and compare tools for a purpose

SOF007AS3AE Software Development Project 2: 10 op**Learning objectives**

The student understands the skills of a software developer needed to solve a customer's problem. He is able to understand and describe the customer's needs and propose suitable software solutions. He can independently increase his knowledge of previously unknown technologies. He learns to evaluate and choose technologies and methods suitable for open world problem solving. He is able to take the main implementation responsibility for some aspect of the implemented solution. He knows how to share the knowledge he has acquired with other members of his team. As a team member, the student can implement a production-ready software solution for the customer's problem.

Contents

During the course the students:

1. Get to know the user's needs.
2. Define and design a solution.
3. Utilize technologies, that are best suited to solving the team's problem, taking into account the group's expertise.
4. Implement and present production-ready solution versions of their product.

Starting level and linkage with other courses

The software development technologies course serves as the technical support course for this course. Techniques needed in this project are learned and deepened there. ~~Mandatory prerequisites for the course are server programming or similar knowledge and Software Project 1 or similar skills for working in a software project.~~

Assessment criteria**Grade 1**

The student participates little in the group's activities and in the final essay describes his own and the group's activities superficially. The final result of the group does not fulfill its purpose and the cooperation with the client was weak.

Grade 3

The student participates in the group's activities as an active member of the group. He/she helps with the implementation, but does not take a great deal of responsibility for any subject area. In the final essay, he/she describes his own and the group's activities well, but does not yet demonstrate a deep capacity for comparison or analysis. The final result of the group partially serves the purpose

and the cooperation with the ordering party worked moderately.

Grade 5

The student actively participates in the group's activities. He/she takes the bet responsibility for one or more entities. He/she knows how to propose methods and techniques for use by the group. In the final essay, he/she analyzes his own and the group's activities thoughtfully and maturely. He/she knows how to analyze what has been done well and where it could have been improved. The final result of the group serves the purpose excellently and the cooperation with the ordering party worked excellently and proactively.

SOF011AS3AE Softala Project: 10 op**Learning objectives**

Student is able to use most of the software engineering skills needed in solving the real customer problem. She/he is able to understand and document customer's needs and to propose appropriate software solutions. Student is able to independently acquire unknown technology knowledge and skills. She/he learns to evaluate and choose between technologies and methods. She/he is able to take personal responsibility over a certain part of the commonly created solution. Student is able to share acquired knowledge to other members of the team or course.

Student can, as a member of the team, implement a valid and ready-to-use solution to the customer's problem.

Contents

This course will be implemented as a project, with project management methods. Student will sign a project contract with Haaga-Helia at the start of the course. Students will be assigned to certain teams based on prior knowledge, available projects, required and mastered language (Finnish and/or English) and needs of each project.

Students will implement and demonstrate ready-to-use solutions to the customer. Students will learn the needs of the customer, specify and plan the solution and agree with the customer upon the used technologies, that are the best-suited ones for this problem, considering also the team's initial skill level and learning goals.

Starting level and linkage with other courses

Before attending this course, students must have completed the courses Server Programming, Data Management and Databases, and Software Project. Or student has obtained corresponding skills. Front End Development and Mobile Development course skills are also needed.

Note: This course is meant only for software development oriented students. Furthermore, students cannot take this course and other big 5. semester project course (Digital Service, Business, Infra) at the same semester as the course schedules for all these are put on the same times on purpose, and attendance is mandatory.

Further information

Internationality:

Teams consist of both Finnish and multinational students. All used materials, technologies and methods are international.

SOF013AS3AE Database Developer: 5 op

Learning objectives

Upon successful completion of this course, the student should be able to

- * explain the basic concepts and terminology related to physical database design and implementation
- * use the basic database administration tools to create and manage a database in the target environment
- * apply declarative and procedural integrity enforcement in the database implementation
- * explain basic database performance problems and ways to improve database performance
- * explain the basic concurrency mechanisms and concurrency conflicts
- * use SQL transactions efficiently to ensure database performance and consistency
- * explain transaction logging and database recovery
- * perform database backup and restore operations.

Contents

The course focuses on physical database design and implementation in the relational database environment. The main themes on the course are database integrity, database performance, database security, and database recoverability. The course includes hands-on work on the following:

- * data integrity enforcement
- * database performance, database indexes
- * concurrency control and transaction management in the multi-user environment
- * transaction logging and database recovery, backup and restore
- * database security.

Starting level and linkage with other courses

This course is a part of the Software Development study profile.

The course prerequisite is that you have passed the course Data Management and Databases (SOF001AS2AE) or an equivalent course.

Assessment criteria**Grade 1**

The student

- * shows passable activity in class and individual studying
- * has passable understanding of the concepts and terminology discussed in the course
- * has passable understanding of the basic ways to improve database performance
- * has passable understanding of the main problems in concurrent database access
- * often needs some assistance in solving basic problems
- * has some difficulties in using the course materials to support own learning.

Grade 3

The student

- * shows good activity in class and individual studying
- * has good understanding of the concepts and terminology discussed in the course
- * has good understanding of the basic ways to improve database performance
- * has good understanding of the main problems in concurrent database access
- * sometimes needs assistance in solving basic problems
- * can use the course materials in an effective way to support own learning
- * can find some more information from other sources.

Grade 5

The student

- * shows excellent activity in class and individual studying
- * has excellent understanding of the concepts and terminology discussed in the course
- * has excellent understanding of the basic ways to improve database performance
- * has excellent understanding of the main problems in concurrent database access
- * can solve problems independently
- * can fluently use the course materials and other sources to support own learning
- * can independently find more information from other sources
- * can independently learn more details of course topics.

ITBBAICTBUS ICT and Business: 60 op

ICB001AS2AE Business Process Management: 5 op

Learning objectives

Upon successful completion of the course or possessing equivalent know-how the student

- understands the role of business processes and BPM in the business environment
- is familiar with general business process development principles
- can identify, analyze and design business processes and can use modeling techniques in business analysis and IT-development projects.
- is acquainted with some business processes in integrated systems (ERP)
- gains fundamental skills in one leading RPA environment

Contents

- BPM best practice principles and process orientation
- BPMN modeling
- analysis team or RPA project
- introduction to ERP and RPA
- O2C and P2P in ERP and as BPMN-modeling

Starting level and linkage with other courses

This course is part of Business and ICT specialization area in Degree Programme in Business Information Technology.

No prerequisites..

Assessment criteria

Grade 1

The student

- has a basic knowledge of Business Process Management (BPM) main principles and ideas.
- has some knowledge of business process development principles.
- has some skills in identifying, analyzing and designing business processes.
- has some understanding of modelling techniques in the requirements engineering process.
- is able to present business processes by using modelling techniques.
- has some knowledge of business processes in integrated systems environment

Grade 3

The student

- has a good knowledge of Business Process Management (BPM) main principles and ideas.
- is familiar with business process development principles.
- has basic skills in identifying, analyzing and designing business processes.
- has a basic understanding of modelling techniques in the requirements engineering process.
- is fluent in presenting business processes by using modelling techniques.
- has a basic knowledge of the business processes in integrated systems environment
- has basic skills in RPA

Grade 5

The student

- has a very good knowledge of Business Process Management (BPM) main principles and ideas.
- is very familiar with business process development principles.
- has good skills in identifying, analyzing and designing business processes.
- has a very good understanding of modelling techniques in the requirements engineering process.
- is very fluent in presenting business processes by using modelling techniques.
- has a good knowledge of the business processes in integrated systems environment
- has a good basic knowledge of RPA

ICB014AS2AE Business Requirements Management: 5 op

Learning objectives

The course in nutshell:

The overall object of learning of the course is to prepare the student towards the IT-(management) consultant role. Mastering the business requirements management methodology skills and knowledge practiced by organizations aiming at renew their obsolete ICT-solutions or streamline current business processes and related ICT-solution is a highly valued asset. Two archetypes of IT-projects are considered: off-the-shelf or bespoke development.

Upon completion of this course, the student

- is able to apply the terms, the concepts and the life cycle models as well as the process models in practice both within selection of an off-the-shelf solution and in developing an ICT solution for a business organization,
- is able to master the overall process of managing requirements management in aforementioned two circumstances (see previous one) and consider the impact of business-, sourcing- and IT-strategy in elaboration of business requirements.
- understands the interrelations between developing the business and developing information systems, related stakeholders and their involvement in business strategy driven ICT environment,
- is able to analyze the defined business requirements, prioritize them and evaluate how to focus the development resources available in the business organization.

Contents

The content of the course is learning the key concepts, frameworks in theory and applying them through the selected case examples. Studying is divided into the following topics:

Domain analysis of a business environment and business needs of an organization.

Learning to define and elaborate with the various types of requirements that are the steps from the business needs and process modeling towards the business requirements and furthermore to the system requirements, which are, in turn, the descriptions of the ICT-solution and the foundation for the detailed design and implementation, too.

Familiarizing with the cost & benefits analyses and vendor management briefly.

Assessment of challenges of changes as part of business and systems development activities and projects.

Modeling, describing and documenting a solution that meets business requirements for the development of a more precise design and system solution.

Starting level and linkage with other courses

This course belongs to Degree Programme in Business Information Technology (ITBBA) and is under ICT and Business. Successful participation requires the basic knowledge of the business driven ICT, so the Introduction to Business Driven ICT (ICB001IT1AE) has to be completed.

There are connections to, for example, Business Process Management (ICB001AS2AE) from ICT and Business as well as Requirements Analysis (SOF002AS2AE) from Software Development, so they are beneficial, but not required. It is also possible to take them after Business Requirements Analysis in order to broaden the knowledge related to requirements analysis from different viewpoints.

