

**Filters used for the printout**

Curriculum period: 2024-2025. Studies included in the printout: Courses. Languages of the descriptions: English. Language of the printout template: English.

**LUTMEXCHAUTUMN Exchange Studies (Autumn semester)**

LUTMEXCHAUTUMN Exchange Studies (Autumn semester)

**CURRICULUM PERIOD 2024-2025**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	min 20 cr
Languages	English
Grading scale	Grading scale for degrees (distinction)
Content approval required	no
Locations	Lappeenranta
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT Business School 100%
Responsible person	Suvi Tiainen, Responsible teacher
Degree programme type	Master's Degree
Degree titles	Master of Science (Economics and Business Administration)
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law
Education classification	732101 Master of Science (Economics and Business Administration), Business Economics

**Content description**

**EN:** Whether you are planning to stay for a semester or a year, the exchange students coming to LUT have a proud history of enjoying themselves.

LUT will offer a large number of courses in many academic fields and the choice is yours! However, in order for you to make the most of your stay, please be proactive and take responsibility for your study plan and your studies.

Most of the courses are intended for Master's level or final year Bachelor students, but there are also choices available for those in their Bachelor studies. As the majority of courses are taught at the Master's level, students are expected to have bachelor level knowledge of relevant subjects.

The courses you include in your learning agreement may be subject to chance. A learning agreement is not considered as a course registration.

When starting your studies at LUT you need to enroll to courses and exams.

It is possible to study approximately 30 ECTS credits per one semester. Minimum number of credits per semester is 20.

We at Lappeenranta-Lahti University of Technology LUT (LUT University) invite you to join our high-standard and cross-cultural education and research community.

More information about exchange study experience at LUT [www.lut.fi/exchange](http://www.lut.fi/exchange)

## DEGREE STRUCTURE

Part of the degree	Credits
EXCHANGE STUDIES (AUTUMN SEMESTER) <b>DRAFT</b>	min 20 cr
LUTMEXCHAUTUMNK EXCHANGE STUDIES (AUTUMN SEMESTER) <b>DRAFT</b>	min 0 cr
MASTER'S LEVEL STUDIES (grouping module)	
KAMEXCHAUTUMN BUSINESS ADMINIS- TRATION <b>DRAFT</b>	min 0 cr
A350A0050 Business Research Methods <b>DRAFT</b>	6 cr
A330A0700 Consumer Behaviour in the Age of Digitalization <b>DRAFT</b>	3 cr
A330A0600 Digital Marketing Certificate <b>DRAFT</b>	3 cr
A310A0660 Financial Supply Management <b>DRAFT</b>	6 cr
A240A0060 Fuzzy Sets and Fuzzy Logic <b>DRAFT</b>	6 cr
A320A2000 Global Business Environment <b>DRAFT</b>	6 cr
A310A0761 Green Logistics <b>DRAFT</b>	6 cr
A210A0601 Information Systems in Corporate Management and Deci- sion-making <b>DRAFT</b>	6 cr
A330A0100 International Business Strategies <b>DRAFT</b>	6 cr
A220A0200 International Financial Management <b>DRAFT</b>	6 cr
A330A0900 Managing International Marketing <b>DRAFT</b>	6 cr
A320A6000 Prototype Project at J. Hyneman Center <b>DRAFT</b>	6 cr
A330A0300 Strategic Global Marketing Management <b>DRAFT</b>	6 cr
A330A0352 Strategic Issues in Digital Marketing <b>DRAFT</b>	6 cr
A310A0101 Strategic Supply Management <b>DRAFT</b>	6 cr
A310A0603 Supplier Development and Relationship Management <b>DRAFT</b>	6 cr
A310A0501 Sustainable Global Sourcing <b>DRAFT</b>	6 cr
A350A0501 Sustainable Strategy <b>DRAFT</b>	6 cr
A210A0610 International Corporate Governance and Financial Reporting <b>DRAFT</b>	6 cr
TUDEXCHAUTUMN INDUSTRIAL ENGINEERING AND MANAGE- MENT <b>DRAFT</b>	min 0 cr

<b>CS10A0864</b> Research Methods in Management	6 cr
<b>DRAFT</b>	
<b>CS30A1342</b> Technology and Innovation Management: project course	6 cr
<b>DRAFT</b>	
<b>CS34A0551</b> Business Idea Development	6 cr
<b>DRAFT</b>	
<b>CS30A1620</b> Artificial Inventiveness	1 cr
<b>DRAFT</b>	
<b>CS30A0010</b> Technology and innovation management: introductory course	3 cr
<b>DRAFT</b>	
<b>CT80A0000</b> Data-Intensive Systems	6 cr
<b>DRAFT</b>	
<b>CS30A1372</b> Creative Design and Problem Solving	6 cr
<b>DRAFT</b>	
<b>CS39A0220</b> Accessibility design and management for people with disabilities	3 cr
<b>DRAFT</b>	
<b>CS30A0810</b> Must-Have Math for Decision Makers	3 cr
<b>DRAFT</b>	
<b>CS30A0820</b> The Dark Side of Sustainability	3 cr
<b>DRAFT</b>	

**KIEXCHAUTUMN LANGUAGE STUDIES** ..... min 0 cr

**DRAFT**

**FINNISH** (grouping module)

<b>K200CE69</b> Finnish 1	3 cr
<b>DRAFT</b>	
<b>K200CE70</b> Finnish 2	3 cr
<b>DRAFT</b>	
<b>K200CH62</b> Finnish 3	3 cr
<b>DRAFT</b>	
<b>K200CH63</b> Finnish 4	3 cr
<b>DRAFT</b>	
<b>K200CL50</b> Finnish for Work 1	5 cr
<b>DRAFT</b>	
<b>K200CP86</b> Finnish for Work 3	5 cr
<b>DRAFT</b>	
<b>KM00CO04</b> Finnish Culture and Society	3 cr
<b>DRAFT</b>	
<b>K200CU41</b> Suomi with Love 1	3 cr
<b>DRAFT</b>	

**ENGLISH** (grouping module)

<b>KE00BZ84</b> English for Professional Development (Business)	4 cr
<b>DRAFT</b>	
<b>KE00BZ85</b> English for Professional Development (Technology)	4 cr
<b>DRAFT</b>	
<b>KE00BZ83</b> English for Professional Development (ESTIEM)	4 cr
<b>DRAFT</b>	
<b>KE00CG81</b> Business Writing	3 cr
<b>DRAFT</b>	
<b>KE00BZ81</b> Academic Writing	3 cr
<b>DRAFT</b>	
<b>KE00CG33</b> Writing for Digital Media	4 cr
<b>DRAFT</b>	

<b>KE00CQ38</b> Introduction to Copywriting	2 cr
<b>DRAFT</b>	
<b>KE00CG79</b> Professional Reading	3 cr
<b>DRAFT</b>	
<b>KE00CQ81</b> Effective Presentations	2 cr
<b>DRAFT</b>	
<b>KE00BZ82</b> Professional Meetings and Discussions	4 cr
<b>DRAFT</b>	
<b>KE00BX35</b> English Pronunciation	1 cr
<b>DRAFT</b>	
<b>KE00CC64</b> English Prep Course	3 cr
<b>DRAFT</b>	
<b>GERMAN</b> (grouping module)	
<b>KD00CH39</b> German 1	3 cr
<b>DRAFT</b>	
<b>KD00CH40</b> German 2	3 cr
<b>DRAFT</b>	
<b>KD00CH41</b> German 3	3 cr
<b>DRAFT</b>	
<b>KD00CH42</b> German for Work 1	3 cr
<b>DRAFT</b>	
<b>KD00CT54</b> German for Work 3	3 cr
<b>DRAFT</b>	
<b>KD00BX51</b> Business German	3 cr
<b>DRAFT</b>	
<b>KD00CZ29</b> Speaking Skills in German	3 cr
<b>DRAFT</b>	
<b>FRENCH</b> (grouping module)	
<b>KF00CH30</b> French 1	3 cr
<b>DRAFT</b>	
<b>KF00CH31</b> French 2	3 cr
<b>DRAFT</b>	
<b>KF00CH32</b> French 3	3 cr
<b>DRAFT</b>	
<b>KF00CG43</b> French for Work 1	3 cr
<b>DRAFT</b>	
<b>KF00CG44</b> French for Work 2	3 cr
<b>DRAFT</b>	
<b>SPANISH</b> (grouping module)	
<b>KP00CK94</b> Spanish 1	3 cr
<b>DRAFT</b>	
<b>KP00CH26</b> Spanish 2	3 cr
<b>DRAFT</b>	
<b>KP00CH27</b> Spanish 3	3 cr
<b>DRAFT</b>	
<b>KP00BX61</b> Spanish for Working Life 1	3 cr
<b>DRAFT</b>	
<b>KP00BX62</b> Spanish for Working Life 2	3 cr
<b>DRAFT</b>	
<b>CHINESE</b> (grouping module)	
<b>KC00CQ66</b> Basic Chinese 1	5 cr
<b>DRAFT</b>	

**KC00CQ68** Intermediate Chinese 1 3 cr  
 DRAFT

INTERCULTURAL COMPETENCE AND COMMUNICATION (grouping module)

**KM00BX75** Each one teach one 3 cr  
 DRAFT

**KE00CH94** Diversity Management and Global Citizenship 5 cr  
 DRAFT

**KE00CF69** Intercultural Competence and Communication 5 cr  
 DRAFT

BACHELOR'S LEVEL STUDIES (grouping module)

**KAKEXCHAUTUMN BUSINESS ADMINIS-** ..... min 0 cr  
**TRATION**  
 DRAFT

**A380A0320** Applied Consumer Behaviour 6 cr  
 DRAFT

**A130A0620** Basics in MS Excel for Business Students 3 cr  
 DRAFT

**A380A0131** Business Relationships in International Value Networks 6 cr  
 DRAFT

**A240A0010** Introduction to Programmatic Business Analytics 6 cr  
 DRAFT

**A320A0011** Introduction to International Entrepreneurship 6 cr  
 DRAFT

**A380A7001** Introduction to International Business 6 cr  
 DRAFT

**KAKEXCHLITOAUTUMN BUSINESS ADMINISTRATION ONLY FOR ENGINEERING** ..... min 0 cr  
**STUDENTS**  
 DRAFT

**VA10A1500** Introduction to Entrepreneurship 5 cr  
 DRAFT

**VA10A1700** Understanding and Managing a Business as a Dynamic Whole  
 - Business Simulation Game 5 cr  
 DRAFT

**A130A0670** Mathematics for Economics 6 cr  
 DRAFT

**A250A0620** Fundamentals of Accounting and Finance 6 cr  
 DRAFT

**A380A7010** Principles of Management and Leadership 6 cr  
 DRAFT

**A380A0270** Introduction to International Marketing and Purchasing 6 cr  
 DRAFT

**LAKEXCHAUTUMN COMPUTATIONAL ENGINEERING \*** ..... min 0 cr  
 THERE IS NO VERSION OF THE STUDY IN THE SELECTED CURRICU-  
 LUM PERIOD

**BM20A7102** Statistics II 4 cr  
 DRAFT

**BM20A8901** Primer to Numerical Programming 4 cr  
 DRAFT

**SAKEXCHAUTUMN ELECTRICAL ENGINEERING** ..... min 0 cr  
 DRAFT

**BL10A0102** Basics of Electrical Engineering 2 cr  
 DRAFT

<b>ENKEXCHAUTUMN ENERGY TECHNOLOGY</b> .....	min 0 cr
<b>DRAFT</b>	
<b>BH20A0720</b> Engineering Thermodynamics	6 cr
<b>DRAFT</b>	
<b>BH10A1900</b> Fundamentals of Energy Technology	2 cr
<b>DRAFT</b>	
<b>YMKEXCHAUTUMN ENVIRONMENTAL TECHNOLOGY</b> .....	min 0 cr
<b>DRAFT</b>	
<b>BH60A7200</b> Circular.now	3 cr
<b>DRAFT</b>	
<b>BH60A6801</b> Sustainable.now	3-5 cr
<b>DRAFT</b>	
<b>BH60A5401</b> Introduction to Circular Economy	5 cr
<b>DRAFT</b>	
<b>TUKEXCHAUTUMN INDUSTRIAL ENGINEERING AND MANAGEMENT *</b> .....	min 0 cr
<b>THERE IS NO VERSION OF THE STUDY IN THE SELECTED CURRICULUM PERIOD</b>	
<b>DRAFT</b>	
<b>LESKEXCHAUTUMN LUT SCHOOL OF ENERGY SYSTEMS</b> .....	min 0 cr
<b>DRAFT</b>	
<b>LES10A020</b> Engineering Physics	3 cr
<b>DRAFT</b>	
<b>LES10A200</b> Engineering Mathematics I	3 cr
<b>DRAFT</b>	
<b>LES10A210</b> Engineering Mathematics II	3 cr
<b>DRAFT</b>	
<b>LES10A290</b> Overview of China	4 cr
<b>DRAFT</b>	
<b>LES10A410</b> Engineering Project Work	5-10 cr
<b>DRAFT</b>	
<b>LES10A420</b> Overview of China	3 cr
<b>DRAFT</b>	
<b>KOKEXCHAUTUMN MECHANICAL EN- GINEERING</b> .....	min 0 cr
<b>DRAFT</b>	
<b>BK10A6202</b> Mechatronics	5 cr
<b>DRAFT</b>	
<b>BK10A7300</b> Machine Elements and Principles	5 cr
<b>DRAFT</b>	
<b>TIKEXCHAUTUMN SOFTWARE ENGINEERING</b> .....	min 0 cr
<b>DRAFT</b>	
<b>CT30A3232</b> Basics of Linux	3 cr
<b>DRAFT</b>	
<b>CT60A5540</b> Computer networks and Internet	3 cr
<b>DRAFT</b>	
<b>CT70A9110</b> Software Development Skills: Front-End	3 cr
<b>DRAFT</b>	
<b>CT70A9140</b> Software Development Skills: Full-Stack	3 cr
<b>DRAFT</b>	
<b>CT70A9120</b> Software Development Skills: Mobile	3 cr
<b>DRAFT</b>	

CT30A2910 Introduction to Web Programming

DRAFT

3 cr

\* Not included because it does not correspond to the selected responsible organisations or curriculum period

## FILTERED COURSES

### A350A0050 Business Research Methods

**A350A0050** Business Research Methods

Abbreviation: A300CE17

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Mika Vanhala, Responsible teacher Argyro Almpantopoulou, Responsible teacher Suvi Tiainen, Administrative person
Study level	Other studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: Lappeenranta and Lahti; NOTE: The course is fully online.

#### Prerequisites

**EN:** The course is only for the Master's level students. Students of the LAB University of Applied Sciences are eligible to enroll after they have completed **all methodological courses** in their study structure.

#### Learning outcomes

**EN:** After completing the course, the students are able to

- understand the basic concepts of philosophy of science and research
- understand the specific features of qualitative and quantitative research
- define and plan research objectives and choose the research approach based on those objectives
- apply focal methods of qualitative and quantitative research on gathering and analysis of empirical material
- report the methods and research results related to qualitative and quantitative research
- analyze the quality, reliability and validity of qualitative and quantitative research.

#### Content

**EN:** - Basic principles of philosophy of science - The objectives of doing research - Research process - Choice of research methods - The specific features of qualitative and quantitative research - Data gathering, methods, analysis and reporting - Assessing the quality of research

#### Additional information

**EN:** The course is fully online and without onsite lectures or teaching. This is a supplementary Master's level course **only for the externally admitted LBM MSc degree students (e.g. with a bachelor's degree from a university of applied science)**. Thus, if you have Bachelor's degree

(Economy and Business Administration) in **Finnish university** you don't have to take this course. LAB students are also eligible to attend if they have successfully completed their compulsory methodological studies offered by the university of applied science (see prerequisites).

**NOTE 1:** The course is not for Bachelor's level exchange students. If you are an exchange student and your status have changed from Bachelor's level student to Master's level student after you have applied to LUT, please contact study administration to update your status. This should be done **before** you enroll to the course.

**NOTE 2:** Students in Lappeenranta campus will take the course within the Lappeenranta cohort and students in Lahti campus (students of Knowledge Management and Leadership programme as well as student of LAB/Lahti) within the Lahti cohort.

**NOTE 3:** If you have conducted methodological courses (must be a course/s i.e. **completion of Thesis is not enough**) during your previous studies, those might compensate this course. The requirement for the compensation is that earlier course(s) **had at least 6 credits** and **covered both qualitative** as well as **quantitative** methodology. Please, contact teachers only if this basic requirement is fulfilled.

### Study materials

**EN:** Lecture slides and other distributed material.

Saunders, M, Lewis, P. and Thornhill, A. (2009). Research methods for business students, 5th ed. (or later edition), FT/Prentice Hall.

### Credit transfer instructions

**EN:** If you have conducted methodological courses (must be a course/s i.e. **completion of Thesis is not enough**) during your previous studies, those might compensate this course. The requirement for the compensation is that earlier course(s) **had at least 6 credits** and **covered both qualitative** as well as **quantitative** methodology. Please, contact teachers only if this basic requirement is fulfilled.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
LAB/LUT: Course Completion		6 cr

## A330A0700 Consumer Behaviour in the Age of Digitalization

### A330A0700 Consumer Behaviour in the Age of Digitalization

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Jenni Sipilä, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** Basics in marketing and in consumer behavior.



## Learning outcomes

**EN:** After taking the course, the students will be able to:

1. Analyze consumer behavior, decision-making, and experiences in digital contexts from theoretical and practical perspectives.
2. Critically evaluate and develop digital marketing activities from the perspective of consumer behavior.
3. Deeply understand issues of responsibility, sustainability, and ethics pertaining to consumer behavior in digital environments, and critically evaluate business decisions from these perspectives.
4. Effectively communicate their ideas to professional audiences in video and blog formats.
5. Collaborate constructively and in a goal-oriented way in multicultural teams.
6. Search, process, and apply academic research on consumer behavior and develop well-argued perspectives and ideas based on the literature.
7. Critically and constructively evaluate others' work on consumer behavior topics.

## Content

**EN:** Introduction to recent developments in consumer behavior in digital environments, including their ethical and marketing implications.

Consumer emotions, motivations, attitudes, and attitude change in digital environments.

Consumer experiences and decision-making in digital environments.

The processes and ethics of persuasion and social influence in digital environments.

Consumer identity and self-concept in digital environments.

The implications of digital consumer marketing to consumer well-being and sustainable consumption.

## Additional information

**EN:** Only for MIMM students.

The teaching is arranged in a hybrid format. The lectures take place in Lappeenranta and they are live-streamed and recorded. This course does not involve mandatory presence in Lappeenranta.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 12 responsible consumption and production.

## Study materials

**EN:** Articles and other reading and study materials will be announced before and during the course on the Moodle platform.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	3 cr
Course Completion		3 cr

## A330A0600 Digital Marketing Certificate

### A330A0600 Digital Marketing Certificate

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail

University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Heini Vanninen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: full digi

### Learning outcomes

**EN:** The course deepens students' understanding of the selected specialization topic through a set of MOOC based certificate courses.

At the end of this course students will be able to:

1. Become a certified user of selected digital marketing technologies, tools and tactics.
2. Demonstrate independent activity in executing the required MOOC courses.
3. Apply knowledge into practice.

### Content

**EN:** The contents are related to contemporary specialization areas of digital marketing.

### Additional information

**EN:** Independent online learning.

### Study materials

**EN:** Online courses assigned by the lecturer.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-Summer	3 cr
Course Completion	-----	3 cr
<b>Method 2</b>	Recurrence 1: 1. period-Summer	3 cr
Course Completion	-----	3 cr

## A310A0660 Financial Supply Management

### A310A0660 Financial Supply Management

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Veli Matti Virolainen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text**

**EN:** Location: Lappeenranta

**Prerequisites**

**EN:** B.Sc. (Econ. ; Bus. Adm.) studies. For exchange students B.Sc. studies related to operations management, supply chain management, supply management or similar.

**Learning outcomes**

**EN:** The aim of the course is to familiarize students with the financial issues of supply management. The intended outcomes of this course are to:

- identify the impact that supply chain management decisions have on the financial statements of the organization;
- explain the relationship between supply chain management decisions on measures of firm performance;
- introduce a set of financial frameworks that are used in business to illustrate the impact that supply decisions have on the financial performance of a business.

During the course the students apply methods and tools of working capital and inventory management in hands-on assignments. After completing the course students are able to

- describe the impact that supply chain decisions have on the financial performance of the organization;
- identify how supply chain decisions impact on creating earnings, cash and value for a business;
- identify the financial impact of a supply chain decision on the profitability, liquidity and asset utilization of a business
- determine optimal lot size inventory and safety stock levels
- use relevant supplier financing tools in practice
- recognize financial ratios used to manage liquidity and working capital;
- describe the components of a working capital cycle;
- identify the initiatives organizations use to manage working capital components;

**Content**

**EN:** The financial impact of a supply chain decision on the profitability and liquidity of organizations. Components of working capital. Methods and tools for working capital and inventory management. Decision making in supply chain. The impact of cash flow on working capital management and the financial performance of a business. Means of Supplier Financing.

**Additional information**

**EN:** Students of MSM programme have first priority to participate. This course is only for master's level students including exchange students.

**Study materials**

**EN:** Templar, Hofmann, Findlay: Financing for End-to-End Supply Chain, newest version (e-book), Supply Chain Financing Community, Kogan Page. Other course book will confirmed later.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course Completion		6 cr

## A240A0060 Fuzzy Sets and Fuzzy Logic

### A240A0060 Fuzzy Sets and Fuzzy Logic

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Pasi Luukka, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: Lappeenranta

#### Prerequisites

**EN:** Bachelor level mathematics courses e.g.:  
BM20A6700 Matematiikka I,, BM20A6800 Matematiikka II,  
Experience in programming or using mathematical software required e.g.:  
BM20A4301 Johdatus tekniseen laskentaan or BM20A5001 Principles of Technical Computing

#### Equivalences to other studies

CS38A0060 Fuzzy sets and fuzzy logic

#### Learning outcomes

**EN:** By the end of the course student will be able to

- understand basic mathematical concepts related to fuzzy set theory and fuzzy logic
- model uncertain concepts using fuzzy set theory
- construct fuzzy models
- deduce meaningful information from fuzzy models

#### Content

**EN:** The course consists of basics of fuzzy set theory, algebras of fuzzy sets, fuzzy quantities, logical aspects of fuzzy sets, operations of fuzzy sets, fuzzy relations, aggregation operators, common fuzzy inference systems, including Mamdani's, Larsen's and Tsukamoto inference and Sugeno model.

#### Additional information

**EN:** Replaces the course CS38A0060 and can not be included in the same degree.

#### Teaching Methods

Lectures 14 h, demolecture videos 7 h, exercises 14 h, 1st period. Lectures 14 h, demolecture videos 7 h, exercises 14 h, 2nd period. Independent study 92 h. Written examination. Total workload 162 h.

#### Assessment scale and assessment methods

0-5, examination 100 %.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 4

quality education

### Study materials

**EN:** Klir, G., Yuan, B.: Fuzzy Sets and Fuzzy Logic. Theory and Applications, Prentice Hall, 1995. Fullér, R.: Introduction to Neuro-Fuzzy Systems, Physica-Verlag, 2000.  
 Ross, T.: Fuzzy Logic with Engineering Applications, Wiley, 2017.  
 Passino, K.M., Yurkovich, S.: Fuzzy control, Addison Wesley, 1998.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	6 cr
Course Enrolment	-----	0 cr
Course Assessment	-----	6 cr

## A320A2000 Global Business Environment

### A320A2000 Global Business Environment

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Igor Laine, Responsible teacher Sina Mortazavibabaheidari, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Learning outcomes

**EN:** Upon completion of the course Global Business Environment, students will be able to:

1. Identify the key features of the global business environment and understand the interrelations between globalization and international business.
2. Compare and analyze business environments of different economies in terms of risk and opportunity.
3. Apply relevant theories related to global competitiveness, international trade, and economic blocs.
4. Evaluate the potential of emerging markets in international business and assess associated opportunities and challenges.
5. Analyze the role of sustainable development in international business and anticipate its evolving impact.

## Content

**EN:** Must know: how does global business environment differ from domestic business environment; the role of globalization in international business; the cultural, political, and legal environments in international business; theories of international trade and investment; government intervention and regional economic integration; understanding emerging markets as a context for international business; opportunities in and risks and challenges of emerging markets; business model innovation and adaptation in emerging markets; ethics, corporate social responsibility, sustainability and governance in international business.

Should know: PEST, PESTEL and CAGE frameworks; economic system - Liberal / controlled, monetary; Porter diamond; Vernon life cycle; shifting patterns of comparative and competitive advantage; base of the pyramid (BOP) markets; Emerging economies as sources of innovation; sustainable development goals (SDGs); Paris Accord; global warming; global governance mechanism (WTO, IMF, WB, etc.)

Additional knowledge: Flying Geese model; Global value chain (GVC)

## Additional information

**EN:** Contact instruction at LUT Lappeenranta Campus.

This course is only for master's level students. Priority is given to MIBE programme and MIBE minor students.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 1 no poverty, 2 zero hunger, 7 affordable and clean energy, 8 decent work and economic growth, 9 industry, innovation and infrastructure, 10 reduced inequalities, 11 sustainable cities and communities, 12 responsible consumption and production, 13 climate action, 14 life below water, 15 life and land, 16 peace, justice and strong institutions, 17 partnership for the goals

## Study materials

**EN:** Textbooks:

Cavusgil S.T., Knight G., Reisenberger J. (2024) - International Business: The New Realities, 6th edition, Pearson Education (older editions apply as well)

Wild J., Wild K. (2023) - International Business: The Challenges of Globalization, 10th edition, Pearson Education (older editions apply as well)

Additional reading and other study material will be assigned in class and in Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	6 cr
Course Completion		6 cr

## A310A0761 Green Logistics

### A310A0761 Green Logistics

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Sirpa Multaharju, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies

Study field Fields of education (Ministry of Education and Culture), Business, administration and law

### **Tweet text**

**EN:** Location: Lappeenranta

### **Prerequisites**

**EN:** B.Sc. (Econ. & Bus.Adm.) studies. For exchange students, B.Sc. studies related to operations management, supply chain management, supply management or similar.

### **Learning outcomes**

**EN:** Upon completion of the course students will know the key principles and practices of green logistics management. Emphasis will be given to the changing role of logistics service providers in the supply chain and the importance of the environmental sustainability in their business models and strategies. By the end of the module, the students will be able to show a critical understanding of the basic principles and major evolving trends in logistics and supply chain management (SCM); to recognize different type of logistics service providers and to assess their development stage; to explore benefits and challenges in implementing the principles of green logistics; to analyze the role of environmental sustainability in the strategy of logistics service providers and related green actions; to design a decarbonization strategy for supply chain and logistics.

### **Content**

#### **EN:**

- Basic concepts and evolving trends in logistics and supply chain management
- Logistics outsourcing: importance, activities, reasons and benefits
- Definition, categorisation and evolving role of third-party logistics providers (3PL) in the supply chain
- The environmental impact of transport and logistics
- Principles of green logistics management
- Environmental sustainability and green initiatives of 3PLs
- Decarbonisation footprint audit for supply chain and logistics

### **Additional information**

**EN:** Intensive course in 1st period, week 42 / 2024.

**NB!** Lectures of this intensive course will be held in the auditorium. Lectures will not be streaming, nor recording, so attendance at the lectures is highly recommended.

Possibility to earn 5 bonus points for participating in all the five lectures on the intensive week.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 9 industry, innovation and infrastructure; 13 climate action; 17 partnership for the goals.

### **Study materials**

**EN:** 1. Donald Waters, Stephen Rinsler (2014) Global Logistics: New Directions in Supply Chain Management, 7th edition, Kogan Page. (*Chapters 1 and 10*)

2. Alan McKinnon, Michael Browne, Maja Piecyk, Anthony Whiteing (2015) Green Logistics: Improving the Environmental Sustainability of Logistics, 3rd edition, Kogan Page. (*Chapters 1 and 2*)

3. Alan McKinnon (2018) Decarbonizing Logistics. Distributing Goods in a Low Carbon World, 1st edition. Kogan Page, UK. (*Chapter 2*)

4. Lecture slides, journal articles and other material defined by the teacher.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	6 cr
Course Completion		6 cr

## A210A0601 Information Systems in Corporate Management and Decision-making

### A210A0601 Information Systems in Corporate Management and Decision-making

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Mahinda Mailagaha Kumbure, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: Lappeenranta OR full digi

#### Prerequisites

**EN:** For master's level students only

#### Learning outcomes

**EN:** The aim of the course is to give extensive general knowledge about corporate information systems and how they are used in corporate decision-making, business control, and as a driver of business development. After the course the students: have an understanding of the corporate information systems stack and the most common types of corporate information systems and where they are used, are able to view a business as a system and its parts as parts of a system, know how information systems can collect, summarize, and analyze corporate information, understand what the practice of fact based management is based on and how it is connected to information systems, know the concept of intelligent systems, know selected methods and tools, understand the types of results that they can provide, and the importance of such results for, for example, making the business more effective through optimization, can identify and critically analyze situations, where information systems can be used to develop business practices.

#### Content

**EN:** Core content: corporate information stack, business intelligence, big data,  
Additional content : controlling in a modern corporation based on IS, intelligent systems in business process development, concepts of optimization, machine learning, neural networks, simulation, and cognitive technologies  
Special content: importance of visualizing knowledge

#### Additional information

**EN:** Only for LBS and MBAN students.

#### Study materials

**EN:** Lecture slides, lecture videos, assigned video material, assigned reading, collection of articles. All materials will be available via Moodle.



Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course Completion		6 cr

## A330A0100 International Business Strategies

### A330A0100 International Business Strategies

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Juha Väätänen, Responsible teacher Roman Teplov, Responsible teacher Suvi Tiainen, Administrative person
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: Lappeenranta

#### Prerequisites

**EN:** A330A0252 Internationalization of the Firm and Global Marketing  
A320A2000 Global Business Environment

#### Learning outcomes

**EN:** The aims of the course are:

- to familiarize students with strategic planning for international business in general and the management and execution of international business strategies within the context of multinational corporations in particular;
- to help the students to develop an understanding of various international, regional, or global strategies and their advantages and disadvantages.

The business simulation game aims to expose the students to actual management challenges in an international context.

After completing the course the students should be able to:

- analyse technology intensive international marketing environment, and to generate and carry out properly justified international business strategies;
- decompose the corporate strategy into functional strategies (e.g. marketing strategy, production strategy, etc.), and to coordinate and critically evaluate the implemented strategies, by interpreting key financial indicators of performance;
- plan, communicate, and carry out a group research project applied to a firm in a simulation;
- work in a multi-cultural team;
- interpret new information critically and systematically and be able to develop ideas and projects based on this information;
- apply knowledge gained from the course, in addition to that provided by additional reading, analysis and discussion, to the events, activities and/or strategies of an actual firm or organisation;
- participate in discussion on topics of international business interest, and to stimulate and answer questions from a knowledgeable audience;

- develop a mindset that fosters sustainability, and global, market and technology orientation in a global business environment.

### Content

**EN:** The skills and application of critical inquiry into reading, discussions, issues, and experiences that student may encounter with regard to international business strategies, both inside and outside the classroom setting.

Strategic tools for analyzing the internal and external environment, for example resource and product positions.

The international business planning process and its content especially related to international marketing. International and global business strategies. Organization of resources, capabilities and knowledge within a multinational corporation.

Implementation methods of an international business strategy.

International finance, international production and sourcing strategies, corporate social responsibility, sustainability, real-life firm strategy examples (provided by guest lecturers).

### Additional information

**EN:** Only for Master's level students.

The number of students attending the course may have to be limited based on a pre-exam if the number of students exceeds 80. In registration, priority is given to LUT School of Business and Management (LBS) Master's students and international exchange students with earlier knowledge of international business.

The course is related to UN's Sustainable Development Goals (SDG): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 12 responsible consumption and production, 13 climate action.

### Study materials

**EN:** Lasserre, P: (2012). Global Strategic Management (3rd edition or newer).

Peng, M.W. (2014). Global Strategic Management (3rd edition or newer)

Assigned reading (announced on lectures).

Guide manual for the simulation (online).