Assessment criteria

Grade 1

The student knows the main concepts and terminology related to the business requirements analysis, and understands and is to some extent able to apply methods for collecting information and analyzing business needs to derive business requirements to support the development of an ICT solution.

Grade 3

The student knows and is able to use the main concepts and terminology related to the business requirements analysis well, and is able in practice to systematically apply methods for collecting information and analyzing business needs to derive business requirements to support the development of an ICT solution. The student is also able to search related and applicable additional information and use it to support the use of the methods.

Grade 5

The student knows and is able to use the main concepts and terminology related to the business requirements analysis excellently, and is able in practice to diversely apply methods very well for collecting information and analyzing business needs to derive business requirements to support the development of an ICT solution. The student is also able to evaluate the feasibility of different methods and choose the most appropriate for different situations systematically and explain the reasoning behind the choices. In addition, the student is independently able to search related and well applicable additional information and use it to support the use, evaluation and development of the

methods.

SOF001AS2AE Data Management and Databases: 5 op

Learning objectives

Upon successful completion of this course, the student should be able to

- * explain the basic concepts and terminology of data management and databases
- * explain the principles, structure, and terminology of the relational database
- * explain the DBMS services and their importance and value in software development
- * explain what database transaction is and why it has a crucial role in reliable software systems
- * explain the database design methodology
- * use data-oriented ER diagrams and database diagrams written in UML
- * create a small and simple database in SQL Server and MariaDB
- * write intermediate-level SQL queries to retrieve and manipulate the database's data.

Passed courses are assessed on a scale of 1 to 5.

Contents

Basic concepts and terminology of data management and databases

Principles, structure, and terminology of the relational database

DBMS services and their importance and value in software development

Database transactions

Database design methodology

Data-oriented ER diagrams and database diagrams written in UML

Creating create a small and simple database in SQL Server and MariaDB

Writing intermediate-level SQL queries to retrieve and manipulate the database's data.

Starting level and linkage with other courses

This course is a part of the Software Development study profile.

The **prerequisite** is that you have passed the course ***Introduction to Software Development*** (SOF001IT1AE), or you can demonstrate equivalent skills and knowledge prior commencing the course.

The course Introduction to ICT Infrastructure and Cloud Services (ICI001IT1AE) is recommended to be completed before taking the Data Management and Databases course.

Assessment criteria

Grade 1

The student

- * shows passable activity and punctuality on the course
- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing database queries in SQL
- * has passable knowledge and skills in using data-oriented diagrams
- * has some difficulties in using the course materials to support own learning.

Grade 3

The student

- * shows good activity and punctuality on the course
- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing database queries in SQL

- * has good knowledge and skills in using data-oriented diagrams
- * has sufficient knowledge and skills in creating a small and simple database
- * can use the course materials in an effective way to support own learning.

Grade 5

The student

- * shows excellent activity and punctuality on the course
- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing database queries in SQL
- * has excellent knowledge and skills in using data-oriented diagrams
- * has good knowledge and skills in creating a small and simple database
- * uses the course materials and independently found sources fluently to support own learning.

COR004AS2AE ERP 1: 5 op**Learning objectives**

After completing this course, the student:

- understands principles on Enterprise Resource Planning system and core business processes
- can use the system with core business processes

Contents

Business processes in practice with Enterprise Resource Systems. Systems are SAP S/4 HANA and Microsoft Dynamics.

Practical case assignments in ERP-systems : sales, purchasing, production planning, accounting & finance

Assessment criteria**Grade 1**

Grade 1 (40%)

Student has sufficient knowledge of ERP basic concepts and business processes. Student has weak hands-on skills in use of SAP ERP system.

Grade 3

Grade 3 (70%)

Student has good knowledge of ERP basic concepts and business processes. Student has good hands-on skills in use of SAP ERP system.

Grade 5

Grade 5 (90%)

Student has excellent knowledge of SAP ERP basic concepts and business processes. Student has very good hands-on skills in use of SAP ERP system.

ANA001TR1AE Introduction to Data Analytics for Business: 5 op**Learning objectives**

After having completed this course or attained an equivalent competence level, the student:

- utilises business and customer data from various sources to support decision-making process
- processes data in Excel or other suitable software

- formulates data into tables and calculate descriptive statistics
- visualises data correctly
- analyses and interprets correlations and their significance
- is able to interpret, report and critically assess the results

Contents

- statistics and their representation as tables and charts
- descriptive statistics
- correlation and regression
- time series
- basics of statistical inference

Starting level and linkage with other courses

Prerequisite is the successful completion of course ICT Key Competences.

Assessment criteria**Grade 1**

Is able to calculate basic descriptive statistics. Visualises data with basic figures and tables. Is able to list the main results.

Grade 3

Analyses correlations, differences and trends. Visualises data with various figures and tables. Is able to interpret and report the results.

Grade 5

Analyses and interprets independently correlations, differences and trends. Selects and creates suitable graphical presentations to visualise data. Is able to interpret and assess the results and give suggestions for development.

ANA002AS2AE Advanced Use of Excel: 5 op**ICB008AS2AE ICT Project Management: 5 op****Learning objectives**

A student gets knowledge and understanding of the techniques and methods of defining and managing corporate IT development projects/ IT-projects and their implementation as the disciplined and managed projects.

A student gets the ability to plan information systems development projects and to contribute in such projects.

A student is capable to work in a role of junior level project manager or in project management team

Contents

Module 1: Why do IT-projects fail? Understanding the causes behind failures and challenges in IT-projects as well as the characteristics of successful IT-projects.

Topics: Rationale for failures, How to improve the successfulness of IT-Projects in terms of disciplined IT Proj Mgmt methodology

M2: Responding to the challenges: A proper preparation in the initiation phase of IT-project is a

must. The topics of M2 are run thru of the required key activities in initiation phase such as business case, establishing the project organisation and stakeholder management.

M3: Responding to the challenges by a proper planning – focus here in module 3 is on scope and schedule management, effort estimation and project management plan

M4: Responding to the challenges by a properly managed people perspective – focus area ara such as Project integration including project manager and project team working and principles of project organizations

M5 is about two themes: 1) benefits realization management is after closing the project and 2) basics of change management.

M6: Study by free choice which is deepening understanding of the chosen subject (related to IT-project management).

Starting level and linkage with other courses

Mandatory requirements: (1) The orientation course – orientation to business driven ICT is completed. (2) Innovation and project working course is completed

Highly recommended prerequisites: (1) Student has done the work placement and has basic knowledge and/or experience of project work and the development process of business information systems.

Note that the Project management course offers a launch pad for other courses which are structured by means of project working. Moreover, participation on the project management championship - PMC - goes effortlessly and enable a student earn 3 credits (PMC is studied as a course, too).

Further information

Evaluation is based on the assignments (ca. 3 assignments per module) ; (2) study by free choice and (3) activity on lessons (basically the presentations) + brief key terms questionnaires (5-10 questions of the key terms answered by one sentence). No exam.

Assessment criteria

Grade 1

A student has a bounded understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is exercising the given tools and methods just passably. The output (essays) is just loosely if not at all bounded on the references.

The overall command of project management framework is modest and naming the uses of particular methods, tools and practises along the project lifecycle is uncertain and debatable.

Grade 3

A student has a fair understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is exercising the given tools and methods somewhat properly. The output (essays) is grounded tolerably on the references.

A student is able to bring his/her own thoughts and examples on top of the written essays.

The overall command of project management framework is in progress and some misunderstandings of the appropriate uses of particular methods, tools and practises may occur.

Grade 5

A student has an excellent understanding of the facts and knowledge of the subjects in question (Modules 1-5) and he/she is mastering the given/needed tools and methods in a profound way. The output (essays) is grounded comprehensively on the given references as well as own searches of appropriate references.

A student is able to bring his/her own thoughts and examples on top of the written essays and the quality of producing text is more like a synthesis on top of the source material and own observations. He/she has a clear command about the project management framework, how and when to use particular tools and methods and practises in managing project.

Approved/ Failed

Not in use

ICB005AS2AE Business Intelligence: 5 op**Learning objectives**

Upon successful completion of the course or possessing equivalent know-how the student

- understands the importance of Business Intelligence in today's competitive business environment
- is familiar with the basic concepts, BI architectures, methodologies and strategies as well as with tools and technics used in the business environment
- has gained skills in using market leading BI tools for creating data models and analyzing business information and data

Contents

- Orientation to Business Intelligence
- Business Intelligence solutions and architectures
- Agile development in BI-projects
- Business Intelligence tools
- Microsoft Business Intelligence and Power BI
- Tableau Desktop
- Hands on workshops with BI-tools

Starting level and linkage with other courses

This course is part of Business and ICT specialization area in Degree Programme in Business Information Technology.

No prerequisites..

After successful completion of this course you can build on your practical skills by attending the Business Intelligence Development Project (ICB012AS3AE) course.

Assessment criteria**Grade 1**

The student

- has a basic understanding of the importance of Business Intelligence
- is familiar with the at least some of the basic concepts, architectures, methodologies, strategies, tools or technics in BI.
- has basic skills in using market leading BI tools for creating and (analyzing) business information and data.

Grade 3

The student

- has a good understanding of the importance of Business Intelligence
- is quite familiar with the at least some of the basic concepts, architectures, methodologies, strategies, tools or technics in BI.
- has good skills in using market leading BI tools for creating and (analyzing) business information and data.