Slides from the lectures.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A220A0200 International Financial Management

### A220A0200 International Financial Management

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Sheraz Ahmed, Responsible teacher Roman Stepanov, Responsible teacher Suvi Tiainen, Administrative person

Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text**

**EN:** Location: Lappeenranta

**Prerequisites**

**EN:** Completed bachelor's level (B.Sc.) courses in finance and/or economics.

**Learning outcomes**

**EN:** After successful completion of the course, the student will be able to:

- explain the functions and goals of MNCs
- compare the challenges concerning different legal environments, tax considerations and business risks faced by MNCs
- model the relationship between exchange rates and micro- and macro-level determinants of changes in exchange rates
- distinguish the foreign exchange exposure and risks of conducting international business
- measure the impacts of exchange rates on the profitability, growth, capital structure and valuation of MNCs
- design unique business idea of an MNC and build its international business strategies
- develop team working skills in multinational environment.

**Content**

**EN:** The course is designed to provide advanced-level (Master) knowledge of multinational financial management. The course covers four areas of international financial management: 1) The International financial environment, 2) exchange rate behavior and determination of currency exchange rates, 3) exchange rate exposures and risk management, and 4) long-term asset and liability management of MNCs.

**Additional information**

**EN:** This is a master's level course therefore only eligible students can enroll.

**Study materials**

**EN:** The selected chapters of textbook and all additional material distributed by the lecturer.

**Literature**

Madura and Fox: International Financial Management (European edition)

[https://lut.primo.exlibrisgroup.com/discovery/fulldisplay?context=L&vid=358FIN\\_LUT:LUT&search\\_scope=LUT\\_CAMPUS\\_CDI&tab=Everything&docid=alma992007786706254](https://lut.primo.exlibrisgroup.com/discovery/fulldisplay?context=L&vid=358FIN_LUT:LUT&search_scope=LUT_CAMPUS_CDI&tab=Everything&docid=alma992007786706254)

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

**A330A0900 Managing International Marketing****A330A0900 Managing International Marketing**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5

University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Maria Uzhegova, Responsible teacher Olli Kuivalainen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### **Tweet text**

**EN:** Location: Lappeenranta

### **Prerequisites**

**EN:** A330A0300 Strategic Global Marketing Management, A330A0252 Internationalization of the Firm and Global Marketing or similar courses taken elsewhere.

### **Learning outcomes**

**EN:** The aim of the course is to let the students experiment with the strategic planning for international marketing in general and management and execution of international marketing strategies within the context of multinational corporations in particular. The idea is to help the students to develop an understanding of various international or global marketing strategies and critically evaluate their advantages and disadvantages.

The assignment [simulation] aims to expose the students to actual management challenges in an international marketing environment.

Intended learning outcomes: after completing the course the students should be able to:

- \* analyze international marketing environment, and to develop and carry out properly justified international marketing strategies.
- \* to coordinate and critically evaluate the implemented strategies, by interpreting key indicators of performance;
- \* plan, communicate, and carry out a group research project applied to a firm in a simulation,
- \* work in a multi-cultural team;
- \* be able to interpret new information critically and systematically and be able to develop ideas and projects based on this information;
- \* be able to apply knowledge gained from the course, in addition to that provided by additional reading, analysis and discussion, to the events, activities and/or strategies of an actual firm or organization;
- \* participate in discussion on topics of international marketing interest, and to stimulate and answer questions from a knowledgeable audience;
- \* develop a mindset that fosters sustainability, and global, market and technology orientation in a global business environment

### **Content**

**EN:** The skills and application of critical inquiry into your reading, discussions, and situations and experiences that you encounter with regard to international marketing, both inside and outside the classroom setting. The international business planning process and its content especially related to international marketing.

International and global marketing strategies, including e.g. standardisation vs. adaptation, transfer pricing, customer portfolio management, channel strategies, sales management and sustainability. Decision-making, management, organization and control of marketing-related resources, capabilities and knowledge within a multinational corporation.

Implementation methods of an international marketing strategy. Real-life firm international marketing strategy and organisation examples (provided by guest lecturers).

### Additional information

**EN:** Blended learning. However, please note that the lectures are held face-to-face in Lappeenranta, and active class participation is an assessed element. The simulation game is played online. There needs to be a representative of each student team present in the simulation reflection session in the end. More information about presence requirements will be provided during the first lecture (and in a more detailed syllabus which will be provided when the course begins).

In registration the priority is given to LUT School of Business and Management Master's students and foreign exchange students with earlier knowledge of international marketing.

The course is related to UN's Sustainable Development Goals (SDGs): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 12 responsible consumption and production, 17 partnership for the goals.

### Study materials

**EN:** Peng, M.W. (2022). Global Strategy (5th edition). Assigned reading (collection of articles). Guide manual for the simulation. Slides from the lectures.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A320A6000 Prototype Project at J. Hyneman Center

### A320A6000 Prototype Project at J. Hyneman Center

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Terhi Virkki-Hatakka, Responsible teacher Markku Ikävalko, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Learning outcomes

- EN:**
1. to know the basic concepts in prototype production, e.g. perspectives of generation and iteration
  2. to know the role of customer value and user experience in prototype production
  3. to understand the role of prototype production in the wholeness of an innovation process
  4. to understand the role of prototype production as a part of expertise service
  5. to have knowledge about different kinds of requirements of prototype production as teamwork and collaboration
  6. to have knowledge about prototyping and different types of prototyping activities
  7. to know the key concepts and terms used in evaluation
  8. to have knowledge of different types of evaluation criteria for prototypes and prototype production methods

9. to analyze the role and importance of the prototype in the real-life context of being eventually in production.
10. to be able to plan and execute a prototype project in a given time-line
11. to be able to collaborate in teams
12. to be able to propose a solution and recommendations for next steps in prototype testing and decision making.

### Content

**EN:** The course is based on a prototype project at J. Hyneman Center (JHC). The project is carried out mostly independently at JHC. The original initiative for the prototype building can come from students or from an outside organization.

With a high demand of self-organization and independency, the course is at advanced level.

The course applies problem-based learning to a concrete prototype development task. Students may work in appropriate size multidiscipline groups. Each group will work mostly independently and self-organizing way, and their learning objectives will be tailored on the basis of their targets in the beginning the course.

The course contains of determining the actual problem or target, the acquisition of needed knowledge and skills, determination, comparison and selection of possible different process alternatives, sketching and designing the manufacturing process, selecting needed materials and equipment, economic calculations in an appropriate level and building & testing the prototype.

The learning during the course will be presented e.g. via portfolio or reflective and comprehensive report, and presenting the results to an audience e.g. in a seminar or conference.

### Additional information

**EN:**

#### Study materials

**EN:** Selected by project cases.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-Summer	6 cr
Course Completion		6 cr

## A330A0300 Strategic Global Marketing Management

### A330A0300 Strategic Global Marketing Management

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Olli Kuivalainen, Responsible teacher Kaarina Vieru, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Text text

**EN:** Location: Lappeenranta

## Learning outcomes

**EN:** After taking the course the students should to be able to:

1. assess underlying concepts and analytically compare theoretically perspectives of marketing management strategy,
2. assess firm's internal and external environments from strategic marketing management perspective
3. describe and assess the range of marketing strategies available to organizations in a range of environmental contexts
4. describe and assess marketing programmes
5. understand the basics in marketing performance measurement
6. develop a marketing plan
7. design and deliver a professional presentation of a marketing plan.

## Content

**EN:** Assessment of the competitiveness of the firm, assessment of the external marketing situation, STP-process, developing marketing strategies and programmes, standardization versus adaptation, relationships in value chain, budgeting, controlling, marketing plan, marketing performance measurement. Corporate social responsibility strategy, customer behavior, customer relationship management.

## Additional information

**EN:** Only for Master's level students.

The course is related to UN's Sustainable Development Goals (SDGs): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 12 responsible consumption and production, 17 partnership for the goals.

Please note that the lectures are held face-to-face in Lappeenranta. There are some tasks which require physical presence in Lappeenranta such as the final presentation, and Q&A session about the project in the middle of the period. More detailed information about presence requirements will be given during the lecture, when students also need to form the cross-cultural teams for the project work (term paper and its presentation).

## Study materials

**EN:** 1. Hollensen, Svend (2019) Marketing Management. A Relationship Approach. Fourth Edition. Pearson.2. Assigned readings.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period	6 cr
Course Enrolment	-----	0 cr
Course Assessment	-----	6 cr

## A330A0352 Strategic Issues in Digital Marketing

### A330A0352 Strategic Issues in Digital Marketing

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%

Responsible persons	Heini Vanninen, Responsible teacher Suvi Tiainen, Administrative person Jaakko Metsola, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text****EN:** Location: Lappeenranta**Learning outcomes****EN:** After the course, the student should be able to:

1. Evaluate the impacts of digitalization on the changes in market environment.
2. Understand the fundamentals, different contexts and paradigm shifts in digital marketing strategy.
3. Analyze recent digital marketing trends and provide managerial solutions through case studies.
4. Compile an academic literature review by synthesizing research findings of a topical issue in the realm of digital marketing.

**Content****EN:** Digital marketing strategy, digitalization and new technologies, digital transformation, AI in digital marketing, social media marketing, digital content marketing, data-driven marketing.**Additional information****EN: Note**

The course is only for Master's level students.

5 (for Master's level exchange students specializing/majoring in marketing)

**Study materials****EN:** Assigned by the instructor.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course Completion		6 cr

**A310A0101 Strategic Supply Management****A310A0101 Strategic Supply Management**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%



Responsible persons	Veli Matti Virolainen, Responsible teacher Sirpa Multaharju, Responsible teacher Elina Mäntysaari, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Huom Location: Lappeenranta

### Prerequisites

**EN:** B.Sc. (Econ. ; Bus. Adm.) studies. For exchange students B.Sc. studies related to operations management, supply chain management, supply management or similar.

### Learning outcomes

**EN:** Upon completion of the course, students will understand the strategic meaning of supply management and will be able to develop the supply function as part of the business development of an entire organization.

Students will be able to apply TCE in supply strategy formulation, recognize different types of business relations, explain the motives of supply chain integration and partnerships, and apply these in practice. After taking the course, students should be able to:

1. develop and evaluate supply management strategies in a global context
2. analyze purchasing and supply management processes as a part of a business strategy
3. explain the motives for the integration of supply chains and business partnerships
4. distinguish the modes of collaboration in supply management
5. apply transaction cost theory and game theory in strategy assessment
6. produce an analytical written report based on the current academic literature.

### Content

**EN:** Supply management as a source of competitive advantage and as a part of a business strategy. Outsourcing and make-or buy decision. Transaction cost theory and game theory as a basis of strategic decision-making. Different relationships with suppliers and motives of partnerships.

### Additional information

**EN:** Students of Supply Management program have first priority to participate. This course is only for master's level students including exchange students. Blended learning is applied.

### Study materials

**EN:** Vitasek, K.: Vested outsourcing, 2013. Palgrave, Macmillan. Kling, J., Manrodt, K., Vitasek, K., and Keith, B., Strategic Outsourcing in New Economy, 2016. Palgrave, Macmillan. Mazzucato M. (ed): Strategy for Business, 2002. Sage Publications. O'Brien, J: Category Management in Purchasing. 3rd ed. Lecture materials and journal articles. Assigned reading.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A310A0603 Supplier Development and Relationship Management

### A310A0603 Supplier Development and Relationship Management

Abbreviation: SDRM

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Sirpa Multaharju, Responsible teacher Elina Karttunen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: full digi

#### Prerequisites

**EN:** B.Sc. (Econ. & Bus.Adm.) studies. For exchange students, B.Sc. studies related to operations management, supply chain management, supply management or similar.

#### Learning outcomes

##### EN:

The aim of the course is to examine the concepts of supplier development (SD) and supplier relationship management (SRM) from different perspectives. Depending of their previous studies, students can gain new knowledge and/or deepen their understanding of these topics through assigned readings and academic literature in the field. In addition to the academic perspectives, the students can gain knowledge about practical issues, such as practices of supplier relationship management and future trends of supplier relationship management.

After completing the course, the students are able to critically assess and analyze the literature and practical issues and trends related to supplier development and relationship management. Students should know the recent trends, tools and sustainability-related practices of supplier development and relationship management.

#### Content

**EN:** - The concepts and theories of supplier development and supplier relationship management including related sustainability perspectives  
- Evolving trends, practices and tools of supplier development and relationship management

#### Additional information

**EN:** This full-digi course is organized twice in an academic year: in period 3 and as a summer course.

**No contact teaching: so the course does not exist in TimeEdit /timetable)** The teacher contacts the students every week via Moodle messages.

**NB!** After being accepted to the SDRM course especially exchange students must make sure that they use LUT email and can receive Moodle messages, which is essential for completing the course.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 9 industry, innovation and infrastructure; 17 partnership for the goals.

### Study materials

#### EN:

Educational videos. Assigned readings will be announced at the beginning of the course. In addition, independent searching of relevant and topical scientific journal articles in databases, and practical material / writings in internet.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 3. period Recurrence 2: Summer	6 cr
Course Completion		6 cr

## A310A0501 Sustainable Global Sourcing

### A310A0501 Sustainable Global Sourcing

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Katrina Lintukangas, Responsible teacher Axel Zehendner, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** B.Sc. (Econ. ; Bus. Adm.) studies. For exchange students completed B.Sc. studies related to operations management, supply chain management, supply management or similar.

### Learning outcomes

**EN:** The aim of the course is to familiarize students with the strategic planning of sustainable global sourcing and the management of global supply networks and the execution of sustainable supply strategies in globally active firms. The content of the course increases students' understanding on responsible business and sustainable sourcing and importance of sustainability issues in global supply chains. After taking the course, students should be able to:

1. design sustainable global sourcing strategies
2. recognize, monitor and control the sustainability risks in global supply chains
3. analyse multinational business environments and sourcing opportunities
4. assess business location decisions from sustainability point of view

5. compare the opportunities for outsourcing or re-shoring production and technologies
6. use and develop sustainability practices for supplier selection and assessment
7. critically evaluate consequences of sourcing decisions from a responsibility perspective

### Content

**EN:** Global sourcing strategies, opportunities and challenges of international business and in global supply chains. Sustainable sourcing and the transparency of supply chains. Outsourcing, re-shoring and location decisions. Sustainability issues in supplier selection, assessment and relationship management. Sustainability risks in sourcing and in global supply chains and sustainable supply management practices.

### Additional information

**EN:** This course is only for master's level students. Students of Supply Management programme have first priority to participate. Blended learning is applied.

The course is related to UN's Sustainable Development Goals (SDG): decent work and economic growth, industry, innovation and infrastructure, responsible consumption and production

### Study materials

**EN:** Reading package assigned in the beginning of the course and lecture materials.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course Completion		6 cr

## A350A0501 Sustainable Strategy

### A350A0501 Sustainable Strategy

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Anni Tuppuru, Responsible teacher Suvi Tiainen, Administrative person Paavo Ritala, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Learning outcomes

**EN:** This course concentrates on the topical phenomena and concepts related to the creation and development of sustainable strategy in organisations. In particular, the focus is on the intersection of firm strategy and economic, social, and environmental dimensions of sustainability. These topics are investigated both from the viewpoints of academic research and practical relevance. Students will learn to discuss and

synthesize the relevant academic evidence, examine the links of contemporary topics to previous research and assess the practical relevance of the issues through concrete examples. The learning outcomes of the course are the following:

1. To assess the topic of sustainable strategy in the firm level as well as within the broader institutional context from both academic and practitioner perspectives.
2. To discuss and debate on different and conflicting perspectives regarding sustainability in business.
3. To be able to analyze the practical relevance of sustainable business strategy.

### Content

**EN:** The content of the course is based on topical issues related to sustainable strategy from different approaches, e.g., sustainable strategy and sustainable business models, and strategic opportunities and challenges of circular and regenerative economy. Thematic lectures in the beginning of the course introduce the central concepts. After that the students start to accumulate deeper understanding on a chosen topic by familiarizing to literature. The students will be working in groups of four to conduct research on sustainable strategy issue. Interactive workshop and seminars are organized to discuss the individual and group assignments.

### Additional information

**EN:** Blended learning  
\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 12 responsible consumption and production

### Study materials

**EN:** Mainly academic literature related to the subjects of the assignments. In addition lecture materials, practitioner-oriented articles, videos, and podcasts on sustainable business provided in Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	6 cr
Course Completion		6 cr

## A210A0610 International Corporate Governance and Financial Reporting

### A210A0610 International Corporate Governance and Financial Reporting

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Juha Soininen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Learning outcomes

**EN:** The course provides an understanding on financial reporting ties with corporate governance and economic performance. Analytical framework of financial reporting and corporate performance are presented thru the needs and effects of corporate governance including the concepts of stakeholder and shareholder. More precisely the effects of ownership, dominant vs minority shareholders, corporate control and managerial compensation are presented.