Grade 5

The student

- has a very good understanding of the importance of Business Intelligence
- is very familiar with the at least some of the basic concepts, architectures, methodologies, strategies, tools or technics in BI.
- has excellent skills in using market leading BI tools for creating and (analyzing) business information and data.

ICB006AS2AE Managing CRM Processes: 5 op

Learning objectives

Upon successful completion of the course, the student
will learn what the term CRM means
will understand the value of data for CRM use purposes
can evaluate business requirements for CRM
gain practical experiences how to use CRM information system (Salesforce)

Contents

Theoretical part of CRM

- marketing, customer relationship management
- operational CRM
- analytical CRM
- collaborative CRM
- digital footprint
- how web pages are collecting customer data
- Salesforce practical excersizes/ Salesforce trails

CRM as a business concept

Introduction to marketing models: Mass marketing vs. Relationship marketing

Self study part based on literal research

Web as a CRM and mass surveillance platform:

How customer data can be collected in the

How users on the web can protect their privacy (hands on guidance included)

CRM and business requirements

Feasibility study

Hands on method how to integrate feasibility study requirements into CRM processes

Hands on exercises on cloud based CRM system

Final report

The final report presents how to integrate business requirements

Identify what are the technical, service and business needs before CRM can be utilized in business

Starting level and linkage with other courses

No prerequisites, sales course recommended

Further information

- possibility to get Salesforce badges (useful in CV)

Assessment criteria**Grade 1**

Fair knowledge of the course subject. Collected more than 45% of the total course points.

Grade 3

Good knowledge of the course subject. Collected more than 65% of the total course points.

Grade 5

Excellent knowledge of the course subject. Collected 90% of maximum amount of the course points.

Approved/ Failed

Min. 80% of assignments submitted and approved, must contribute to team assignment

ICB011AS2AE Basics of Artificial Intelligence (AI): 5 op**Learning objectives**

Upon completion of the course, the student is able to:

- * understand what is AI and how it can affect business
- * recognize opportunities of AI in different domains
- * is able to analyze and visualize data
- * knows the basic statistical methods used in data analysis
- * knows how to use software to perform data analysis
- * knows how to apply some basic methods used in AI
- * knows trends in AI
- * can recognize ethical challenges related to applying AI in business

Contents

- * definition of AI and basic concepts related to it
- * business cases where AI is used
- * methods and software for data analysis and visualization
- * basics of statistical data analysis methods
- * application of AI methods in a project work
- * recent trends in AI
- * ethical issues in AI

Starting level and linkage with other courses

No pre requirements

Assessment criteria**Grade 1**

The student:

- Knows the basic concepts of artificial intelligence
- Recognizes the importance of artificial intelligence in business
- Knows the most common AI methods

- Knows the basics of technical solutions
- Knows the needs and challenges of artificial intelligence projects and continuous development
- Recognizes AI trends and ethical challenges

Grade 3

In addition to the above the student:

- Understands how artificial intelligence affects business
- Understands in general the possibilities and limitations of various artificial intelligence software, platforms and services
- Understands how it is possible to improve practices in artificial intelligence projects and continuous development
- Understands the implications and ethical challenges of AI trends

Grade 5

In addition to the above the student:

- Is able to assess the best methods for the practical applications of artificial intelligence
- Is able to compare the capabilities and limitations of different AI software, platforms and services
- Is able to contribute to the organization's artificial intelligence projects and continuous development
- Is able to analyze the effects of artificial intelligence trends and ethical challenges from the perspectives of individual organizations and society

ICB012AS3AE Business Intelligence Development Project: 5 op**Learning objectives**

Upon successful completion of the course or possessing equivalent know-how the student

- understands the value of business driven BI-development
- understands the value of supporting business processes by BI-solutions
- has gained experience in creating a qualitative BI-solution by using agile development and market leading tools to extract data from an (ERP) system)
- has learned to document/present the created solution and the process
- has gained experience in publishing solution in Enterprise/Cloud type of environment

Contents

- design and good practices in BI development
- understanding data structures (ERP) and related business processes (O2C and P2P)
- planning, developing and testing a complete BI-solution based on selected user stories
- iterative and incremental development
- documenting and presenting the BI development process and solution
- basics of Microsoft BI - SSAS Tabular and Microsoft IS, Microsoft Azure
- main architecture setup – Power BI Desktop - BI Services - SharePoint

Starting level and linkage with other courses

This course is part of Business and ICT specialization area in Degree Programme in Business Information Technology.

Prerequisites:

It is strongly recommended that students has passed ONE of

- in the new curriculum ICB005AS2A and ICB005AS2AE
- in the earlier curriculum BIG4TF022 and BIG4TA022 (3010 and 3011)

Students without the specific Basic BI course can be accepted by showing necessary skills/knowledge at the immediate start of the course.

The test/skills measure cannot be redone and if failed acceptance for this and future courses can only be gained by passing BI-Basic.

Amount of students on the course are restricted to number of licenses available.

Students with BI-Basic passed has precedence if timely enrolled

Further information

Amount of students on the course are restricted to number of licenses available.

This course is a direct continuation to the basic Business Intelligence courses

- in the new curriculum ICB005AS2A and ICB005AS2AE
- in the earlier curriculum BIG4TF022 and BIG4TA022 (3010 and 3011)

Assessment criteria

Grade 1

The student:

- a) has a basic understanding of the agile BI development process
- b) is familiar with data structures and related business processes
- c) has gained some understanding in planning and developing a BI-solution
- d) is able to utilize market leading tools to create at least a part BI-solution

More precise Assessment criteria:

To achieve the grade 1, it would be expected that

The student:

- has mainly worked independently
- has mainly followed instructions
- has planned the project and presented the project planning
- has planned and fulfilled at least some part solution
- has created a solution
- has utilized tools/architecture
- has reported and presented the solution
- has run a project with a sufficient time span

Grade 3

The student:

- a) has a good understanding of the agile BI development process
- b) is knowledgeable of data structures and related business processes
- c) has good insights in regards to planning and developing a BI-solution
- d) is confident in utilizing market leading tools to create a BI-solution

More precise Assessment criteria:

To achieve the grade 3, it would be expected that the student:

- has worked independently
- has followed instructions and deadlines
- has planned the project and presented the project planning reasonably well
- has planned and fulfilled a basic solution, the created and presented solution is pretty ordinary but of good quality
- has created a final solution that corresponds to the plan or there are explanations and reasons why not
- has utilized good capabilities of the selected tools/architecture
- has used at least to some extent a systematic agile approach
- has reported and presented the solution

- is able in all communications to discuss using BI and ICT terminology

Grade 5

The student:

- a) has a very good understanding of the agile BI development process
- b) is very knowledgeable of data structures and related business processes
- c) has excellent skills in regards to planning and developing a BI-solution
- d) is mastering market leading tools to create a BI-solution

More precise Assessment criteria:

To achieve the highest grade, it would be expected that the student:

- has worked independently
- has followed instructions and main deadlines without exceptions
- has well planned the project and presented the project planning well
- has planned and fulfilled more than just a basic solution, the created and presented solution has some specialty, some finding or includes an interesting/innovative approach or the quality is excellent overall
- has created a final solution that corresponds well to the plan or there are clear explanations and reasons why not
- has utilized good design and other capabilities of the selected tools/architecture
- has clearly applied a systematic agile approach
- has well reported and presented the solution
- is able in all communications to discuss using good BI and ICT terminology
- has fulfilled all defined requirements

Approved/ Failed

To pass this course the student need to

- independently plan, execute and report a BI development project in accordance with schedules and created project plan
- the work MUST be done as in a project with sufficient time span between start and end of project

ICB013AS3AE Applied Artificial Intelligence (AI): 5 op**Learning objectives**

The overall learning objective of the course is to give the students insight into machine learning and natural language processing (NLP) technologies and their application in practice.

Upon successful completion of the course, the student:

- knows the main concepts of machine learning and natural language processing,
- can apply a machine learning method in a business case,
- can build a simple chatbot,
- has gained basic skills in using selected machine learning and NLP tools and
- is capable of planning and implementing a project involving AI technologies

Contents

- Main concepts of machine learning and natural language processing.
- Business cases where machine learning and natural language processing methods are used.
- Tools (e.g. Anaconda, Python library scikit-learn) for machine learning.
- Tools (e.g. Google Dialogflow, IBM Watson Virtual Assistant)
- Course project involving AI technologies.

ICB004AS3AE Robotic Process Automation: 5 op**COR005AS2AE ERP 2: 5 op****Learning objectives**

Upon successful completion of this course, the student:

Is able to work independently with advanced business processes in SAP ERP system.

Is able to configure SAP ERP system within areas in course content (Financials & accounting (FI), Purchasing (MM) and Sales & Distribution (SD)).

Contents

Course is based on practical advanced project assignment in SAP S/4 HANA -system. All project phases include written reporting.

Starting level and linkage with other courses

pre-requisite: ERP 1 / SAP ERP 1 / Toiminnanohjausjärjestelmät 1 or equivalent knowledge

Assessment criteria**Grade 1**

Student understands functionality of ERP-system and system configuration at sufficient level.

Grade 3

Student understands functionality of ERP-system and system configuration at good level.

Grade 5

Student understands functionality of ERP-system and system configuration at excellent level.
Student has very good configuration skills in SAP ERP system.