After completing the course the students can: analyze critically different aspects of corporate governance and financial reporting together with their possible effects on corporate performance. Students also are able to plan, present and implement research problems using previous research in the area.

### Content

**EN:** Corporate governance, financial reporting, firm performance, agency theory, boards, management compensation.

### Additional information

**EN:** This course is only for master's level students including exchange students.

### Study materials

**EN:** Goergen, M. (2012). International Corporate Governance, 5th Edition, Pearson.  
Pratt, Jamie (2011). Financial Accounting in an Economic Context, International Student Version, 8th Edition, Wiley.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course Enrolment		0 cr
Course Assessment		6 cr

## CS10A0864 Research Methods in Management

### CS10A0864 Research Methods in Management

Abbreviation: RM

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Yan Xin, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Text text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** No prerequisites

### Learning outcomes

**EN:** Upon completion of the course, the students will gain understating of the research process and will be able to

- conduct independent scientific and applied research in management and report the research results
- define research objectives and formulate research questions
- search and analyze literature and conduct a literature review
- understand research philosophies and approaches
- formulate research design and make a justified choice of research methods
- collect and analyze qualitative and quantitative data
- interpret and report the results of the research

### Content

**EN:** The course aims to provide methodological support and clear guidelines to master students on how to conduct research in management and how to report its results. The course consists of lectures and seminars. Topics include but not limited to formulating and clarifying the research topics, reviewing the literature, understanding research philosophies and approaches, formulating research design and choosing research methods, collecting and analyzing quantitative and qualitative data, and writing research reports and presenting the results.

Research reports, seminar presentations, quizzes, and individual learning diaries are essential parts of course evaluation.

### Additional information

**EN:** Amount of participants max. 50. Priority is given to the students of M.Sc. programme GMIT.  
\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 4 quality education, 8 decent work and economic growth, 11 sustainable cities and communities

### Study materials

**EN:** Saunders, M., Lewis, P. and Thornhill, A. (2019). Research methods for business students, 8<sup>th</sup> ed. Harlow, Essex: Pearson Education.

Lecture slides and additional materials in Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## CS30A1342 Technology and Innovation Management: project course

### CS30A1342 Technology and Innovation Management: project course

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%

Responsible persons	Ville Ojanen, Responsible teacher Armi Rissanen, Administrative person Kalle Elfvingren, Responsible teacher Gülfem Özmen, Responsible teacher
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** Basic knowledge on innovation and technology management (e.g. Bachelor in industrial engineering and management or Technology and innovation management: Introductory course).

### Learning outcomes

**EN:** To develop in-depth understanding in focused innovation and technology management areas  
To analyze, develop and plan alternative solutions for managing technology, innovations, as well as product and service portfolios in organizations

To apply relevant tools and frameworks of technology and innovation management to real-world problems in collaborative working environment

### Content

**EN:** Processes, methods and tools of innovation and technology management: Strategic analysis methods, future studies, idea generation, concept development, decision-making support for innovation process, Quality Function Deployment, design for business model innovations. Varying contemporary themes, e.g. circularity, twin transformation, ethics in technology management.

### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG):  
4 quality education

8 decent work and economic growth

9 industry, innovation and infrastructure

17 partnership for the goals

### Study materials

**EN:** Joe Tidd and John Bessant. Managing Innovation – Integrating Technological, Market and Organizational Change, 7th ed. (2020), (including e-learning material), or previous editions. Lecture notes and other material announced in the beginning of the course.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	6 cr
Course Completion	-----	6 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	6 cr
Course Completion	-----	6 cr

## CS34A0551 Business Idea Development

CS34A0551 Business Idea Development

Curriculum period

2024-2025



Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Suvi Konsti-Laakso, Responsible teacher
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lahti

### Learning outcomes

**EN:** In this course, business idea development is explored from theoretical viewpoint as well as from practical viewpoint. Student can explain and analyze key theoretical approaches associated to business idea development. The student learns to identify, develop and assess future-oriented business opportunities and ideas. The student can use different systematical tools and techniques related to business idea development.

### Content

**EN:** Entrepreneurial process, opportunity theories, opportunity sources. Entrepreneurial innovation, innovativeness and creativity. Systematic idea generation and idea generation techniques.

### Additional information

**EN:** The course is related to UNs Sustainable Development Goals (SDG) 9 industry, innovation and infrastructure.

### Study materials

**EN:** Study materials will be articles, lecture slides, videos and reports. They will be available in Moodle.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 2. period	6 cr
Course Completion		6 cr
<b>Method 2</b>	Recurrence 1: 2. period	6 cr
Course Completion		6 cr

## CS30A1620 Artificial Inventiveness

### CS30A1620 Artificial Inventiveness

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	1 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT

Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Leonid Chechurin, Responsible teacher Anastasia Chakir, Responsible teacher Armi Rissanen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### **Tweet text**

**EN:** Full digi / 100 % verkossa

### **Equivalences to other studies**

CS30A1641 Inventive Product Design and Advanced TRIZ

or

CS30A7390SS Inventive Product Design and Advanced TRIZ

or

CS30A7380SS Systematic Creativity - TRIZ Basics

or

CS30A7381SS Systematic Creativity - TRIZ Basics Online

or

CS30A7391SS Inventive Product Design and Advanced TRIZ Online

### **Learning outcomes**

**EN:** Upon successful completion of the course the learner is expected to be able to:

- Identify inventive problems in the complex process of product development
- Apply several tools for systematic idea generation (Function modelling, Ideal final result, Function-oriented search, Contradictions analysis)
- Act step-by-step when creative and out-of-box ideas are needed

### **Content**

**EN:** It is an online course for all interested in creativity, in systematic tools of ideation. The modules contain basic TRIZ (Theory for Inventive Problem Solving) tools for idea generation.

Have you ever thought why it is hard to find a new idea sometimes? How to analyze the situation where you need an out of box solution? How to deliver systematically the list of concepts to improve a product or a service?

This self-paced course includes the following modules:

1. Introduction
2. Function Definition
3. Ideal Final Result
4. Function-oriented Search
5. Contradictions

This course is a brief introduction to creativity and idea generation with elements of theory, everyday life examples and tests for self-check. If you want to dive deeper into TRIZ and tools for idea generation, we would be happy to invite you to instructor-paced Inventive Product Design and Advanced TRIZ course.

### **Study materials**

**EN:** Course videos are available on [CEPHEI platform](#) (remember to submit your certificate in Moodle)

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-SummerSummer	1 cr
Course Completion		1 cr

## CS30A0010 Technology and innovation management: introductory course

### CS30A0010 Technology and innovation management: introductory course

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Ville Ojanen, Responsible teacher Armi Rissanen, Administrative person Gülfem Özmen, Responsible teacher
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: Lappeenranta

#### Equivalences (free text field)

**EN:** Not allowed to include in the same degree as **CS30A1341 Strategic Technology and Innovation Management** (which was provided last time in 2021-22).

#### Learning outcomes

**EN:** Student will be able to

- identify and understand the main innovation and technology management concepts and their linkages to innovation process, innovation and technology strategy and innovative organization
- analyze and design technology and innovation strategy of a company
- analyze the usability of various methods of innovation and technology management

#### Content

**EN:** Innovation as a core business process. Innovative organisation. Development of technology and innovation strategy. Innovation networks. Decision-making in technological and market uncertainty. Creation of new products and services. Innovation performance and learning. Sustainability and innovation.

#### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG):  
4 quality education

8 decent work and economic growth

9 industry, innovation and infrastructure

#### Study materials

**EN:** Joe Tidd and John Bessant. *Managing Innovation – Integrating Technological, Market and Organizational Change*, 7th ed. (2020), (including e-learning material), or previous editions. Online material.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period	3 cr
Course Completion		3 cr
<b>Method 2</b>	Recurrence 1: 1. period	3 cr
Course Completion		3 cr

## CT80A0000 Data-Intensive Systems

### CT80A0000 Data-Intensive Systems

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Jiri Musto, Responsible teacher
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

#### Tweet text

**EN:** Location: Lappeenranta

#### Prerequisites

**EN:** Recommended: Web Applications or equivalent, Distributed Systems or equivalent, Introduction to Databases or equivalent.

Required: CT60A4320 - Intro to database

For Master's students only

#### Compulsory prerequisites

CT60A4304 Basics of database systems

or

CT30A3401 Distributed Systems

or

CT60A0203 Fundamentals of Programming

#### Learning outcomes

**EN:** At the end of the course students are able to:

1. Analyze and identify the main challenges of complex distributed data-intensive software systems such as e-commerce platforms eg. Amazon.
2. Apply concepts and principles of distributed databases systems.
3. Design a distributed, scalable, and reliably performing data-intensive systems such as e-commerce platforms eg. Amazon.
4. Develop a prototype of a distributed, scalable, and reliably performing data-intensive system.
5. Demonstrate the ability to work in a team to realize a working design.
6. Demonstrate professional communication skills through project presentation and reporting.

## Content

**EN:** Introduction to distributed database systems, distributed database applications, databases systems and internet, distributed data storage and retrieval, data scalability, performance, data warehousing and data mining from the perspective of value creation and communication in distributed systems, advanced topics in databases such as security, authorization, modeling and programming for semi-structured data, secondary storage management, query execution, cloud computing.

## Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG):  
9 industry, innovation and infrastructure

## Study materials

**EN:** 1) M. Tamer Özsu, Patrick Valduriez, Principals of Distributed Database Management Systems. 3rd Edition, Springer ISBN 978-1-4419-8833-1

2) Hector Garcia-Molina, Jeffrey D. Ullman and Jennifer Widom: Database Systems :The Complete Book, Pearson Prentice Hall 2nd Edition, 2009

3)Tanenbaum and M. Van Steen: Distributed Systems, Principles and paradigms, Pearson Education 2007

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## CS30A1372 Creative Design and Problem Solving

### CS30A1372 Creative Design and Problem Solving

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Andrzej Kraslawski, Responsible teacher
Study level	Advanced studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

## Tweet text

**EN:** Location: Lappeenranta

## Prerequisites

**EN:** Basic courses of management. Basic knowledge of engineering disciplines, e.g. mechanical electrical, chemical.

## Learning outcomes

**EN:** Learning outcomes: After fulfilling all requirements of the course, the students will be able to: 1. Understand the principles of creative problem solving 2. Know the basic methods of creative design 3. Work

in team during the design process 4. Apply methods of creative design to products, processes, services and business methods

### Content

**EN:** The major subjects of the course are: Critical Reasoning: - Socratic Questions, - Dunker Diagram, - Kepner-Tregore Method; Major Steps in Problem Solving; Types of Problems; Survey of Intuitive and Structured Methods of Creativity Enhancement: - Brainstorming, - Checklists, - Morphological Analysis, - Case-based Reasoning, - TRIZ; Selection of Ideas

### Study materials

**EN:** Course slides. Tony Proctor Creative problem solving for managers Routledge, 3rd edition, 2009. H. Scott Fogler and Steven E. LeBlanc Strategies for Creative Problem Solving Prentice Hall, 3rd edition, 2013. David Silverstein, Philip Samuel, Neil DeCarlo The Innovator's Toolkit: 50+ Techniques for Predictable and Sustainable Organic Growth Wiley, 2009. Alexander Osterwalder and Yves Pigneur Business Model Generation Osterwalder and Pigneur, 2010

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	6 cr
Course Assessment		6 cr
Course Enrolment		0 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	6 cr
Course Assessment		6 cr
Course Enrolment		0 cr

## CS39A0220 Accessibility design and management for people with disabilities

### CS39A0220 Accessibility design and management for people with disabilities

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Lobna Hassan, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Learning outcomes

**EN:** The aim in this course is to

1. Draw on disability studies and introduce the students to what disability is (visual, auditory, motor, mobility, and cognitive disability as well as neurodiversity) and how it impacts the life of each disability group
2. Develop the students' capacities in how to work with people with disabilities
3. Introduce the students to some of the common approaches to accessibility and universal design
4. Develop the student's capacity to critically reflect on society and social practices when it comes to inclusion and disability.

## Content

**EN:** Approximately 1 billion people in the world live with some form of disability. This number is only expected to grow due to factors such as aging, natural disasters, and wars. While the term "disability" can be controversial, it's important to acknowledge that no one has perfect abilities or senses all the time. Neurodiversity and emotional disabilities, such as depression and ADHD, also affect a significant portion of society. Disability affects people differently, but it is a common experience that many of us face to varying degrees. It is crucial to understand disability, how to interact with people who have it, and how to promote inclusiveness.

Technology is deeply ingrained in our society, affecting nearly every aspect of our lives, from banking to healthcare. However, technology is not always accessible to people with disabilities. Touch screens can be challenging for those with motor disabilities, some offices are not equipped for wheelchairs, and information systems can be inaccessible to those with low vision. It is important to ensure that people with disabilities have equal access to technology and are included in society as citizens, employees, entrepreneurs, and caregivers.

The concept of accessibility, universal design, and design for all refers to designing technology in a way that is usable with minimal effort. Ensuring accessibility is both a moral obligation and an opportunity to improve design practices. The purpose of this course is to educate students on disability, how it impacts different groups, how to interact with people with disabilities, common approaches to accessibility, and to encourage critical reflection on society's practices surrounding inclusion and disability.

## Additional information

**EN:** This course is related to UN's SDG goals 3 good health and wellbeing, 10 reduced inequalities 10 reduced inequalities, 11 sustainable cities and communities, 12 responsible consumption and production, and 16 peace, justice, and strong institutions

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	3 cr
Course Completion		3 cr

## CS30A0810 Must-Have Math for Decision Makers

### CS30A0810 Must-Have Math for Decision Makers

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Leonid Chechurin, Responsible teacher Viktor Dodonov, Responsible teacher Anna Kruzenshtern, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

## Tweet text

**EN:** Location: Moodle

## Learning outcomes

**EN:** After completing the course, students will be able to:

- perform basic operations over mathematical objects and operators: matrix, polynomial, derivative, integral, equation/inequation, differential equations, mean/variance, regression, etc.
- know basic optimization strategies
- code/operate the above mentioned in MATLAB and/or Python

### Content

**EN:** Basics of linear algebra, probability theory, functional series, Laplace transform, differential equations, stability and optimization, programming in MATLAB-Simulink and Python

### Study materials

**EN:** Course materials are given in Moodle together with lectures, quizzes, assignments, additional materials.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-4. period	3 cr
Participation in teaching		3 cr

## CS30A0820 The Dark Side of Sustainability

### CS30A0820 The Dark Side of Sustainability

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Industrial Engineering and Management 100%
Responsible persons	Armi Rissanen, Administrative person Deniz Turkcu, Responsible teacher Nina Tura, Responsible teacher
Study level	Other studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Learning outcomes

**EN:** The aim of the course is to familiarize students with the discussions on the negative consequences of sustainability initiatives. Through its content, the course aims to enhance students' comprehension of how efforts towards sustainability within both corporate and governmental spheres can inadvertently lead to unwanted outcomes. Despite often being depicted as mutually beneficial solutions for addressing sustainability challenges, these efforts may contribute to environmental, social, and economic harm within organizations and systems and impede broader transitions towards sustainability. After taking the course, students should be able to:

-Gain insight into how sustainability efforts can result in unsustainable outcomes

-Acquire skills to critically evaluate sustainability initiatives

-Develop strategies to address potential negative consequences of sustainability efforts

- Learn key concepts and academic theories related to the “dark side of sustainability” topics

- Apply learned concepts and theories to real-life case studies across various sectors, facilitating practical understanding and application



## Content

**EN:** Main aim of the course is to help students learn and understand the unintended negative consequences of sustainability initiatives and familiarize students with the emerging concepts and frameworks related to the dark side of sustainability literature. Students will learn to analyze the actions of different actors that may result in the mentioned unintended consequences as well as how to prevent and mitigate them. The course aims to enhance the development of students' critical thinking, collaboration, communication, reporting, strategic action, case study analysis and systems thinking skills to be used in future decision-making.

## Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDGs): 12 Responsible Consumption and Production, 13 Climate Action, 9 Industry, Innovation and Infrastructure, 11 Sustainable Cities and Communities, 8 Decent work and Economic Growth, 10 Reduce Inequality within and among Countries

## Study materials

**EN:** Case studies, academic articles, reports, videos and online lectures

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	3 cr
Participation in teaching		3 cr

## K200CE69 Finnish 1

### K200CE69 Finnish 1

Abbreviation: K200CE69

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Elina Niskanen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

## Prerequisites

**EN:** Details available in Completion methods under the header Teaching

## Learning outcomes

**EN:** The student is able to - identify and use the course vocabulary and phrases for common everyday situations - tell about oneself and understand basic questions - read and write simple sentences related to the course topics.