ICB015AS3AE Business Data Management and Data Analytics: 5 op**Learning objectives**

Student who has completed this course or acquired equivalent competence:

- is able to describe the stages of the business data life cycle: Data creation, data storage, data processing, data utilization, data deletion
- identifies data management processes, roles and responsibilities (governance)
- recognizes the importance of data quality (evaluation, improvement, verification) and key methods for improving quality
- knows data-related security/security aspects, GDPR
- understands the importance of a company's data driven as a product and data as a product (data product manager perspective)
- is able to identify internal and external data sources as well as data integration methods and interface technologies
- knows the most important technologies and platforms in business data processing and analytics such as cloud services, big data, artificial intelligence methods and analytics software
- is able to evaluate data architecture solutions and the maturity level of data management
- is able to apply the technologies selected for the course implementations in training environments

Contents

- Stages of the data life cycle
- Data management processes

- Data quality
- Ethical issues and information security
- The importance of data in business
- Identification of internal and external data sources
- Integrations and interfaces
- Technologies related to data management and analysis
- Data architectures

Starting level and linkage with other courses

It is recommended to complete the courses SOF001AS2AE and ICB005AS2AE Business intelligence or to demonstrate equivalent competence.

Assessment criteria**Grade 1**

Student

- shows fair activity in their studies
- demonstrates a fair understanding of course content and terms
- demonstrates fair competence in the application of course methods and techniques
- hardly knows how to use course materials to support their own learning

Grade 3

Student

- shows good activity in their studies
- demonstrates a good understanding of course content and terms
- demonstrates good competence in the application of course methods and techniques
- knows well how to use course materials to support their own learning

Grade 5

Student

- shows excellent activity in their studies
- demonstrates excellent understanding of course content and terms
- demonstrates excellent competence in the application of course methods and techniques
- searches and finds independently supporting material to enhance own learning.

ICB006AS3AE Selling ICT Solutions: 5 op**Learning objectives**

- learns the solution sales process through theory and practice
- learns techniques and negotiation skills required at different stages of sales process
- understands the challenges in diverse areas of IT solution sales
- becomes aware about his/her own skill profile and knowing where to learn more
- learn team working skills
- learn different roles through sales process

Contents

- Selling and sales organizations
- Customer understanding
- Customer Value creation
- Solution sales process
- Tendering

- Solution Negotiations

The course is run by doing the learning tasks, no exam.

The evaluation also based on the participation in teamwork.

1. Activity on lessons 10%
2. Individual and group assignments 40 % (period 1 or 4)
3. Sales negotiation material, 20 % (period 2 or 5)
4. Selling negotiation process 30 % (period 2 or 5)

Starting level and linkage with other courses

Tools in Sales and Service Business (environment), Orientation in ICT and Business, Business Operations

Further information

Working life connections:

The sales cases on the course are based on actual biddings and sales projects and visitor lecture(s).

International dimension:

The course utilizes international sales and marketing material.

Assessment criteria

Grade 1

Knowledge:

The student knows in some respects the steps of the solution sales process and the techniques used in the various phases.

Skills:

The student is able to partially exercise various techniques and tools at the various stages of the solution sales process and in group negotiations.

Competence:

The student participates less actively in group working. Low level of contribution on course.

Grade 3

The student knows the steps of the solution sales process and the techniques used in the various phases.

Skills:

The student is able to exercise various techniques and tools at the various stages of the solution sales process and in group negotiations.

Competence:

The student is actively involved in group working. She/he can work quite independently. Active participation in team work.

Grade 5

(min. 90 % of the target level met)

Knowledge:

The student knows very well the steps of solution sales processes and the techniques used in the various phases.

Skills:

The student is able to exercise well various techniques and tools at the various stages of the solution sales process and in group negotiations.

Competence:

Extremely active participation in the team's work. Good ability to act independently. Innovativeness, positive attitude and compliance with schedules.

Approved/ Failed

Min. 80% assignments submitted and approved

ICB003AS3AE Business ICT Project: 10 op**Learning objectives**

Upon successful completion of this course:

- the student understands the IT development process in regards to a real Business/ICT project
- has gained experience as team member and/or Team manager

Contents

The student will participate as a team member or project leader in a project in one of the following main focus areas:

Integrated Systems and Enterprise Resource Planning
Customer Relationship Management
Supply Chain Management
Financial Accounting and Controlling
Business Intelligence and Analytics

The type and purpose of the project is generally based on a commission and could be containing:

Process development and/or testing
Process modelling and design
System/Version upgrade
Data migration and/or Data management
Reporting and Analytics
Training and User support

Starting level and linkage with other courses

The student must have passed the courses Orientation to Business and ICT and Business Operations, and have successfully passed at least one of the following courses Business Process Management, SAP ERP 1, SAP ERP 2. Managing CRM Processes, SCM in Business and Business Intelligence, Basics of AI, Advanced AI or similar courses in other degree programs. Other very beneficial courses are database design and requirement analysis.

Further information

Passing this course successfully will give students a readiness to work as a junior consultant either in CRM(Salesforce) or ERP(SAP)

Assessment criteria**Grade 1****Grade 1**

The student has participated in the project but the individual contribution is minor and/or the quality

of the project deliverables are not or barely fulfilling the target.

Grade 3**Grade 3**

The student has well participated in the project and the individual contribution is on a good level with timely and qualitative deliverables.

Grade 5**Grade 5**

The student has been a key member of the project and the individual contribution has clearly had a great impact on the project outcome. And / Or

The project has overall been successful and reached all goals set.

Approved/ Failed

Assessment criteria for Grade 1. . Implementation not done successfully.

ICB014AS3AE Financial Accounting, Processes and Systems: 5 op**Learning objectives**

Upon successful completion of the course or possessing equivalent know-how the student

- is familiar with the basic accounting concepts and is able to identify common accounting processes
- from a IT professional perspective
- understands the importance of accounting and accounting processes in the business environment.
- gets a solid understanding of the business process integration to accounting in integrated systems and has a basic knowledge of ERP systems accounting functionality,
- knows how to customize the accounting processes in Microsoft ERP system family. (Haaga-Helia current version implemented)
- gains some knowledge of SAP ERP accounting functionality (FI)/(CO) and is familiar with the business integration to the FI module.

Contents

Start-up module

Module 1: Introduction to Finance and Accounting Processes

Module 2: Accounting processes in Microsoft ERP system

Module 3: Accounting integration in Microsoft ERP system

Module 4: Accounting Processes and SAP ERP (S/4) Financials

Official course feedback and feedback directly to teacher

Starting level and linkage with other courses

This course is part of Business and ICT specialization area in Degree Programme in Business Information Technology.

No prerequisites.

Assessment criteria**Grade 1**

The student

- has sufficient knowledge of the basic accounting concepts and principles.

- is familiar with the main accounting processes and their role in a business environment.
- has sufficient knowledge of SAP ERP FI/CO basic concepts and of the basic accounting processes in SAP ERP.
- has some skills in customizing the accounting processes in Microsoft ERP
- has a general understanding of business integration in ERP and Microsoft ERP systems

Grade 3

The student:

- has a good knowledge of the basic accounting concepts and principles.
- is familiar with the main accounting processes and their role in a business environment.
- has a good knowledge of SAP ERP FI/CO basic concepts and of the basic accounting processes in SAP ERP.
- has good skills in customizing the accounting processes in Microsoft ERP.
- has a good general understanding of the business integration in ERP and Microsoft ERP systems

Grade 5

The student:

- has a very good knowledge of the basic accounting concepts and principles.
- is very familiar with the main accounting processes and their role in a business environment.
- has excellent knowledge of SAP ERP FI/CO basic concepts and of the basic accounting processes in SAP ERP.
- has excellent skills in customizing the accounting processes in Microsoft ERP.
- has a very good general understanding of business integration in ERP and Microsoft ERP

systems

ITBBAICTINF ICT Infrastructures and Cloud Services: 60 op

ICI001AS2AE Windows Servers: 5 op

Learning objectives

After completing the course, the student is be able to:

- Install Windows server operating system and define Server settings.
- Create and define different features and roles of domain servers, such as active directory (AD) and group policies (GP).
- Set basic network functions (DHCP, DNS and TCP/IP).
- Know requirements and applicability of the server platform for different services and their definitions.
- Implement the most typical server components and know the basics of the Windows server environment.

Contents

Content:

- Windows Server architectures
- Server installation and management
- Active Directory and Group Policies
- Function and definitions of DHCP and DNS
- Services and their management
- Installation and Maintenance of the WWW-Servers
- Mail Server Installation requirements
- Maintenance and related tools

Starting level and linkage with other courses

Introduction to ICT Infrastructure and Cloud Services.

ICI002AS2AE Information Security: 5 op

Learning objectives

- Knows key concepts of information security, both in defense and offense
- Can apply key concepts in uncomplicated cases

Contents

- Key concepts and solutions in information security
- Applications of public key encryption
- Practical tools in encryption and cryptosystems
- Auditing security

Starting level and linkage with other courses

Student has completed courses Orientation to ICT Infrastructures ICT1TF010 and Server Technologies ICT4TF021. Alternatively, student can show he or she has obtained the same knowledge in some other way.

Assessment criteria

Grade 1

- Can describe key concepts in security

- Can use learned models and tools with guidance or in cookbook fashion

Grade 3

- Meets and exceeds criteria for lower grades
- Can apply key security concepts in easy situations
- Can use the tools taught in the course in easy situations

Grade 5

- Meets and exceeds criteria for lower grades
- Can apply key security concepts and tools in typical situations
- Understands and is able to evaluation limitations of tools and his or knowledge
- Can follow, find and learn new information on information security

ICI004AS2AE Introduction to Networks: 5 op**Learning objectives**

After completing the course, the student:

- knows the basic technologies of data and IP networks
- knows the most important protocols used in data networks
- understand local network operation and implementation methods
- understand the operation of the networking devices
- knows the basic configurations of routers and switches
- understand the IP networking basics

Contents

- information network architectures and protocols
- Ethernet
- IPv4 and IPv6
- TCP and UDP
- router and switch operation
- router and switch configuration

The course is based on Cisco Networking Academy's course "Introduction to Networks" and related materials and exercises.