**Additional information****EN:****Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**K200CE70 Finnish 2****K200CE70 Finnish 2**

Abbreviation: K200CE70

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Elina Niskanen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Learning outcomes****EN:** The student is able to - communicate in most common everyday situations - understand slowly and clearly spoken Finnish when the topic and the vocabulary are familiar - understand and write a simple message or text - use the basic vocabulary and some grammatical structures of Finnish.**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**K200CH62 Finnish 3****K200CH62 Finnish 3**

Abbreviation: K200CH62

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Tarja Saarnisto, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**K200CH63 Finnish 4****K200CH63 Finnish 4**

Abbreviation: K200CH63

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Tarja Saarnisto, Responsible teacher
Study level	Basic studies

Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▣LAB/LUT: Course Completion	-----	3 cr

**K200CL50 Finnish for Work 1****K200CL50 Finnish for Work 1**

Abbreviation: K200CL50

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		5 cr
▫LAB/LUT: Course Completion	-----	5 cr

## K200CP86 Finnish for Work 3

### K200CP86 Finnish for Work 3

Abbreviation: K200CP86

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** Proficiency level B1 The students will be able to - communicate in informal and formal discussions at work - communicate in customer service and complaint situations - compose work-related e-mail messages.

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		5 cr
▫LAB/LUT: Course Completion	-----	5 cr

## KM00CO04 Finnish Culture and Society

### KM00CO04 Finnish Culture and Society

Abbreviation: KM00CO04

Curriculum period	2024-2025
Validity period	since 1 Aug 2024

Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Jaana Häkli, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** The student is able to - work and live in Finland or with the Finns without major cultural conflicts. - use the basic information on Finnish history, society, design, welfare state, identity and nature etc. to understand values, customs and habits in Finland. - get deeper cultural experiences in Finland through functional and experiential activities and visits related to Finnish culture.

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## K200CU41 Suomi with Love 1

### K200CU41 Suomi with Love 1

Abbreviation: K200CU41

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sanna Paunonen, Responsible teacher
Study level	Basic studies

Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** The student is able to - identify and use the course vocabulary and phrases for common everyday situations - tell about oneself and understand basic questions - read and write simple sentences related to the course topics. Proficiency level: A1

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion		3 cr

## KE00BZ84 English for Professional Development (Business)

**KE00BZ84** English for Professional Development (Business)

Abbreviation: KE00BZ84

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Tessa Laba, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** Proficiency level: B2 Students are able to communicate clearly and effectively in different generic and field-specific work place situations both orally and in writing; find, evaluate and use information effectively and function collaboratively in international working environments.

**Additional information**

**EN:**

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		4 cr
LAB/LUT: Course Completion		4 cr

**KE00BZ85 English for Professional Development (Technology)**

**KE00BZ85 English for Professional Development (Technology)**

Abbreviation: KE00BZ85

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible persons	Hwei-Ming Boey, Responsible teacher Olesya Kullberg, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** Proficiency level: B2 Students are able to communicate clearly and effectively in different generic and field-specific work place situations both orally and in writing; find, evaluate and use information effectively and function collaboratively in international working environments

**Additional information**

**EN:**



**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		4 cr
▫LAB/LUT: Course Completion	-----	4 cr

**KE00BZ83 English for Professional Development (ESTIEM)****KE00BZ83 English for Professional Development (ESTIEM)**

Abbreviation: KE00BZ83

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Ritva Kosonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** Proficiency level: B2 Students are able to communicate clearly and effectively in different generic and field-specific work place situations both orally and in writing; find, evaluate and use information effectively and function collaboratively in international working environments.

**Additional information**

**EN:**

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		4 cr
▫LAB/LUT: Course Completion	-----	4 cr

## KE00CG81 Business Writing

### KE00CG81 Business Writing

Abbreviation: KE00CG81

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Anneli Rinnevali, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

#### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

#### Learning outcomes

**EN:** Proficiency level: B2 The student is able to: - interpret business transaction documents - use field-specific business terminology and style of writing - prepare clear and accurate business messages in correct English - prepare explicit and effective texts for use within and outside the organization, and to meet the communicative needs.

#### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▣LAB/LUT: Course Completion	-----	3 cr

## KE00BZ81 Academic Writing

### KE00BZ81 Academic Writing

Abbreviation: KE00BZ81

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT

Responsible organisation	LAB, language 100%
Responsible person	Anneli Rinnevali, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** Proficiency level: B2-C1 Students are able to identify the characteristics of academic writing to demonstrate their proficiency in applying academic writing conventions, both generic and discipline-specific, to their writing to demonstrate their ability to critical thinking and analysis to demonstrate ability in collaborative situations to produce a 6-page academic paper in pairs or in groups of three

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion	-----	3 cr

## KE00CG33 Writing for Digital Media

### KE00CG33 Writing for Digital Media

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Hamid Guedra, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		4 cr
▫LAB/LUT: Course Completion	-----	4 cr

**KE00CQ38 Introduction to Copywriting****KE00CQ38 Introduction to Copywriting**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	2 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Vesa Koskela, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

Completion method and assessment items	Recurrence	Credits
Method 1		2 cr
▫LAB/LUT: Course Completion	-----	2 cr

**KE00CG79 Professional Reading****KE00CG79 Professional Reading**

Abbreviation: KE00CG79

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%

Responsible person	Tessa Laba, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** Proficiency level: B2 Students are able to - comprehend, analyze and summarize authentic professional texts in English - learn and master strategies for expanding professional vocabulary - use strategies for effective reading.

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion	-----	3 cr

## KE00CQ81 Effective Presentations

### KE00CQ81 Effective Presentations

Abbreviation: KE00CQ81

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	2 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Riitta Gröhn, Responsible teacher
Study level	Basic studies

Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** Proficiency level: B2 Students are able to - plan, prepare and execute a persuasive and engaging presentation - use intonation and stress to amplify their message - use various delivery techniques such as pacing, chunking and repetition - design and use visual materials effectively in their presentation.

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		2 cr
▣LAB/LUT: Course Completion	-----	2 cr

## KE00BZ82 Professional Meetings and Discussions

### KE00BZ82 Professional Meetings and Discussions

Abbreviation: KE00BZ82

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Hwei-Ming Boey, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

**Additional information****EN:****Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		4 cr
▫LAB/LUT: Course Completion	-----	4 cr

**KE00BX35 English Pronunciation****KE00BX35 English Pronunciation**

Abbreviation: KE00BX35

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	1 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Samu Lattu, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Learning outcomes****EN:** Students understand various English dialects and know about their special features. Students are able to pronounce English clearly**Additional information****EN:****Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		1 cr
▫LAB/LUT: Course Completion	-----	1 cr

**KE00CC64 English Prep Course****KE00CC64 English Prep Course**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Anneli Rinnevalli, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Additional information**

**EN:** Note. The course is not accepted in LUT university's degrees' compulsory language studies. It can however be included in free elective studies.

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▣LAB/LUT: Course Completion	-----	3 cr

**KD00CH39 German 1****KD00CH39 Saksa 1**

Abbreviation: KD00CH39

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies



Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** The students will - understand slow and clear speech related to course topics - are able to communicate orally and in writing in simple everyday situations, such as introductions, telling about oneself and reacting e.g. in dining situations - are able to use the most frequent basic structures CEFR level A1

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion		3 cr

## KD00CH40 German 2

### KD00CH40 Saksa 2

Abbreviation: KD00CH40

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** The students will - understand slow and clear speech related to course topics - are able to communicate orally and in writing in simple everyday situations, such as telling about the family, free time and health - are able to use the most frequent basic structures. CEFR level A1

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion		3 cr

**KD00CH41 German 3****KD00CH41 Saksa 3**

Abbreviation: KD00CH41

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** The students will - understand clear speech related to course topics - are able to communicate orally and in writing in simple everyday situations, such as telling about the home, work and past events - are able to use the most frequent basic structures CEFR level A1

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KD00CH42 German for Work 1

### KD00CH42 Työelämän saksaa 1

Abbreviation: KD00CH42

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** The students will - understand speech and texts related to occupations, work and job search - are able to tell about themselves and their skills - are able communicate in basic situations related to job search  
CEFR level A2

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KD00CT54 German for Work 3

### KD00CT54 Työelämän saksaa 3

Abbreviation: KD00CT54

Curriculum period	2024-2025
Validity period	since 1 Aug 2024

Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Other studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** The student is able to communicate in oral interaction situations at the workplace related to e.g. company visits. The student is able to compose work-related emails. The student knows the key features of German working life.

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KD00BX51 Business German

### KD00BX51 Wirtschaftsdeutsch

Abbreviation: KD00BX51

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies

Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** Proficiency level: B1 The student is able to tell in German about a company, its activities and corporate finances

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KD00CZ29 Speaking Skills in German

**KD00CZ29** Saksan suullinen kielitaito

Abbreviation: KD00CZ29

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	German
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Pirjo Rantonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Social sciences

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KF00CH30 French 1

KF00CH30 Ranska 1

Abbreviation: KF00CH30

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	French
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** After completing the course, the student - is able to use the basic structures and vocabulary necessary for work and study life introductory situations - can present oneself and tell about oneself orally and in writing. - knows the basic rules of pronunciation - knows the basic differences between formal and informal communication - is able to ask questions and express preferences. - knows the basic structures: verbs' present tense, articles, prepositions of place, prepositions à ja de, personal pronouns, structure expressing ownership, prohibition, questions, numbers 0-69. Proficiency level: A1

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**KF00CH31 French 2****KF00CH31 Ranska 2**

Abbreviation: KF00CH31

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	French
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Learning outcomes**

**EN:** After completing the course, the student - is able to use the basic structures and vocabulary necessary in work and study life situations, and to tell about his/her use of time and daily routines. - Communicate in travel situations, - tell about working / study day routines - tell time, announce plans - communicate by phone and email. - knows the basic structures: articles, question words, demonstrative adjectives and pronouns, prepositions à, de, en, present tense, reflexive verbs, near future, numbers 70-1000. Proficiency level: A1

**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**KF00CH32 French 3****KF00CH32 Ranska 3**

Abbreviation: KF00CH32

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	French
Grading scale	General scale, 0-5

University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** After completing the course, the student - is able to use the basic structures and vocabulary needed in work and study life situations - can tell about eating habits and order in a restaurant - is able to tell about past events, describe the appearance of people and things and compare things, - knows the difference between the formal and informal communication - knows the structures: articles, adjectives, comparison of adjectives, prepositions, personal pronouns, present, passé composé, partitive, quantitative expressions, numerals 1000 -, ordinal numbers Proficiency level: A1

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KF00CG43 French for Work 1

### KF00CG43 Työelämän ranskaa 1

Abbreviation: KF00CG43

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	French
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies



Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** After the course the student - is able to use the structures and the vocabulary needed in working interaction situations - tell about the jobs and about the working environment - is able to present the basic activities of an enterprise and describe the activities of an organization - can write formal messages - can write a CV - knows how to tell about the future and past events - knows the structures: the pronouns, the present, the imperfect tense and the future form. Proficiency level: A2

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▣LAB/LUT: Course Completion	-----	3 cr

## KF00CG44 French for Work 2

### KF00CG44 Työelämän ranskaa 2

Abbreviation: KF00CG44

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	French
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** After completing the course, the student - is able to use the structures and vocabulary necessary in the most important communication situations of working life, mainly written. - is able to present optionally e.g. company / organization and products, give an elevator speech, tell about entrepreneurship, write a memo. - is able to use subjunctive and conditional Proficiency level: A2

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion		3 cr

**KP00CK94 Spanish 1****KP00CK94 Espanja 1**

Abbreviation: KP00CK94

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Spanish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** After the course the student is able to - use the structures and the vocabulary needed while presenting oneself in working and studying situations - can present himself and tell about himself in spoken and written way - knows the basic rules of pronunciation - knows the basic differences of the formal and the informal communication - is able to ask questions and tell opinions. - knows the basic structures: the Present Tense, the articles, the prepositions, the personal pronouns, the structures that indicates the possession, the negation, the interrogative sentence, the numbers 0-100 Proficiency level: A1

**Additional information**

**EN:**

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**KP00CH26 Spanish 2****KP00CH26 Espanja 2**

Abbreviation: KP00CH26

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Spanish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** After the course the student - is able to use the structures and the vocabulary needed in working, studying and leisure everyday situations - tell about his/her daily routines (about the family, describing persons, the hobbies, going to the restaurant and shopping, writing an e-mail message) - knows the basic structures: articles, questions words, demonstrative adjectives and pronouns, prepositions, the Present Tense, The Perfect Tense, The near Future, the numbers 100-1000 Proficiency level: A1

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**KP00CH27 Spanish 3****KP00CH27 Espanja 3**

Abbreviation: KP00CH27

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Spanish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites****EN:** Details available in Completion methods under the header Teaching**Learning outcomes**

**EN:** After the course the student - is able to use tell about the living, to describe the appearance of persons and things, to compare things - can tell about the past events - knows the structures: adjectives, the comparison, the direct and indirect object pronouns, the reflexive verbs, the gerund, the numbers 1000 -, the ordinary numbers Proficiency level: A1

**Study materials****EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

**KP00BX61 Spanish for Working Life 1****KP00BX61 Työelämän espanjaa 1**

Abbreviation: KP00BX61

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT

Responsible organisation	LAB, language 100%
Responsible person	Jonna Holkeri, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** After the course the student - is able to use the structures and the vocabulary needed in working interaction situations - tell about the jobs and about the working environment and present the basic activities of an enterprise - can write formal messages - can write a CV - knows how to tell about the future and past events - knows the structures: the pronouns, the present tense, the imperfect tenses, the future, the polite requests (the imperative) Proficiency level: A2

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KP00BX62 Spanish for Working Life 2

KP00BX62 Työelämän espanjaa 2

Abbreviation: KP00BX62

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Sari Pärssinen, Responsible teacher
Study level	Basic studies

Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences
-------------	---

### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

### Learning outcomes

**EN:** After completing the course, student - is able to communicate mainly written in Spanish in basic business situations and understand the business culture of the Spanish speaking countries. - is able to tell according to choice about, business culture, business communication, meetings, banking, applying for a job in the Spanish speaking world. - is able to use conditional, subjunctive and future. Proficiency level: A2

### Additional information

**EN:**

### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion		3 cr

## KC00CQ66 Basic Chinese 1

### KC00CQ66 Basic Chinese 1

Abbreviation: KC00CQ66

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	Chinese
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Ritva Kosonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** The students are able to

- Achieve a Chinese proficiency of New HSK Level 1;
- Master the basic pronunciation rules, vocabulary and grammar of Chinese as well as basic information about Chinese characters;
- Acquire preliminary listening, speaking, reading and writing skills;
- Make simple conversations about everyday topics in Chinese.
- Handle some of the communication tasks when they travel to China;
- Analyze and evaluate cultural representations in historical and disciplinary contexts, with the understanding that standards of evaluation are themselves historically produced and contingent.
- Reach an upper elementary level in Chinese proficiency, which is approximately equivalent to Level A1 in the Common European Framework of Reference for Languages.

**Additional information**

**EN:** Lectured first time in academic year 2022-2023

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		5 cr
LAB/LUT: Course Completion		5 cr

**KC00CQ68 Intermediate Chinese 1****KC00CQ68 Intermediate Chinese 1**

Abbreviation: KC00CQ68

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	Chinese
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible persons	Ritva Kosonen, Responsible teacher
	⚠ [information missing], Responsible teacher
	⚠ [information missing], Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Social sciences
	Fields of education (Ministry of Education and Culture), Business, administration and law
	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)
	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** Upon completion of the course, students will be able to: • Pass the New HSK Level 4 test and prepare for Level 3; • Further improve listening, reading, speaking and writing skills; • Understand basic language materials that they encounter in their daily life, work and other common social occasions in Chinese without Pinyin and be able to write down sentences in Chinese characters; • Communicate and exchange ideas with others on familiar topics and to describe briefly basic situations relevant to these topics; • Reach an intermediate level in Chinese proficiency, which is approximately equivalent to Level B1 in the Common European Framework of Reference for Languages.