In order to complete the course, the student creates his own user ID in the Cisco Networking Academy's NetSpace learning environment (www.netacad.com).

Starting level and linkage with other courses

It is recommended that the student has completed the course Introduction to ICT Infrastructure and Cloud Services (ICI001IT1AE) or has similar knowledge and skills.

Further information

This course is part of all Haaga-Helia degree studies and the student can participate in any implementation. This particular implementation is aimed at students of the Business Information Technology degree, especially students oriented to ICT infrastructure and cloud services. Competence goals and evaluation criteria are the same for all implementations.

Assessment criteria**Grade 1**

The student knows partially the basic concepts of information networks, understands the core points

of the architecture of information networks and the main features of protocols.

Grade 3

The student knows the basic concepts of information networks, the core points of the architecture of information networks and the protocols used in information networks. The student manages the basic configuration of the switch and router.

Grade 5

The student knows very well the basic concepts of information networks, the core points of the architecture of information networks and the protocols used in information networks. The student has a good command of the switch and router configuration.

ICI003AS2AE Linux Servers: 5 op**Learning objectives**

Start from zero. Study hard for 8 weeks - and administer your very own Linux server!

After completing the course, student

- Can manage Linux as a server
- Can perform essential configuration to most popular servers (e.g. Apache, OpenSSH)
- Can install a platform for web programming
- Can perform new configuration to server applications using instructions
- Knows examples and prices for renting virtual private servers from the cloud. Has an idea of related qualities of physical servers.

Contents

Basic usage

- Installation, desktop, licensing
- Command line interface, administrations, package management

Daemons

- Apache web server
- Web server as a platform for software
- Renting a virtual private server and a domain name

Automation

- Shell scripting and programming environments

Final evaluated task

Starting level and linkage with other courses

No need to know Linux before. We'll learn it all in 8 weeks!

You should know the basics of computer use with a computer you already have. For example, searching the web when you have a problem, being able to install a virtual machine with instructions etc. These things are taught in the first orientation courses, but no specific courses are required prerequisites.

Material and teaching is in English.

Further information

This course has received top feedback. The most common feedback in many instances is 5-excellent.

You can read feedback, check old homework and links to students' solutions in <https://TeroKarvinen.com>

Assessment criteria**Grade 1**

Can install the most common servers with detailed instructions. Can follow minimal security practices (good passwords everywhere, keeping systems updated...). Has made serious attempt on all homework tasks and documented the result, even though some subtasks can remain unsolved. Documentation refers to sources and contains enough detail to see that the it reports actual tests done on a computer.

Grade 3

Meets criteria of previous levels.

Could manage a couple of servers with support from a professional. Reports are easy to follow, repeatable and detailed. References are clear. Obligatory homework is solved at latest after the class where the solution has been discussed.

Grade 5

Meets criteria of previous levels.

Could manage small number of typical Linux servers as a junior sysop at work. Can apply skills to new servers, versions and situations also in cases not directly handled in class. Homework reports are well structured and show systematic approach to problem solving. Reports could help others to understand the tasks described.

ICI003AS3AE Cloud Service Technologies: 5 op**Learning objectives**

After completing the course, the student knows cloud computing technologies and applications. The student understands the basic mechanism of cloud computing and implementations. The student knows the foundational services and cloud offerings provided by the top tier Public Cloud providers. Student understands the Cloud Computing terminology and the generic Cloud Computing Frameworks used in cloud computing systems and s(he) can choose the suitable cloud computing technologies and offerings for IT the services in businesses.

Contents

Topics covered in the course:

- * Benefits and challenges of cloud computing
- * Most common cloud usage methods: IAAS, PAAS, SAAS, XAAS

Cloud Computing in Enterprise environment

- * Cloud implementation / provisioning types: Private, Public, Hybrid Clouds, serverless cloud services

- * Virtualisation in cloud computing
- * Most common commercial cloud computing services
- * Open source cloud computing systems
- * Seminar presentations about cloud computing
- * Benefits and Economics of Cloud Computing
- * Full AWS Academy Cloud Practitioner Certification Preparation Course

Starting level and linkage with other courses

Course prerequisites:

- * Student can install and administer Windows or Linux-servers and IP-networks.
- * Student should have hands on experience and working knowledge of SME Corporate IT-services

Recommended skills prior attending:

- * Cisco RSCCNA 1 version 6.x or later
- * Linux operating systems
- * Windows server administration

Assessment criteria**Grade 1**

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Practitioner: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

50 -59 Grade: 1

Grade 3

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Practitioner: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

70 - 79 Grade: 3

Grade 5

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Practitioner: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

90 - 100 Grade: 5

Approved/ Failed

Grading:

< 50% Grade: 0
50 -59 Grade: 1
60 - 69 Grade: 2
70 - 79 Grade: 3
80 -89 Grade: 4
90 - 100 Grade: 5

SOF004AS2AE Python Programming: 5 op**Learning objectives**

Upon successful completion of the course, the student should be able to

- * Explain basic concepts and terminology of the Python programming language
- * Design, write, test and debug small command-line applications in Python

Contents

The Python programming language

- * Creating, running, testing and debugging small stand-alone Python programs
- * Python program structure and life cycle

Elementary programming techniques in Python

- * Console input and output
- * Data types, variables and type conversions
- * Statements, expressions, and operators
- * Control structures

Functions

String handling

Data structures including lists, dictionaries, tuples, and files

Starting level and linkage with other courses

This course is a part of the 'ICT Infrastructure and Cloud Services' and the 'Software Development' study profiles.

The **prerequisite** is that you have passed the course ***Introduction to Software Development*** (SOF001IT1AE), or another equivalent course, or you can demonstrate equivalent skills and knowledge in the basics of programming prior commencing the course.

Please contact the teacher of the course if you need any advice on this matter.

Assessment criteria**Grade 1**

The student

- * has passable understanding of the course contents, core concepts and terminology
- * has passable knowledge and skills in writing simple Python programs
- * needs often assistance in problem situations, and in the interpretation of the course material.

Grade 3

The student

- * has good understanding of the course contents, core concepts and terminology
- * has good knowledge and skills in writing simple Python programs
- * uses the course materials and other sources in an effective way to support own learning
- * needs sometimes assistance in problem situations.

Grade 5

The student

- * has excellent understanding of the course contents, core concepts and terminology
- * has excellent knowledge and skills in writing simple Python programs
- * uses the course materials and independently found sources fluently to support own learning
- * can independently examine and solve almost all problem situations
- * shows that he/she can acquire more knowledge and skills independently and apply them creatively.

ICI010AS3AE Cloud Architectures - AWS: 10 op**Learning objectives**

- Describe how cloud adoption transforms the way IT systems work
- Describe the benefits of cloud computing with Amazon Web Services
- Discuss how to design systems that are secure, reliable, high-performing, and cost efficient
- Describe principles to consider when migrating or designing new applications for the cloud
- Identify the design patterns and architectural options applied in a variety of use cases
- Define high availability, fault tolerance, and scalability
- Discuss how to avoid single points of failure
- List AWS services that have built-in fault tolerance or can be designed for fault tolerance
- Describe why load balancing is a key architectural component for AWS-powered applications
- Identify the benefits of Infrastructure as Code
- Describe how to leverage the capabilities of AWS to support automation
- Create, manage, provision, and update related resources using AWS CloudFormation
- Articulate the importance of making systems highly cohesive and loosely coupled
- Describe system coupling to support the distributed nature of applications built for the cloud
- Describe database services for storing and deploying web-accessible applications
- Compare structured query language (SQL) databases with NoSQL databases
- Describe how the AWS Well-Architected Framework improves cloud-based architectures
- Describe the business impact of design decisions
- Identify the design principles and best practices of the Operational Excellence pillar
- Describe how to secure data at every layer in the application
- Describe the appropriate tools and services to provide security-focused content
- Describe the design principles and best practices of the Reliability pillar.
- Select compute, storage, database, and networking resources to improve performance
- Evaluate the most important performance metrics for your applications
- Follow best practices to eliminate unneeded costs or suboptimal resources
- Troubleshoot common errors

Contents

AWS Academy Cloud Architecting covers the fundamentals of building IT infrastructure on AWS. The course is designed to teach solutions architects how to optimize their use of the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions. Although architectural solutions can differ depending on the industry, type of application, and size of the business, this course emphasizes best practices for the AWS Cloud that apply to all of them. It also recommends various design patterns to help you think through the process of architecting optimal IT solutions on AWS. Throughout the course, students will explore case studies that showcase how some AWS customers have designed their infrastructures and the strategies and services that they have implemented. Finally, this course provides opportunities for students to build a variety of infrastructures through a guided, hands-on approach.