**Additional information**

**EN:** Lectured first time in academic year 2023-2024

**Study materials**

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
LAB/LUT: Course Completion	-----	3 cr

**KM00BX75 Each one teach one****KM00BX75 Each one teach one**

Abbreviation: KM00BX75

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Aria Kanerva, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

**Prerequisites**

**EN:** Details available in Completion methods under the header Teaching

**Learning outcomes**

**EN:** Proficiency level: any between A1-C2 Students learn a language of their choice together with a native speaker.

**Study materials**

**EN:** Details available in Completion methods under the header Teaching



Completion method and assessment items	Recurrence	Credits
Method 1		3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## KE00CH94 Diversity Management and Global Citizenship

### KE00CH94 Diversity Management and Global Citizenship

Abbreviation: KE00CH94

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Jaana Häkli, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Social sciences

#### Prerequisites

**EN:** Details available in Completion methods under the header Teaching

#### Learning outcomes

**EN:** The student is able to: - understand different concepts of diversity and inclusion in the workplace and their impact on organizations - understand cultural differences in management and leadership - recognize the benefits of managing diversity in organizations - lead diverse individuals and teams - understand global impacts of their own actions and the importance of a global mindset in today's world.

#### Study materials

**EN:** Details available in Completion methods under the header Teaching

Completion method and assessment items	Recurrence	Credits
Method 1		5 cr
▫LAB/LUT: Course Completion	-----	5 cr

## KE00CF69 Intercultural Competence and Communication

### KE00CF69 Intercultural Competence and Communication

Abbreviation: KE00CF69

Curriculum period	2024-2025
Validity period	since 1 Aug 2024

Credits	5 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LAB, language 100%
Responsible person	Derek Mitchell, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs) Fields of education (Ministry of Education and Culture), Social sciences

Completion method and assessment items	Recurrence	Credits
Method 1		5 cr
▫LAB/LUT: Course Completion		5 cr

## A380A0320 Applied Consumer Behaviour

### A380A0320 Applied Consumer Behaviour

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Jenni Sipilä, Responsible teacher Suvi Tiainen, Administrative person
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** Location: Lappeenranta

#### Prerequisites

**EN:** Basics of marketing (Markkinoinnin perusteet).

#### Learning outcomes

**EN:** After taking the course, the students are able to:

- Search and synthesize academic literature and theoretical frameworks pertaining to consumer behavior.
- Develop research questions and hypotheses based on academic literature on consumer behavior.
- Identify the most suitable research methods to address specific research questions related to consumer behavior.

- Collect and analyze qualitative and quantitative consumer data.
- Interpret the results of a research project and reflect on their academic and practical implications.
- Work effectively and systematically on a research project.
- Understand and apply the principles of academic writing to their own research reports.
- Present the results of a research project effectively to a professional audience.

### Content

**EN:** This course provides an overview of consumer behavior as a field of research and practical skills related to consumer data collection and analysis. During the course, students will learn different methods of collecting consumer data along with practical methods of analyzing this data and interpreting results. The key contents are:

The process of conducting a systematic literature review in the field of consumer behavior. Basics of critical reading and synthesis of academic literature. Key theoretical frameworks and their applications in the field of consumer behavior. The process of developing research questions and hypotheses pertaining to consumer behavior.

Basics of qualitative and quantitative research methods in the field of consumer behavior. The process of collecting and analyzing qualitative consumer data (interviews). The process of collecting and analyzing quantitative consumer data (experiments).

Basics of academic writing and reporting of research results. The process of working on a consumer research project as a team. The process of preparing and conducting a presentation of a consumer research project to a professional audience.

### Additional information

**EN:** The teaching is arranged in a blended format. The lectures take place in Lappeenranta and they are live-streamed and recorded. The seminars and final presentations require physical presence in Lappeenranta.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 12 responsible consumption and production.

### Study materials

**EN:** The reading and study materials will be distributed via Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A130A0620 Basics in MS Excel for Business Students

### A130A0620 Basics in MS Excel for Business Students

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%

Responsible persons	Sanna Heinänen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text****EN:** Location: full digi**Prerequisites****EN:** No preliminary studies required. Basic knowledge of MS Excel recommended.**Learning outcomes****EN:** By the end of the course, students are able to use and develop basic functions for data analysis relating to business studies and needs.**Content****EN:** The course is based on independent study and can be carried out any time during the academic year. During the course, students are learning the basics of MS Excel for business studies. The course includes self-learning videos and documents as well as web-based exercises. The topics include formatting, drawing graphs, basic mathematic formulas, lookup formulas and working with pivot tables and dashboard. The course does not require preliminary studies. The basic knowledge of MS Excel recommended.**Study materials****EN:** Course materials

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-Summer	3 cr
Course Completion		3 cr
<b>Method 2</b>	Recurrence 1: 1. period-Summer	3 cr
Course Completion		3 cr

**A380A0131 Business Relationships in International Value Networks****A380A0131 Business Relationships in International Value Networks**

Abbreviation: A300CE15

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Sirpa Multaharju, Responsible teacher Axel Zehendner, Responsible teacher Suvi Tiainen, Administrative person
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text****EN:** Location: full digi**Prerequisites****EN:** B.Sc. (Econ. ; Bus. Adm.) General studies**Learning outcomes****EN:** The aim of the course is to familiarize students with different business relationships in international value networks, management of relationships and networks, and characteristics of supplier relationships and collaborative networks.

Upon completion the course students are able to

- understand the main concepts and theoretical backgrounds of collaboration and networks
- analyze the benefits and challenges of relationships and networks
- define supplier relationships
- participate in the development of supplier supplier relationships.

**Content****EN:** - The concepts and theories of collaboration and networking

- The benefits and challenges of collaboration

- Management of collaboration and networks, and supplier relationship management

**Additional information****EN:** Course is available for following students:

- LUT Business School students
- exchange students in business studies
- LAB business degree students
- Engineering students with a minor in business studies

The course is organized two times in an academic year: period 2 and period 4.

Moodle-based online course.

**No contact teaching: so the course does not exist in TimeEdit /timetable)** The teacher contacts the students every week via Moodle messages.**NB!** After being accepted to the BRIVN course especially exchange students must make sure that they use LUT email and can receive Moodle messages, which is essential for completing the course.**Please be informed** that if you miss the deadline for enrolling a group for the case assignment in Moodle, you cannot continue the course. The enrolling period is one week from the beginning of the course.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 17 partnership for the goals.

**Study materials****EN:** Selection of journal articles and assigned readings, teaching videos and presentations.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period Recurrence 2: 4. period	6 cr
▫LAB/LUT: Course Completion		6 cr

**Method 2**

Recurrence 1: 2. period, 4. period

6 cr

▫LAB/LUT: Course Completion

6 cr

**A240A0010 Introduction to Programmatic Business Analytics****A240A0010 Introduction to Programmatic Business Analytics**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Jan Stoklasa, Responsible teacher Shahid Bhat, Responsible teacher Mostafa Goudarzi, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

**Tweet text****EN:** Location: Lappeenranta**Prerequisites****EN:** A130A0350 Kvantitatiiviset tutkimusmenetelmät (Quantitative Research Methods).**Learning outcomes****EN:** The course introduces business students to the core programming (i.e., Python or R) languages used in modern business analytics. Specifically, after completing the course, the student will:

1. Understand the big picture of how programmatic business analytics works from the start to the end, and understand the value of data analytics in facilitating evidence-based business decision-making.
2. Know how to implement a simple, but complete data analysis process with Python or R( for example):
  - a. Gather raw data from primary databases and secondary data sources such as websites (the basics of APIs and web scraping).
  - b. Clean and combine the raw data into an analyzable format (data wrangling/munging).
  - c. Run basic statistical analyses (e.g., linear regression) and visualize the analysis results.
  - d. Build basic predictive models for automated decision-making (i.e., an introduction to machine learning and its applications in business).

**Content****EN:** Basics of programming and algorithmic thinking in programming languages used in practical business analytics (Python or R), and their application in business analytics, including a recap on basic statistics (e.g., linear regression) and an introduction to machine learning algorithms. The focus is heavily on hands-on learning (i.e., actual programming) and on examining business-related problems with real world data.**Additional information****EN:** Full digi

Other additional information

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 4 quality education

### Study materials

**EN:** Lecture slides and other presented material.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A320A0011 Introduction to International Entrepreneurship

### A320A0011 Introduction to International Entrepreneurship

Abbreviation: IIE

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Ekaterina Albats, Responsible teacher Hannes Velt, Responsible teacher Tommi Rissanen, Responsible teacher Sanne Bor, Responsible teacher Suvi Tiainen, Administrative person
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** Recommended, but not required: A370A0001 Johtamisen ja yrittäjyyden perusteet; A370A0401 Case-Course of Business; A380A6050 Introduction to International Business and Planning; A130A0550 Introduction to Organizational Behavior

### Learning outcomes

**EN:** After completing the course, students will be able to:

1. describe the phenomenon of international entrepreneurship from theoretical and practical viewpoint
2. characterise entrepreneurial/startup culture
3. describe, evaluate and reproduce the process of international entrepreneurship (startup internationalisation process including opportunity recognition, innovation and value creation, value delivery and value capture/opportunity exploitation) in a variety of contexts
4. understand and assess challenges of international entrepreneurship in a variety of international contexts

5. evaluate, compare and select in a justified manner different internationalisation strategies for new ventures in a variety of contexts
6. demonstrate competences in using tools, primary and/or secondary data sources for strategic analysis and management of a new venture
7. able to create a business development plan and its presentation for a corporate audience with a focus on growth and internationalisation
8. discuss and self-reflect on the role of different personal skills and organisational capabilities in new venture creation and new venture management
9. collaborate in a cross-cultural team.

### Content

**EN:** Are you considering an entrepreneurial career, work in a small, agile and rapidly growing firm or do you want to develop entrepreneurial and intrapreneurial skills? In all these cases, this course is for you! Despite the rising popularity of entrepreneurship, several challenges await every start-up already at the stages of product/service development, proof of concept and prototyping. Furthermore, multiple managerial issues constantly emerge - dealing with limited resources and fierce competition, a need to build external relations being a small firm, a need in a constant change and agility along with a mission to grow rapidly and internationally. Large firms, as employers, in turn, seek for curious candidates with intrapreneurial mindset - self-motivated, proactive, and action-oriented people who take the initiative to pursue an innovative and international product, service or project.

The course is designed in a way that every student gets a chance to understand the fundamentals of international entrepreneurship, gets a deep dive into the challenges of a start-up using a case study and to develop and test own skills in solving the case specific challenge. The students form teams to solve a complex new venture challenge of their choice. The course encourages a combination of theoretical and practical approaches to building a comprehensive understanding of international entrepreneurship. In addition to a group work on challenge solution, the course also has two individual assignments: a self-reflection assignment and an individual essay-based electronic exam.

### Additional information

**EN:** Please note: the students who have taken A210A0702 New Venture Management cannot take this course. *The course is related to UN's Sustainable Development Goals (SDG): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 17 partnership for the goals*

### Study materials

#### EN:

- Main Textbook: Hisrich, R., Peters, M. and Shepherd, D. (2023) Entrepreneurship 12<sup>th</sup> Edition. McGrawHill.
- Lecture materials
- The additional reading materials from academic and business press articles (i.e., case and journal articles) will be distributed during the course.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course Completion		6 cr

## A380A7001 Introduction to International Business

### A380A7001 Introduction to International Business

Abbreviation: IIB

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr



Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Igor Laine, Responsible teacher Juha Väättänen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### **Tweet text**

**EN:** Location: Lappeenranta

### **Equivalences to other studies**

CS10A0262 International Business Essentials

### **Learning outcomes**

**EN:** After successful completion of the course, students should be able to:

1. understand the notion and key concepts of international business
2. describe and discuss major theories of international business
3. identify and evaluate strategy and competitiveness in international business
4. understand and justify major decisions in international business, including decisions on market selection and entry modes
5. discuss challenges of managing multinational enterprises

### **Content**

**EN:** International business theories. International competitiveness. Regional economic integration. International business strategy. Market selection and entry modes in international business. Managing multinational enterprise. International Entrepreneurship.

### **Additional information**

**EN:** Contact teaching at the Lappeenranta campus. In case of reaching the maximum number of spots in the course, priority will be given to students of LBS.

\*\*\*

The course is related to UN's Sustainable Development Goals (SDG): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 12 responsible consumption and production, 16 peace, justice and strong institutions, 17 partnership for the goals

### **Study materials**

**EN:** Cavusgil S.T., Knight G., Reisenberger J., 2024, International Business: The New Realities (6th edition), Harlow, UK: Pearson Education Ltd.

Hollensen S. 2020 Global Marketing (8th edition), Harlow, UK: Pearson Education Ltd.

Additional materials will be announced in class and in Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	6 cr
Course Completion		6 cr

## A130A0670 Mathematics for Economics

### A130A0670 Mathematics for Economics

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Olli-Pekka Hämäläinen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Learning outcomes

**EN:** After taking the course, the students should be able to:

- Estimate elemental probabilities
- Solve basic equations (polynomial, exponential, logarithmic)
- Analyze the behavior of elemental functions using equations and differential & integral calculus
- Perform basic matrix calculations and solve systems of linear equations using matrices
- Model and analyze cost, revenue and profit with functions
- Solve simple 2-variable linear optimization problems
- Understand arithmetic and geometric series & their connection with loan and investment calculations as well as perform these calculations using different interest rates.

### Content

**EN:** Probability theory, equation solving, functions and function behavior analysis, differentiation, integration. Linear algebra, matrix calculations, Gaussian elimination. Functions in business (cost, revenue, profit), financial applications of differential and integral calculus, graphical method of linear optimization. Arithmetic and geometric series, loan and investing calculations.

### Additional information

**EN:** Course is only available for students who are studying in Bachelor's Programme in Sustainable International Business.

### Study materials

**EN:** Lecture materials in Moodle.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	6 cr
Course completion		6 cr

## A250A0620 Fundamentals of Accounting and Finance

### A250A0620 Fundamentals of Accounting and Finance

Curriculum period	2024-2025
-------------------	-----------

Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Henri Huovinen, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Location: Online

### Learning outcomes

**EN:** Upon completing this course, students will achieve the following learning outcomes:

- Establish a solid foundation in financial and management accounting, complemented by an introduction to corporate finance principles.
- Grasp critical concepts including financial statement analysis, cost accounting, and the fundamentals of budgeting.
- Delve into key areas of corporate finance, gaining insights into its essential components.
- Enhance their ability to analyze financial information with precision and confidence.
- Equip themselves with the knowledge to make well-informed preliminary financial decisions.
- Understand and value the significant impact of finance on the development and execution of effective business strategies.

### Content

**EN:** The course structure comprises the following topics: basic principles of financial and management accounting concepts; structure and analysis of financial statements; basics of cost accounting and budgeting; fundamentals of corporate finance; valuation of future cash flows; payout policy and capital structure; concepts of risk and return; short-term finance and working capital management; and cost of capital and long-term financial policy.

### Study materials

**EN:** Lecture notes and recommended literature.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course completion		6 cr

## A380A7010 Principles of Management and Leadership

### A380A7010 Principles of Management and Leadership

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English

Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Responsible persons	Kirsimarja Blomqvist, Responsible teacher Kateryna Kryzhanivska, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Learning outcomes

**EN:** The course empowers students with the skills to make meaningful changes in the world by leading and managing organizations. Students will learn

1. to demonstrate an understanding of management functions: planning, organizing, leading, and controlling, as well as leadership styles,
2. to describe and apply concepts, theories, and practices relevant to exercising management and leadership in modern organizations,
3. to demonstrate ethical, sustainable, and socially responsible decision-making and management practices,
4. collectively map organizational management and leadership challenges, and
5. co-create solutions to manage these challenges effectively and efficiently.

### Content

**EN:** The course focuses on planning, organizing, leading, and controlling, management theories, managerial roles, and leadership styles. The topics are discussed in a global context, requiring an ethical and sustainable approach to management and leadership.