Starting level and linkage with other courses

Course prerequisites:

- * a prior completed Pilviteknologiat or Cloud Services Course or AWS Cloud Practitioner Certificate
- * Student can install and administer Windows or Linux-servers and IP-networks.
- * Student should have hands on experience and working knowledge of SME Corporate IT-services

Recommended skills prior attending:

- * Cisco RSCCNA 1 version 6.x or later
- * Linux operating systems
- * Windows server administration

Osaamisen arviointi

Assessment criteria**Grade 1**

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Architecting: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

50 -59 Grade: 1

Grade 3

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Architecting: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

70 - 79 Grade: 3

Grade 5

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Architecting: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

90 - 100 Grade: 5

Approved/ Failed

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Architecting: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

- < 50% Grade: 0
- 50 -59 Grade: 1
- 60 - 69 Grade: 2
- 70 - 79 Grade: 3
- 80 -89 Grade: 4
- 90 - 100 Grade: 5

ICI009AS3AE Cloud Operations - AWS: 10 op**Learning objectives**

Upon completion of this course, students will be able to:

- Understand AWS infrastructure as it relates to system operations, such as global infrastructure, core services, and account security
- Use the AWS Command Line Interface (AWS CLI), and understand additional administration and development tools
- Manage, secure, and scale compute instances on AWS
- Manage, secure, and scale configurations
- Identify container services and AWS services that are available for serverless computing.
- Manage, secure, and scale databases on AWS
- Build virtual private networks with Amazon Virtual Private Cloud (Amazon VPC)
- Configure and manage storage options using the storage services offered with AWS
- Monitor the health of your infrastructure with services such as Amazon CloudWatch, AWS CloudTrail, and AWS Config
- Manage resource consumption in an AWS account by using tags, Amazon CloudWatch, and AWS Trusted Advisor
- Create and configure automated and repeatable deployments with tools such as Amazon Machine Images (AMIs) and AWS CloudFormation

Contents

AWS Academy Cloud Operations is designed to prepare participants to pursue entry-level DevOps, support, and cloud operations roles. It will also help prepare them to take the AWS SysOps Administrator – Associate exam. Emphasizing best practices in the AWS Cloud and recommended design patterns, this course will teach students how to solve problems and troubleshoot various scenarios. The course will show students how to create automatable and repeatable deployments of networks and systems on AWS and covers specific AWS features and tools related to configuration and deployment. With case studies and demonstrations, students will learn how some AWS customers design their infrastructures and implement various strategies and services. Students will also have the opportunity to build a variety of infrastructures via guided, hands-on activities.

Starting level and linkage with other courses

To ensure success in this course, students should have:

- * Completed AWS Academy Cloud Foundations (ACF) or have equivalent experience
- * A working knowledge of at least one scripting language
- * Familiarity with Linux, the command line and Application Programming Interfaces (APIs)
- * Familiarity with virtualization and distributed computing
- * An understanding of version control (e.g., Git)
- * An understanding of data storage mechanisms such as SQL

Assessment criteria

Grade 1

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Operations: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

50 -59 Grade: 1

Grade 3

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Operations: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

70 - 79 Grade: 3

Grade 5

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Operations: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

90 - 100 Grade: 5

Approved/ Failed

Course grade is composed from multiple weighted and evaluated parts according to the following table:

- * Labs and AWS Cloud Operations: 30%
- * Presentation: 20%
- * Written Exam: 50%

Grading:

< 50% Grade: 0

50 -59 Grade: 1

60 - 69 Grade: 2

70 - 79 Grade: 3

80 -89 Grade: 4

90 - 100 Grade: 5

**ITBBAOWNMINOR Complementary Professional Competencies in Business
Information Technology Studies: 55 op**

ITBBAMINOR Complementary Professional Competencies: 25 op**ITBBAMINOR2 Minor Package: 25 op****ITBBALANGUAGES Languages and Culture: 15 op****FIN001AS2AE Finnish Language and Culture 1: 5 op****Learning objectives**

After successfully completing the course, the student

- * can introduce oneself, give basic information about oneself and ask simple questions
- * can understand and use basic expressions and simple sentences in routine everyday situation
- * is able to deal with some everyday social situations and handle simple shopping situations
- * is aware of the basic characteristics of the Finnish language, culture and habits
- * is able to use the surrounding language environment to develop one's language skills.

The target level on the Common European Framework of Reference for Languages CEFR is A1.

Contents

- basics of pronunciation
- greetings
- numbers and time expressions
- family
- weather
- everyday life
- basic structures and vocabulary for everyday needs

Starting level and linkage with other courses

No prerequisites.

Assessment criteria**Grade 1**

(Min. 40% competence level)

Developmental competence

Knowledge: Your knowledge of the language is satisfactory in view of the projected learning outcomes of the course.

Skills: Your skills allow you to complete the given tasks and assignments with assistance. You need to develop how to apply your knowledge.

Competence: In view of the projected learning outcomes, you have a basic knowledge of the language and you demonstrate a limited ability to apply your skills, but you have difficulty to manage without assistance.

Grade 3

(Min. 70% competence level)

Functionally proficient

Knowledge: Your knowledge of the language is good in view of the projected learning outcomes of

the course.

Skills: Your skills allow you complete the given tasks and assignments independently. You are able to apply your knowledge in practical situations, considering the projected learning outcomes of the course. You can critique your own abilities and identify ways to improve.

Competence: In view of the projected learning outcomes, you have a basic to good knowledge of the language and you demonstrate sufficient ability to apply your skills. You can perform independently, but you have some challenges in passing on your skills and knowledge to others. You have an interest in professional development.

Grade 5

(Min. 90% competence level)

Mastery

Knowledge: Your knowledge of the language is excellent in view of the projected learning outcomes of the course.

Skills; Your skills allow you to apply your knowledge in demanding situations, considering the projected learning outcomes of the course. You can independently find ways to develop your skills and to cope in spontaneous situations.

Competence: In view of the projected learning outcomes, you have detailed and explicit knowledge in the language and you apply your skills with natural proficiency. You can perform independently and you are also able and actively willing to help others develop and pass on your skills. You have an attitude of continuous professional development.

Approved/ Failed

Students' performance is graded on the following scale: Excellent (5), Very good (4), Good (3), Satisfactory (2), Fair (1), Fail (0).

FIN002AS2AE Finnish Language and Culture 2: 5 op

Learning objectives

After successfully completing the course, the student

- * can communicate in simple everyday situations
- * can tell about his/her home
- * knows some work-related vocabulary
- * can use and understand the local case system of nouns
- * is able to use the surrounding language environment to develop one's language skills.

The target level on the Common European Framework of Reference for Languages CEFR is A2.1.

Contents

- pronunciation
- housing
- traveling
- food and drink
- professions and work
- expressing place and direction
- basic structures and vocabulary for everyday needs

Starting level and linkage with other courses

Prerequisite: Finnish Language and Culture 1 or equivalent competence (about 5 ECTS of previous studies).

Assessment criteria**Grade 1**

(Min. 40% competence level)

Developmental competence

Knowledge: Your knowledge of the language is satisfactory in view of the projected learning outcomes of the course.

Skills: Your skills allow you to complete the given tasks and assignments with assistance. You need to develop how to apply your knowledge.

Competence: In view of the projected learning outcomes, you have a basic knowledge of the language and you demonstrate a limited ability to apply your skills, but you have difficulty to manage without assistance.

Grade 3

(Min. 70% competence level)

Functionally proficient

Knowledge: Your knowledge of the language is good in view of the projected learning outcomes of the course.

Skills: Your skills allow you complete the given tasks and assignments independently. You are able to apply your knowledge in practical situations, considering the projected learning outcomes of the course. You can critique your own abilities and identify ways to improve.

Competence: In view of the projected learning outcomes, you have a basic to good knowledge of the language and you demonstrate sufficient ability to apply your skills. You can perform independently, but you have some challenges in passing on your skills and knowledge to others. You have an interest in professional development.

Grade 5

(Min. 90% competence level)

Mastery

Knowledge: Your knowledge of the language is excellent in view of the projected learning outcomes of the course.

Skills; Your skills allow you to apply your knowledge in demanding situations, considering the projected learning outcomes of the course. You can independently find ways to develop your skills and to cope in spontaneous situations.

Competence: In view of the projected learning outcomes, you have detailed and explicit knowledge in the language and you apply your skills with natural proficiency. You can perform independently and you are also able and actively willing to help others develop and pass on your skills. You have an attitude of continuous professional development.

Approved/ Failed

Students' performance is graded on the following scale: Excellent (5), Very good (4), Good (3), Satisfactory (2), Fair (1), Fail (0).

FIN003AS2AE Finnish Language and Culture 3: 5 op**Learning objectives**

After successfully completing the course, the student

- * can tell about his/her past
- * is able to talk about his/her health
- * can discuss his/her free time and hobbies
- * develops his/her vocabulary and knowledge about the grammatical structures of the course.

Contents

- Travelling
- Health
- Free time activities and hobbies
- The past tense of verbs (Imperfect)
- The construction `have to`
- The forms of object

Assessment criteria**Grade 1**

(Min. 40% competence level)

Developmental competence

Knowledge: Your knowledge of the language is satisfactory in view of the projected learning outcomes of the course.

Skills: Your skills allow you to complete the given tasks and assignments with assistance. You need to develop how to apply your knowledge.

Competence: In view of the projected learning outcomes, you have a basic knowledge of the language and you demonstrate a limited ability to apply your skills, but you have difficulty to manage without assistance.

Grade 3

(Min. 70% competence level)

Functionally proficient

Knowledge: Your knowledge of the language is good in view of the projected learning outcomes of the course.

Skills: Your skills allow you complete the given tasks and assignments independently. You are able to apply your knowledge in practical situations, considering the projected learning outcomes of the course. You can critique your own abilities and identify ways to improve.

Competence: In view of the projected learning outcomes, you have a basic to good knowledge of the language and you demonstrate sufficient ability to apply your skills. You can perform independently, but you have some challenges in passing on your skills and knowledge to others. You have an interest in professional development.

Grade 5

(Min. 90% competence level)

Mastery

Knowledge: Your knowledge of the language is excellent in view of the projected learning outcomes of the course.