### Additional information

**EN:** The course is part of the UN's Sustainable Development Goals (SDG): 8,9 and 17.

### Study materials

#### EN:

- Kinicki, A., & Williams, B. K. (2022). Management: A practical introduction. McGraw-Hill.
- Lecture slides
- Additional materials are distributed in class and Moodle

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course completion		6 cr

## A380A0270 Introduction to International Marketing and Purchasing

### A380A0270 Introduction to International Marketing and Purchasing

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%

Responsible persons	Liisa-Maija Sainio, Responsible teacher Katrina Lintukangas, Responsible teacher Suvi Tiainen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** Opetuspaikka: Lappeenranta

### Learning outcomes

**EN:** The aim of the course is to develop students' capabilities and understanding of the basics and strategies of marketing and purchasing in an international context, including sustainability aspects. The students will gain an understanding of the connections between marketing and procurement in company operations and are able to analyze the characteristics of the international business environment and different cultures in marketing and procurement management.

After completing the course, students should be able to:

1. understand and apply knowledge to management of marketing and purchasing issues in international environment
2. analyze the characteristics of international and intercultural marketing and purchasing
3. design purchasing strategies and use marketing mix tools in international context
4. comprehend sustainability considerations in marketing and purchasing
5. collaborate in teams to facilitate communication, engage in discussions, and collectively reach group decisions

### Content

**EN:** Opportunities and challenges in international marketing and purchasing operations. The interconnect-edness of marketing and purchasing in a company's operations. Sustainability considerations in marketing and procurement management in international context. Marketing mix tools and purchasing strategy development tools.

### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG): responsible consumption and production

### Study materials

**EN:** Lecture materials, other course material will be announced in the beginning of the course.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	6 cr
Course completion		6 cr

## BM20A7102 Statistics II

### BM20A7102 Tilastomatematiikka II

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	Finnish
Grading scale	General scale, 0-5

University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Computational Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Tarja Pettinen, Administrative person Jarkko Suuronen, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** Required: Basic on Matlab programming, BM20A1401 Statistics I or equivalent knowledge.

### Compulsory prerequisites

BM20A8601 Statistics I

### Learning outcomes

**EN:** The student expands his/her knowledge statistical methods, is able to formulate models and apply these methods to various areas in technology, economics and science. The student is able to perform two-sample tests, analysis of variance, analyze time series data. The student understands multivariate distributions and knows basics of factor analysis.

### Content

**EN:** Statistical inference: distribution testing, hypothesis testing, two or multiple sample tests. Paired tests. Nonparametric tests. Basics of analysis of variance, time series analysis and multiple regression models. Introduction to nonlinear regression. Introduction to factor analysis.

### Study materials

**EN:** Anthony J. Hayter, "Probability and Statistics for Engineers and Scientists"

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 4. period	4 cr
Course Enrolment	-----	0 cr
Course Assessment	-----	4 cr
<b>Method 2</b>	Recurrence 1: 4. period	4 cr
Course Assessment, in English	-----	4 cr
Course Enrolment, in English	-----	0 cr

## BM20A8901 Primer to Numerical Programming

### BM20A8901 Primer to Numerical Programming

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Computational Engineering 100%

Responsible persons	Jonna Naukkarinen, Administrative person Tarja Pettinen, Administrative person Lassi Roininen, Responsible teacher Juho Virpiranta, Responsible teacher
Study level	Other studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

**Tweet text**

**EN:** Location: Lappeenranta, kokonaan verkossa / full digi

**Prerequisites**

**EN:** Basic university calculus required. Recommended first year university calculus necessarily including matrix calculus.

**Equivalences to other studies**

BM20A5002 Principles of Technical Computing

**Learning outcomes**

**EN:** Upon completion of the course students:

- get a good understanding of Matlab syntax and programming,
- gain fluency in principles of technical computing, converting tasks into basic algorithms
- are able to apply the skills to basic mathematical and engineering problems (the skills are applicable in big part to Octave and R programming, too).

**Content**

**EN:** Working with various data structures (multidimensional arrays, cell arrays, etc.) and variable types (numeric, logical, textual, etc.), Matlab symbolic functionality, conditional statements (if-else, switch-case), loops (for and while), using built-in functions, handling external data, 2-D and 3-D plotting, writing user-defined functions.

**Study materials**

**EN:** Lecture material available in Moodle (slides and videos), based partly on textbook: Gilat, A.: An Introduction to Matlab with Applications.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	4 cr
Course Completion	-----	4 cr

**BL10A0102 Basics of Electrical Engineering****BL10A0102 Basics of Electrical Engineering**

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	2 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Electrical Engineering 100%

Responsible persons	Minna Loikkanen, Administrative person Pia Lindh, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lappeenranta

### Prerequisites

**EN:** Not required.

### Learning outcomes

**EN:** Upon completion of the course the student will be able to list the most essential electric supply methods, solve simple DC and AC systems and understands how transformer and generator works. Student should be able to determine the most important end-uses of electricity, explain electricity price formation, identify applications of electrical engineering and understand their operation principles.

### Content

**EN:** The "Basics of Electrical Engineering" course provides a comprehensive understanding of the key concepts, principles, and applications of electrical engineering. The course introduces the basic calculation of electricity with the help of, for example, Ohm's and Kirchhoff's laws. In addition, students become familiar with electromagnetic phenomena, such as electric and magnetic fields, and their interaction. In addition, the course introduces electricity production methods and examines electricity consumption in different sectors, such as industry, services and housing. Students also learn about different types of electric drives, such as different motor types and power electronics. The course also provides an overview of the operation of the Finnish electricity transmission network and the related electricity market. This gives students a holistic view of the basics of electrical engineering and their practical applications.

### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG): 7 affordable and clean energy, 13 climate action, 15 life and land.

### Study materials

**EN:** Course material, e.g. lecture material is in the Moodle learning environment.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	2 cr
┆LUT/LAB: Course Completion	-----	2 cr
Method 2	Recurrence 1: 1. period-2. period	3 cr
┆LUT/LAB: Course Completion	-----	3 cr

## BH20A0720 Engineering Thermodynamics

### BH20A0720 Engineering Thermodynamics

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	6 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Energy Technology 100%



Responsible persons	Minna Loikkanen, Administrative person Srujal Shah, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lappeenranta, Lahti

### Learning outcomes

**EN:** After completing the course students are familiar with basic concepts in energy technology, such as temperature, state properties, systems and processes, control volume analysis, different forms of energy and fundamental laws of thermodynamics. Students are able to use different charts and tables to find thermodynamic properties of different substances. After completing the course students can formulate the equation for the conservation of energy for an open control volume. Students are able to calculate heat, work and entropy change in ideal gas compression. Students understand the working principle of a heat engine and importance of Carnot-efficiency as a limit for the theoretical maximum efficiency of any heat engine. Students can apply fundamental laws and equations of thermodynamics for studying different processes (especially related to energy and environmental technology). Students are able to calculate basic heating and air-conditioning processes. Students understand working principle of heat pump and refrigeration systems and can calculate operational values of such processes. Students understand working principle of different energy conversion processes and can solve simple internal combustion engine, gas turbine and steam power processes.

Completion of the course supports the development of the following generic competences for working life: mathematics and natural sciences, practical application of theories, working independently, problem solving, and time management and prioritizing tasks.

### Content

**EN:** Basic concepts: state, process, system. Thermodynamical properties, ideal and real gas laws. The first law of thermodynamics, concepts, energy, work, heat, internal energy. Expansion and compression work for isothermal, isentropic and polytropic processes. The second law of thermodynamics, Carnot-process, heat engines, isentropic efficiency. Thermoeconomics, exergy. Ideal gas mixtures, heating, ventilation and air-conditioning processes, refrigeration and heat pump systems, energy conversion processes: internal combustion engine, steam power plant, gas turbine process. Course includes Power-to-X themes.

### Additional information

#### EN: Note

Parallel to Course BH20A0750 Engineering Thermodynamics (in Finnish), common exams, mid-term exams and exercises, separate lectures.

The course is related to UN's Sustainable Development Goals (SDG): 7 Affordable and Clean Energy, 9 Industry, Innovation and Infrastructure, 11 Sustainable Cities and Communities, 13 Climate Action

### Study materials

**EN:** Online material on Moodle, 'Thermodynamic tables' handout, enthalpy and entropy chart for steam. The relevant parts of Moran, M.J. ; Shapiro, H.N.: Fundamentals of Engineering Thermodynamics, 5th ed. 2004 or later.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	6 cr
Course Enrolment	-----	0 cr
Course Assessment	-----	6 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	6 cr
Midterm-Exam 1	-----	0 cr

Midterm-Exam 2 .....	6 cr
Course Enrolment .....	0 cr

## BH10A1900 Fundamentals of Energy Technology

### BH10A1900 Fundamentals of Energy Technology

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	2 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Energy Technology 100%
Responsible persons	Minna Loikkanen, Administrative person Ahti Jaatinen-Värri, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: kokonaan verkossa / full digi

#### Learning outcomes

**EN:** Upon completion of the course a student 1. Understands the laws of thermodynamics and apply thermal properties, 2. understands the fundamentals of fluid mechanics and is able to solve typical problems, 3. Has understanding of the basics of heat transfer and is able to solve typical problems, 4. understands the different power generation technologies and is be able to calculate material and energy balances, and 5.

Independently study and follow progress of energy technology.

Completion of the course supports the development of the following generic competences for working life: know-how on own field, mathematics and natural sciences, practical application of theories, working independently,

#### Content

**EN:** Thermodynamics: basic concepts, thermodynamic properties, conservation equations, open system energy analysis, 1st and 2nd law of thermodynamics, thermodynamic cycles, Carnot efficiency, exergy.

Heat transfer: fundamentals, conduction, convection, heat exchangers, introduction to radiation.

Fluid Dynamics: hydrostatics, conservation of mass, linear momentum equation, Bernoulli equation, pipe flow.

Power plant engineering: Ideal and real Rankine cycles, gas turbine power cycle.

Bioenergy: Bioenergy in the world, biomass combustion, challenges in the biomass use, bioenergy in EU, future use of biomass.

#### Additional information

**EN:** The course is aimed for students who want to independently brush up their basic knowledge of subjects needed in Master's studies.

#### Study materials

**EN:** Course materials in Moodle.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-Summer	2 cr
Course Completion		2 cr
<b>Method 2</b>	Recurrence 1: 1. period-Summer	2 cr
Course Completion		2 cr

## BH60A7200 Circular.now

### BH60A7200 Circular.now

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Environmental Technology 100%
Responsible persons	Sanni Väisänen, Responsible teacher Annukka Ilves, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: Lappeenranta, Lahti, kokonaan verkossa / full digi

#### Learning outcomes

**EN:** After successfully completing the course, students are able to:

1. explain the targets of circular economy and understand possibilities to implement circular economy in different sectors,
2. understands capability of the selected products, production systems and services to fulfil the requirements of circular economy

#### Content

**EN:** Introduction to circular economy: circular economy aspects related to food systems, forest systems, product design, transportation sector and sharing economy.

#### Additional information

**EN:** \*\*\*The course is related to UN's Sustainable Development Goals (SDG):

7 affordable and clean energy, 9 industry, innovation and infrastructure, 11 sustainable cities and communities, 12 responsible consumption and production, 13 climate action.

**NOTE!** BH60A7200 Circular.Now and BH60A5401 Introduction to Circular Economy are alternative, both cannot be included in the degree!

Submitted tasks will be evaluated at the end of each period.

#### Study materials

**EN:** Circular.Now MOOC material in DigiCampus.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-Summer	3 cr
Course completion		3 cr
<b>Method 2</b>	Recurrence 1: 1. period-Summer	3 cr
Course completion		3 cr

## BH60A6801 Sustainable.now

### BH60A6801 Sustainable.now

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3-5 cr
Languages	English, Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Environmental Technology 100%
Responsible persons	Annukka Ilves, Administrative person Miika Marttila, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: full digi

#### Learning outcomes

**EN:** After successfully completing the course, students:

- 1) Understand the intersectional, partly contradictory, goals and interdimensionality of the climate challenge and the challenges of sustainable development.
- 2) Are familiar with the multidisciplinary links between climate change and different goals of sustainable development, and will identify different tools for solving problems.
- 3) Outline the importance of positivity and solution orientation both through the global responsibility of individuals and through the transformation of existing structures.

#### Content

**EN:** Sustainable.now is a basic course for anyone interested in sustainable development and climate change. The principles of sustainable development will be linked to the 1.5 degree climate target.

- Ecological sustainability
- Social sustainability
- Economic sustainability
- Cultural sustainability

The course provides a solid knowledge package on the concept of sustainable development and its ecological, social, economic and cultural dimensions, as well as the connections and tensions between them. The ethical perspective that runs through the course provides a basis for considering sustainable development also as a political and normative concept. The course also emphasizes the importance of agency and the different roles of the individual. Students will be given the opportunity to look at the sustainability of their own lifestyle in terms of individual choices, but on the other hand, sustainability and climate challenges will also be presented as a structural and systemic problem.

### Additional information

**EN:** The course is a part of Climate University – a multidisciplinary digital learning platform in sustainability challenges. The flexible study paths to the working life is a collaboration project of eleven Finnish universities.

The student can choose either 3 or 5 credits option upon the need.

The course is related to UN's Sustainable Development Goals (SDG):

- 1 no poverty
- 2 zero hunger
- 3 good health and well-being
- 4 quality education
- 5 gender equality
- 6 clean water and sanitation
- 7 affordable and clean energy
- 8 decent work and economic growth
- 9 industry, innovation and infrastructure
- 10 reduced inequalities
- 11 sustainable cities and communities
- 12 responsible consumption and production
- 13 climate action
- 14 life below water
- 15 life and land
- 16 peace, justice and strong institutions
- 17 partnership for the goals

### Study materials

**EN:** Material and Literature specified in MOODLE course overview.

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 2. period	6 cr
	Recurrence 2: 4. period	
Course Completion in English	-----	3 cr
Course completion in Finnish	-----	3 cr
<b>Method 2</b>	Recurrence 1: 2. period, 4. period	10 cr
Course completion in English	-----	5 cr
Course completion in Finnish	-----	5 cr
<b>Method 3</b>	Recurrence 1: 2. period, 4. period	3 cr
Course Completion in English	-----	3 cr
<b>Method 4</b>	Recurrence 1: 2. period, 4. period	5 cr
Course completion in English	-----	5 cr

## BH60A5401 Introduction to Circular Economy

### BH60A5401 Introduction to Circular Economy

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Environmental Technology 100%
Responsible persons	Sanni Väisänen, Responsible teacher Annukka Ilves, Administrative person Laura Lakanen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: Lappeenranta, Lahti, full digi

#### Learning outcomes

**EN:** After completing the course, students will be able to:

1. explain the targets of circular economy and understand possibilities to implement circular economy in different sectors,
2. analyze capability of the selected products, production systems and services to fulfil the requirements of circular economy,
3. implement assessments to reveal development needs of selected products, production systems and services to fulfill the requirements of circular economy, and
4. compare different alternative ways to work towards circular economy targets.

#### Content

**EN:** Introduction to circular economy: circular economy aspects related to food systems, forest systems, technical cycles, transportation sector and sharing economy.

#### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG): 7 affordable and clean energy, 9 industry, innovation and infrastructure, 11 sustainable cities and communities, 12 responsible consumption and production, 13 climate action

**NOTE!** BH60A7200 Circular.Now and BH60A5401 Introduction to Circular Economy are alternative, both cannot be included in the degree!

#### Study materials

**EN:** DigiCampus Circular.now

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	5 cr
Course completion	-----	5 cr

## LES10A020 Engineering Physics

### LES10A020 Engineering Physics

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Annikka Ilves, Administrative person Minna Loikkanen, Administrative person Aleksi Mankonen, Responsible teacher Paula Immonen, Responsible teacher Ayesha Sadiqa, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** Location: Lappeenranta and Lahti

#### Prerequisites

**EN:** High school level of Physics and Mathematics

#### Learning outcomes

**EN:** After successfully completing the course, students are able to:

1. approach physics problems in a systematic way, connecting physics phenomena to theory, using the SI system and evaluating accuracy.
2. solve simple qualitative and quantitative physics problems related to course contents.
3. communicate and collaborate with peers, verbalise physics knowledge in English, use educational technologies, and develop confidence as a university student.

#### Content

**EN:**

1. **Electricity and magnetism:** electrostatics, direct-current circuits, basics of magnetism, electromagnetic induction
2. **Thermal physics:** thermodynamic systems and quantities, thermal expansion and heat transfer, phase changes and ideal gas law, laws of thermodynamics, heat engines.
3. **Oscillations and waves:** periodic and circular motion, harmonic oscillation, harmonic waves, mechanical and electromagnetic waves.

#### Additional information

**EN:** The course is related to UN's Sustainable Development Goals (SDG): 4 quality education, 5 gender equality, 8 decent work and economic growth, 9 industry, innovation and infrastructure, 10 reduced inequalities, and 17 partnership for the goals.