Skills: Your skills allow you to apply your knowledge in demanding situations, considering the projected learning outcomes of the course. You can independently find ways to develop your skills and to cope in spontaneous situations.

Competence: In view of the projected learning outcomes, you have detailed and explicit knowledge in the language and you apply your skills with natural proficiency. You can perform independently and you are also able and actively willing to help others develop and pass on your skills. You have an attitude of continuous professional development.

Approved/ Failed

Students' performance is graded on the following scale: Excellent (5), Very good (4), Good (3), Satisfactory (2), Fair (1), Fail (0).

FIN004AS2AE Finnish Language and Culture 4: 5 op**Learning objectives**

After successfully completing the course, the student

- can tell about his/her studies and work experience and write a CV in Finnish
- can discuss festivities and national holiday traditions in Finland and other countries
- is able to handle simple communication situations as a customer in offices and shops
- is able to follow news in easy Finnish (Selkouutiset)

The target level on the Common European Framework of Reference for Languages CEFR is A2.2 - B1.

Contents

- communication in offices
- education and work experience
- applying for a job in Finland
- shopping
- celebrating national holidays and other events
- past tenses of verbs (perfekti, pluskvamperfekti)
- plural forms of nouns
- comparative form of adjectives

Starting level and linkage with other courses

Prerequisite: Finnish Language and Culture 3 or equivalent competence (about 15 ECTS of previous studies).

Assessment criteria**Grade 1**

Your knowledge of the language is satisfactory in view of the projected learning outcomes of the course. Your skills allow you to complete the given tasks and assignments with assistance. You need to develop how to apply your knowledge. In view of the projected learning outcomes, you have a basic knowledge of the language and you demonstrate a limited ability to apply your skills, but you have difficulty to manage without assistance.

Grade 3

Your knowledge of the language is good in view of the projected learning outcomes of the course.

Your skills allow you complete the given tasks and assignments independently. You are able to apply your knowledge in practical situations, considering the projected learning outcomes of the course. You can critique your own abilities and identify ways to improve. In view of the projected learning outcomes, you have a basic to good knowledge of the language and you demonstrate sufficient ability to apply your skills. You can perform independently, but you have some challenges in passing on your skills and knowledge to others. You have an interest in professional development.

Grade 5

Your knowledge of the language is excellent in view of the projected learning outcomes of the course. Your skills allow you to apply your knowledge in demanding situations, considering the projected learning outcomes of the course. You can independently find ways to develop your skills and to cope in spontaneous situations. In view of the projected learning outcomes, you have detailed and explicit knowledge in the language and you apply your skills with natural proficiency. You can perform independently and you are also able and actively willing to help others develop and pass on your skills. You have an attitude of continuous professional development.

FIN005AS2AE Let's Speak Finnish!: 5 op**Learning objectives**

The course Let's Speak Finnish! activates and enhances oral skills in Finnish as well as to gives practice in Finnish conversation by focusing on situations in different areas of everyday life.

Upon successful completion of the course, the student

- * gains self-confidence to be relaxed and converse more spontaneously in Finnish
- * delivers various kinds of speeches (impromptu, informative)
- * demonstrates an ability to express oneself more effectively in social situations
- * improves pronunciation and enhances his/her vocabulary.

Contents

Students read short articles and discuss them, give small individual/group presentations and participate in group discussions and simulations, for which they prepare at home and in class.

Starting level and linkage with other courses

Haaga-Helia's courses Finnish 1–3/4 or A2+

Assessment criteria**Grade 1**

The student has limited understanding of spoken everyday Finnish and ability to express himself/herself in a social situation.

The student is able to participate in the interactive class discussion. He/she can prepare and give various kinds of speeches. With his/her vocabulary it is possible to to prepare and give a basic presentations.

He/she can manage communication situations with basic competence in Finnish. The student can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

Grade 3

The student understands partly spoken everyday Finnish and has ability to express himself/herself in a social situation.

The student delivers oral presentations and participates in the interactive class discussion rather well. His/her vocabulary is wide enough for preparing and giving presentations.

He/she can manage communication situations appropriately in Finnish. The student can relatively well interact in a simple way provided the other person talks quite slowly and clearly and is prepared to help.

Grade 5

The student understands spoken everyday Finnish well and has a good ability to express himself/herself in a social situation.

The student delivers oral presentations and participates in the interactive class discussion without difficulty. His/her vocabulary is wide enough for preparing and giving diverse presentations.

He/she can manage communication situations well in Finnish. The student can very well interact in a simple way provided the other person talks quite slowly and clearly and is prepared to help.

Approved/ Failed

1-5

SWE001HH1A Professional Swedish: 5 op**FIN014AS2AE Finnish Business Communication (for Finnish-speaking students): 5 op****Learning objectives**

This course has practical orientation, drawing on both theoretical knowledge and personal communication skills. You are familiar with different areas of corporate communications as well as with the linguistic and stylistic conventions of business writing in Finnish. You are able to write effective and reader-friendly messages and documents and you can prepare a professional report in Finnish. You are aware of the importance and strategic role of communication in companies and other organizations.

Contents

- Functions of corporate and community communication
- Basics of business related text types
- Formal writing in a professional setting
- Written report (project work)
- Language planning

Starting level and linkage with other courses

No prerequisites. The course language of instruction is Finnish and you need to have proficient user language skills (level C1-C2) to follow the course successfully.

Further information

This is a virtual course. The course language of instruction is Finnish.

Assessment criteria**Grade 1**

Knowledge:

You have a basic theoretical knowledge of corporate communications. You know the most relevant concepts and Haaga-Helia guidelines for writing reports and can partly apply them to new contexts. Your knowledge of the language is satisfactory in view of the projected learning outcomes of the course.

Skills:

You have satisfactory skills to produce and deliver professional texts and reports in Finnish. Your skills allow you to complete the given tasks and assignments with assistance. You need to develop how to apply your knowledge.

Competence:

You show satisfactory activity and initiative in the learning process. In view of the projected learning outcomes, you have a basic knowledge of the language and you demonstrate a limited ability to apply your skills, but you have difficulty to manage without assistance.

Grade 3

Knowledge:

You have a good theoretical knowledge of corporate communications. You know the relevant concepts and Haaga-Helia guidelines for writing reports and can apply them to new contexts. Your knowledge of the language is good in view of the projected learning outcomes of the course.

Skills:

You have good skills to produce and deliver professional texts and reports in Finnish. Your skills allow you complete the given tasks and assignments independently. You are able to apply your knowledge in practical situations, considering the projected learning outcomes of the course. You can critique your own abilities and identify ways to improve.

Competence:

You show activity and initiative in the learning process. In view of the projected learning outcomes, you have a basic to good knowledge of the language and you demonstrate sufficient ability to apply your skills. You can perform independently, but you have some challenges in passing on your skills and knowledge to others. You have an interest in professional development.

Grade 5

Knowledge:

You have a very good theoretical knowledge of corporate communications. Your use of the relevant concepts and Haaga-Helia guidelines for writing reports in new contexts is very accurate. Your knowledge of the language is excellent in view of the projected learning outcomes of the course.

Skills:

You have excellent skills to produce and deliver professional texts and reports in Finnish. Your skills allow you to apply your knowledge in demanding situations, considering the projected learning outcomes of the course. You can independently find ways to develop your skills and to cope in spontaneous situations.

Competence:

You show excellent activity and initiative in the learning process. In view of the projected learning outcomes, you have detailed and explicit knowledge in the language and you apply your skills with natural proficiency. You can perform independently and you are also able and actively willing to help others develop and pass on your skills. You have an attitude of continuous professional development.

ENG001HH1AE Professional English: 5 op

Learning objectives

After completing this course or acquiring corresponding learning elsewhere the student

- Can describe themselves and their competence in a positive, sales-oriented way in English.
- Knows the most central terminology of their field in English and is able to learn more independently.
- Can present an organization in their field, the industry and its operations in English.

- Can speak English in typical work-related situations in their field.
- Knows principles of multicultural communication and can adapt their communication in work-related situations according to those principles.
- Can evaluate their language and culture related competence and assess possible needs for development.

Starting level and linkage with other courses

Depending on the result of the level test possibly Remedial studies.

The CEFR level of the course is B2.

Assessment criteria**Grade 1**

Grading criteria

1 level= The student

- Knows how to describe the key points of themselves and their competence in a limited manner.
- Knows some of the most central terminology of their field in English and knows how to learn more.
- Can present the basic key points of an organization in their field, the industry and its operation in English.
- Can speak English in some of the typical work-related situations in their field.
- Knows principles of multicultural communication at a basic level and can adapt their communication in work-related situations according to those principles to some extent.
- Can evaluate their language and culture related competence and assess possible needs for development. Limited language competence has an effect on reaching goals; the language skills are enough to manage simple situations but lead to misunderstandings at times.
- The student has been active in their studies to some extent and followed instructions.

Grade 3

Grading criteria

3 level= The student

- Knows how to describe the key points of themselves and their competence in English.
- Knows the most central terminology of their field in English and knows how to learn more.
- Can present the key points of an organization in their field, the industry and its operation in English without preparing in advance.
- Can speak English in most of the typical work-related situations in their field.
- Knows the principles of multicultural communication well and can usually adapt their communication in work-related situations according to those principles.
- Can evaluate their language and culture related competence and assess possible needs for development. The language competence makes reaching their goals challenging at times but is adequate for most situations and possible misunderstandings can be cleared.
- The student has been quite active in their studies and has followed given instructions most of the time.

Grade 5

Grading criteria

5 level= The student

- Knows how to describe themselves and their competence in a versatile and skillful manner in English.
- Knows the central terminology of their field in English very well and knows how to learn more.
- Can present an organization in their field, the industry and its operation in English in a versatile and sophisticated manner.
- Can speak English in work-related situations in their field fluently.

Knows the principles of multicultural communication well and can adapt their communication in work-related situations fluently according to those principles.

- Can evaluate their language and culture related competence and assess possible needs for development.
- The student has been active in their studies and has followed given instructions consistently.

ENG001AS2AE Advanced Professional English: 5 op

Learning objectives

Upon successful completion of the course or after demonstrating the required prior learning, the student is able to

- apply central key concepts and terminology of the specialization area
- demonstrate advanced professional spoken and written business communication in English
- communicate fluently and professionally in the global context of the specialization area

Contents

- key concepts of the specialization area
- terminology of the specialization area
- professional spoken (meetings, negotiations, debates, presentations) and written business communication (meeting documents, project documents, international trade documentation, emails) as applicable
- intercultural communication skills
- topical, current industry-related material
- various tools and applications for professional communication

Starting level and linkage with other courses

Pre-requisites:

Before taking this course, the student must have completed the Professional English Key Competence course or corresponding RPL process.

The course is part of the Specialization Studies of the Bachelor's Degree.

The course is part of the Language Studies of the Hospitality Management Bachelor's Degree.

The CEFR level of the course is B2-C1.

Further information

Responsible teachers by degrees:

Teija Schalin (Business)

Eija Hansén (ICT)

Kristiina Huff (Hospitality)

Mikko Ilmari (Sports)

Assessment criteria

Grade 1

The student is able to apply the most central key concepts of the specialization area and manages to be understood. / in an understandable manner.

The student is able to manage in advanced professional spoken and written situations with assistance and time for preparation.

The student is able to communicate quite fluently and use appropriate language and terminology in the global context of the specialization area despite some obvious difficulties.

The student is still learning how to convey and understand shades of meaning.

The student is familiar with managerial language skills but needs practice in intercultural context.

Grade 3

The student is able to apply central key concepts of the specialization area fluently and is easily understood. / in an easily understandable manner.

The student is able to contribute actively in advanced professional spoken and written situations with a short time for preparation.

The student is able to communicate fluently and use a range of appropriate language and terminology in the global context of the specialization area without obvious difficulties.

The student recognizes and is able to use some shades of meaning appropriately when needed.

The student is able to use managerial language skills in intercultural context fluently.

Grade 5

The student is able to apply key concepts of the specialization area fluently in a versatile manner.

The student is able to contribute actively in advanced professional spoken and written situations with or without preparation.

The student is able to communicate very fluently and use a wide range of appropriate language and terminology in the global context of the specialization area without difficulties.

The student is able to convey shades of meaning effortlessly.

The student is able to use managerial language skills in intercultural context effectively in a convincing manner.

ENG006AS2AE English for Professional Presentations: 5 op**Learning objectives**

After completing this course or acquiring corresponding learning elsewhere, the student

- Performs impactful business presentations both on live stage and online
- Implements techniques for creating logically structured presentations
- Recognizes methods for overcoming stage fright
- Designs visual and interactive presentations
- Implements embodied performance techniques
- Employs vocal techniques for improved speech
- Performs confidently in front of a camera

Contents

- Logically structured presentation design

- Embodied presentation techniques
- Voice and speech techniques
- Interactive presentation tools
- Stage performance confidence
- Presentation in online environment
- Body and mind techniques for relaxation

Starting level and linkage with other courses

Starting level CEFR B2

Assessment criteria**Grade 1**

The student can deliver a presentation that carry limited conviction. The performance lacks security on stage and online. The usage of tools for visual and interactive presentations is limited. The language needs to be adjusted to the intended audience. The student lacks adequate techniques for overcoming anxiety and stage fright. The student needs assistance with the evaluation of performances and has difficulties in using the acquired knowledge for improving stage presence and performance skills.

Grade 3

The student can deliver a presentation that carry sufficient conviction. The performance is solid both on stage and online. The usage of tools for visual and interactive presentations is good. The language used is adjusted to the intended audience. The student uses techniques for overcoming anxiety and stage fright. The student can evaluate performances and use the acquired knowledge for improving stage presence and performance skills.

Grade 5

The student can deliver an effective presentation that carry conviction. The performance is effortless and engaging both on stage and online. The usage of tools for visual and interactive presentations is professional and efficient. The language used is precise and well adjusted to the intended audience. The student masters a wide range of techniques for overcoming anxiety and stage fright. The student can evaluate performances and use the acquired knowledge effectively for developing performance excellence and stage presence.

ITBBAWORKPLA Work Placement: 30 op**PLA001HH1AE Basic Work Placement: 15 op****Learning objectives**

After the work placement, students are able to

- identify and evaluate their own professional strengths and areas for development from the perspective of practical tasks at work
- act according to the rules of the work community
- evaluate the activities of the organisation and make specifically justified development proposals
- develop and update skills required at work as well as study and career plans

Contents

Work placement can be completed in a suitable Finnish or international company, public entity or other suitable organisation, such as various associations or non-profit organisations. The student

can also work as an entrepreneur in his/her own company. Work placement can also be completed abroad.

Starting level and linkage with other courses

No prerequisites

PLA001HH2AE Professional Work Placement: 15 op**Learning objectives**

After the work placement, students are able to

- identify and evaluate their own professional strengths and areas for development from the perspective of expertise in their field
- act in accordance with the rules of the work community
- evaluate the activities of the organisation and, if necessary, make justified development proposals
- continuously develop and update skills required at work as well as study and career plans

Contents

Work placement can be completed in a suitable Finnish or international company, public entity or other suitable organisation, such as various associations or non-profit organisations. The student can also work as an entrepreneur in his/her own company. Work placement can also be completed abroad.

Starting level and linkage with other courses

Professional studies or equivalent competences.

ITBBATHESIS Thesis: 15 op**THE7HH801 Thesis Phase 1: 5 op****Learning objectives**

Upon completion of the module, the student is able to

- Know different stages of the thesis process
- Know the aim of her/his thesis
- Search for information in a variety of reliable sources.
- Define the key concepts of her/his thesis.
- Create a realistic schedule for her/his thesis
- Know requirements and the basic structure of the thesis.
- plan a research-based development project outline.

Contents

- Thesis at Haaga-Helia
- Thesis process and progress in Wihi
- Student's role and responsibilities during the thesis process
- Confidentiality in theses
- Content and extent of the thesis
- Content and extent of a research-based development project
- Source information search, reliable information and critical evaluation of them.
- Formal referencing
- Selection criteria for research and innovation methods
- Thesis reporting according to Haaga-Helia reporting guidelines

- Self management during the thesis process.

Starting level and linkage with other courses

Studies specified by the degree.

Assessment criteria**Grade 1**

[See thesis assessment criteria in haaga-helia.fi](#)

Grade 3

[See thesis assessment criteria in haaga-helia.fi](#)

Grade 5

[See thesis assessment criteria in haaga-helia.fi](#)

Approved/ Failed

During the thesis process, progress is graded as pass/fail according to degree-specific objectives. After the thesis evaluation process is completed, H for "pass" is replaced by the thesis grade.

To pass the module all assignments (incl. research based development project outline = thesis outline) must be submitted and approved.

Research based development project outline is uploaded in Wihi and a thesis supervisor has approved it.

THE7HH802 Thesis Phase 2: 5 op**Learning objectives**

The student knows how to use relevant source material, apply suitable methods and follow reporting guidelines.

Contents

2/3 completed thesis, according to programme-specific guidelines and principles

Starting level and linkage with other courses

Thesis phase 1 completed

Assessment criteria**Grade 1**

See thesis assessment criteria in MyNet

Grade 3

See thesis assessment criteria in MyNet

Grade 5

See thesis assessment criteria in MyNet

Approved/ Failed

During the thesis process, progress is graded as pass/fail according to programme-specific objectives.

After the thesis evaluation process is completed, H for "pass" is replaced by the thesis grade.

THE7HH803 Thesis Phase 3: 5 op

Learning objectives

The student finishes the thesis according to the Haaga-Helia guidelines and thesis schedule.

Contents

- finalizing the thesis
- publishing the thesis

Starting level and linkage with other courses

Thesis phases 1/3 and 2/3 completed. Phase 3/3 cannot be approved before the maturity exam and plagiarism check have been passed.

Assessment criteria

Grade 1

See thesis assessment criteria in MyNet

Grade 3

See thesis assessment criteria in MyNet

Grade 5

See thesis assessment criteria in MyNet

Approved/ Failed

See thesis assessment criteria in MyNet

THE7HH804 Maturity Test: 0 op

Learning objectives

The maturity examination is a learning experience which aims at helping the student polish his/her communication skills. Also, the aim is to present the proficiency of the student as well as the contents of the thesis.

The maturity test demonstrates the student's familiarity and expertise in the subject field of the thesis as well as language competency in Finnish or Swedish, as required in Finnish legislation (A1129/2014, § 8).

The language required for the maturity test is determined by the language the student studied as first language/mother tongue during secondary level education. The maturity test also serves as a demonstration of spoken and written competence in the language in question. The language of the maturity exam is also marked in the degree certificate.

Contents

In Haaga-Helia, the maturity test can take one of three forms, as agreed with the thesis advisor: an essay, an item for a staff newsletter or a media release. The maturity test is not the same as an exam answer.

Starting level and linkage with other courses

The thesis is completed.

Further information

See instructions in MyNet