#### Study materials

**EN:** Course textbooks (online), lecture notes, videos, online exercises.

#### Literature

Halliday, D., Resnick, R., & Walker, J. (2013). Fundamentals of physics. John Wiley & Sons.

Urone, P. P., & Hinrichs, R. (2012). College Physics (OpenStax).

Moebs, W., Ling, S. J., & Sanny, J. (2016). University Physics Volume 1. Rice University.

Ling, S. J., Sanny, J., Moebs, W., Friedman, G., Druger, S. D., Kolakowska, A., ... & Wheelock, K. (2016). University Physics Volume 2.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	3 cr
Course Completion		3 cr

## LES10A200 Engineering Mathematics I

### LES10A200 Engineering Mathematics I

Abbreviation: EMI

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Barkat Bhayo, Responsible teacher Annukka Ilves, Administrative person Minna Loikkanen, Administrative person
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

#### Tweet text

**EN:** The course is taught in Lappeenranta and Lahti

#### Prerequisites

**EN:** Basic knowledge of fundamental mathematics

#### Equivalences to other studies

LES10A010 Engineering Mathematics 1

#### Learning outcomes

**EN:** After completing this course, students will learn calculations and the utilization of formulas and identities to simplify mathematical expressions and solve equations. Moreover, they will grasp the concepts of limits and derivatives, enabling them to evaluate questions related to these topics by applying the rules of limits and derivatives, and understanding their applications in engineering problems. Additionally, students will acquire the ability to evaluate various types of integrals and measure the area and volume of geometrically shaped bodies, and applications in Engineering (electrical, energy & environmental, and mechanical). Furthermore, they will develop a basic understanding of modeling and solving initial value problems.

#### Content

**EN: Function theory:** definition of difference types of functions, inverse function, composite function, and their inverse, usage of functions in engineering problems

**Trigonometric functions:** Definitions, identities of trigonometric functions, modelling waves, current waveforms, sinusoidal voltage signals.



**Limit:** definition of limit, continuity and discontinuity, limit of composite functions.

**Differentiation:** slope, Newton Quotient, definition of limit, rules of differentiation, Chain rule, higher order derivative, rate of change, monotonicity, maximum and minimum, extrema, application problems in engineering, L'Hôpital's rule.

**Integration:** definition and rules of integration, initial values problems, change of variables, Riemann sums and definite integral, applications of integration (mean and average of a function, area under the curve, area bounded by region, arc length, volume of solid), techniques of integration.

### Additional information

**EN:** This course replaces LES10A010 Engineering Mathematics 1 together with LES10A210 Engineering Mathematics II.

Moreover, the course is related to UN's Sustainable Development Goals (SDG): 4 quality education, 5 gender equality, 8 decent work and economic growth, 9 industry, innovation and infrastructure, 10 reduced inequalities, and 17 partnership for the goals.

### Study materials

**EN:** Lecture material and other material are given during the course.

### Literature

Robert A. Adams: Calculus - A Complete Course (any edition)

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period	3 cr
Course Enrolment		0 cr
Course Assessment		3 cr

## LES10A210 Engineering Mathematics II

### LES10A210 Engineering Mathematics II

Abbreviation: LES10A210 EMII

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Barkat Bhayo, Responsible teacher Annukka Ilves, Administrative person Minna Loikkanen, Administrative person Markku Kuosa, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** This course is taught in Lahti and Lappeenranta

**Prerequisites**

**EN:** Basic knowledge of fundamental mathematics

**Equivalences to other studies**

LES10A010 Engineering Mathematics 1

**Learning outcomes**

**EN:** After completing this course, students will achieve the knowledge of parametrizing curves and solving related problems. Moreover, they will gain conceptual understanding of matrices and their operations, along with applications. Students will be able to interpret engineering problems using vectors and find solutions by applying vector properties and operations. They will also attain knowledge of complex numbers, their mappings, and applications of analytic and harmonic functions in engineering (electrical, energy & environmental, and mechanical).

**Content**

**EN: Curves:** Curves and their types, parametric equations, length of curve, area of surface of revolution.

**Coordinates:** Polar coordinates, cylindrical and spherical coordinates, and their applications

**Matrices :** Definition and operations on matrices, pixel, applications to transformation, determinant, Cramer's rule, inverse of matrix, solving system of linear equations, Gaussian elimination, eigenvalues, characteristic equation.

**Vectors:** Definition, dot product, cross product, work, are of parallelogram, volume of parallelepiped, coplanar vectors, vector equation of line, distance from a point to line or plane, applications in engineering.

**Complex analysis:** Definition, operations of complex numbers, polar form, Euler's formula, complex mappings, functions of complex variables, analytic function, harmonic function, applications in engineering, Möbius transformation, conformal mappings, and their applications in engineering.

**Additional information**

**EN:** This course replaces LES10A010 Engineering Mathematics 1 together with LES10A200 Engineering Mathematics I. The course is related to UN's Sustainable Development Goals (SDG): 4 quality education, 5 gender equality, 10 reduced inequalities

**Study materials**

**EN:** Lecture notes and course material will be provided during the course.

Optionally Robert A. Adams: Calculus - A Complete Course, and/or Erwin Kreyszig: Advanced Engineering Mathematics.

**Literature**

Robert A. Adams: Calculus - A Complete Course

Erwin Kreyszig: Advanced Engineering Mathematics

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 2. period	3 cr
Course Enrolment		0 cr
Course Assessment		3 cr

**LES10A290 Overview of China****LES10A290 Overview of China**

Curriculum period

2024-2025

Validity period

since 1 Aug 2024

Credits	4 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Changyang Li, Responsible teacher Annukka Ilves, Administrative person ⚠ [information missing], Responsible teacher ⚠ [information missing], Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Prerequisites

**EN:** Students should have an interest in the traditions and modern life of China.

### Learning outcomes

**EN:** Upon completion of the course, students will be able to:

- Enrich themselves with the tradition and modernization of China;
- Understand the philosophy, policies and behavioral patterns that have shaped China into what it is today;
- Comment on the story of China with sound argumentation and reexamine the ties between China and the world with fresh perspectives;
- Find new opportunities to get involved in the collaboration between their home nations and China.

### Content

**EN:** The course introduces students to a panorama of China through a task-based learning approach. Students will read recommended materials, discover related official websites, attend lectures, write video reviews and accomplish team projects to obtain a better understanding of the given topics like but not limited to below,

- Land of opportunities: leading Chinese cities with their unique characteristics
- You must see it: cultural heritages and tourist attractions in China
- A gourmet paradise: Chinese food and drinks
- Cultural kaleidoscope: local customs and folk arts in China
- Profound changes in Chinese society: life style and technological advancement
- Oriental wisdom: essence of Chinese traditional philosophy

### Study materials

- EN:** 1.Peng Guo, Long Cheng, China Panorama, Beijing, Higher Education Press, 2012  
2.Xiaowei Zang, Understanding Chinese Society (Second Edition), New York, Routledge, 2016  
3.Aimin Cheng, Understanding China, Shanghai: Shanghai Foreign Languages Education Press, 2018  
4.Handouts and online resources from a variety of official websites

### Literature

Xiaowei Zang, Understanding Chinese Society (Second Edition), New York, Routledge, 2016  
Peng Guo, Long Cheng, China Panorama, Beijing, Higher Education Press, 2012  
Aimin Cheng, Understanding China, Shanghai: Shanghai Foreign Languages Education Press, 2018

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	4 cr
Course Completion		4 cr

## LES10A410 Engineering Project Work

### LES10A410 Engineering Project Work

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5-10 cr
Languages	English, Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Michael Child, Responsible teacher Alex Rosu, Responsible teacher Annukka Ilves, Administrative person
Study level	⚠ [information missing]
Study field	⚠ [information missing]

### Recommended prerequisites

BK10A6101 Technical Documentation and 3D Modeling

BK10A6300 Engineering Design

### Learning outcomes

**EN:** After successfully completing the mandatory part of the course , students are able to:

- apply knowledge gained from earlier course work to practice
- improving time management, critical thinking and problem-solving skills
- collaborate effectively and systematically in a multicultural environment
- develop creative ideas and solutions to real-world problems
- planning and implementing a product development project as part of development team based on a written project plan.
- design and implement a product or service
- incorporate end-user or customer needs into product/service design
- give and receive feedback on the effectiveness of project activities
- making a connection between innovation, design, and production with the sustainable development goals (SDGs)

Additionally, depending on amount of optional credits:

- use tools and other resources to develop a prototype.
- testing a prototype to come up with further development suggestions while also reporting the results of the project
- presenting a built prototype to a real audience of peers and invited corporate sponsors during the spring's JHC seminar at Lappeenranta campus or other event
- prepare supplementary plan for further development of the prototype

### Content

**EN:** The course enhances experience in challenge based learning through a learning-by-doing approach. Students will be engaged in solving a specific real-world problem or answering a complex question related to one of the core areas of expertise (Electrical engineering, Energy technology, Mechanical engineering, Environmental Technology etc.). In the end, students will demonstrate new knowledge and skills by developing a useful product or service in cooperation with possible corporate sponsors and presenting it to a real audience.

Students will receive extended instruction on the nature of challenge based learning, and then apply this knowledge to the project work. First steps will involve defining the question, problem or challenge that will

serve as the basis of the project work. This will be followed by the design of a prototype product or service (and based on achievable additional credits, the construction phase of the prototype will also be involved). Throughout the project work, students will give, receive and use feedback to further improve their process and prototypes. Possible corporate sponsors may also provide feedback throughout the project. After refinement, the designed product/service and possible prototype will be explained, displayed, and presented to peers and possible corporate sponsors.

### **Additional information**

**EN:** Blended learning

\*\*\*

Students can participate in their group's project work on both campuses (Lappeenranta/Lahti)

\*\*\*

It is possible to achieve a total of 10 credits in the course:

- mandatory 5 ECTS are gained during periods 1-2
- additional/optional 5 ECTS can be gained during periods 3-4

\*\*\*

The course is related to the UN's Sustainable Development Goals (SDG), depending on the project chosen:

- 1) no poverty
- 2) zero hunger
- 3) good health and well-being
- 4) quality education
- 5) gender equality
- 6) clean water and sanitation
- 7) affordable and clean energy
- 8) decent work and economic growth
- 9) industry, innovation and infrastructure
- 10) reduced inequalities
- 11) sustainable cities and communities
- 12) responsible consumption and production
- 13) climate action
- 14) life below water
- 15) life and land
- 16) peace, justice and strong institutions
- 17) partnership for the goals

### **Study materials**

**EN:**

- Material available in Moodle
- J. Michael Bennett, Project Management For Engineers, World Scientific Publishing Co Pte Ltd, 2014, ISBN 978981322485
- Pahl G. ; Beitz W., 1996. Engineering Design: A Systematic Approach, London, Springer. 543 s.

- Ulrich K.T. ; Eppinger S.D. 2000. Product Design and Development. New York, Irwin McGraw-Hill. 358 s.
- Virkkala V., 1994. Luova ongelmanratkaisu. Helsinki. 292 s.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-4. period	5-10 cr
Participation in teaching		5-10 cr

## LES10A420 Overview of China

### LES10A420 Overview of China

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LUT School of Energy Systems 100%
Responsible persons	Changyang Li, Responsible teacher Annukka Ilves, Administrative person ⚠ [information missing], Responsible teacher ⚠ [information missing], Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Prerequisites

**EN:** Students should have an interest in the traditions and modern life of China.

### Learning outcomes

**EN:** Upon completion of the course, students will be able to:

- Enrich themselves with the tradition and modernization of China;
- Understand the philosophy, policies and behavioral patterns that have shaped China into what it is today;
- Comment on the story of China with sound argumentation and reexamine the ties between China and the world with fresh perspectives;
- Find new opportunities to get involved in the collaboration between their home nations and China.

### Content

**EN:** The course introduces students to a panorama of China through a task-based learning approach. Students will read recommended materials, discover related official websites, attend lectures, write video reviews and accomplish team projects to obtain a better understanding of the given topics like but not limited to below,

- Land of opportunities: leading Chinese cities with their unique characteristics
- You must see it: cultural heritages and tourist attractions in China
- A gourmet paradise: Chinese food and drinks
- Cultural kaleidoscope: local customs and folk arts in China
- Profound changes in Chinese society: life style and technological advancement
- Oriental wisdom: essence of Chinese traditional philosophy

### Study materials

- EN:** 1.Peng Guo, Long Cheng, China Panorama, Beijing, Higher Education Press, 2012  
2.Xiaowei Zang, Understanding Chinese Society (Second Edition), New York, Routledge, 2016  
3.Aimin Cheng, Understanding China, Shanghai: Shanghai Foreign Languages Education Press, 2018

4. Handouts and online resources from a variety of official websites

### Literature

Peng Guo, Long Cheng, China Panorama, Beijing, Higher Education Press, 2012

Xiaowei Zang, Understanding Chinese Society (Second Edition), New York, Routledge, 2016

Aimin Cheng, Understanding China, Shanghai: Shanghai Foreign Languages Education Press, 2018

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	3 cr
Course completion		3 cr

## BK10A6202 Mechatronics

### BK10A6202 Mechatronics

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Mechanical Engineering 100%
Responsible persons	Annuikka Ilves, Administrative person Heikki Handroos, Responsible teacher Ming Li, Contact-info
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Location: Lappeenranta

### Equivalences to other studies

BK60A0200 Mechatronics

### Equivalences (free text field)

**EN:** BK10A6200 Mechatronics 5 ECTS cr

### Learning outcomes

**EN:** After successfully completing the course, students are able to:

- summarize the structures, properties, advantages and drawbacks associated with different mechatronic transmissions.
- select an appropriate control, sensor and data transmission system for various kinds of mechatronic machines
- dimension, compare and select appropriate components for a mechatronic system
- develop a PLC-based control for a mechatronic machine

### Content

**EN:** Typical designs of mechatronic systems in various industrial machines and processes. Structures, operating principles and selection criteria of mechatronic components. Dimensioning hydraulic, pneumatic and

electrical transmissions by using mathematical equations. Selection criteria for sensors and control systems. Accuracy of measurement and sensing systems. Intelligent materials in actuators.

### Study materials

**EN:** Lecture notes in the Moodle

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	5 cr
▫LAB/LUT: Course Assessment		5 cr
▫LAB/LUT: Course Enrolment		0 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	5 cr
▫LAB/LUT: Course Enrolment		0 cr
▫LAB/LUT: Mid-term 1		0 cr
▫LAB/LUT: Mid-term 2		5 cr
<b>Method 3</b>	Recurrence 1: 1. period-2. period	5 cr
▫LAB/LUT: Course Assessment		5 cr
▫LAB/LUT: Course Enrolment		0 cr
<b>Method 4</b>	Recurrence 1: 1. period-2. period	5 cr
▫LAB/LUT: Course Enrolment		0 cr
▫LAB/LUT: Mid-term 1		0 cr
▫LAB/LUT: Mid-term 2		5 cr

## BK10A7300 Machine Elements and Principles

### BK10A7300 Machine Elements and Principles

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LES, Mechanical Engineering 100%
Responsible persons	Annikka Ilves, Administrative person Charles Nutakor, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Engineering, manufacturing and construction

### Tweet text

**EN:** Place of Study: Lappeenranta

### Compulsory prerequisites

BK10A5800 Engineering Mechanics 1

BK10A6000 Engineering Mechanics 2

BK10A6300 Engineering Design

### Equivalences to other studies

BK65A0203 Engineering Design



## Learning outcomes

**EN:** Students who complete the course will demonstrate the following outcomes by project work and written report:

- how to work target-oriented in a machine design team
- how to design or select machine elements for improved performance

In addition, a student understands the basic skills and knowledge required in real-world machine element design. Key learning outcomes are

- Understanding the relations between distance, time, velocity, and acceleration
- Applying vector mechanics to solve kinematic problems
- Creating schematic drawings of real-world mechanisms
- Determining the degrees of freedom (mobility) of a mechanism
- Using graphical and analytic methods to study the motion of planar mechanisms
- Using computer software to study the motion of a mechanism
- Designing cam and gear mechanisms
- Distinguishing the machine elements of machinery
- Understanding the impact of lubrication on machine elements

## Content

**EN:** This course builds upon students' preliminary engineering mechanics and design knowledge. The aim is to help students understand the interactions between machine elements and how they affect the performance of mechanical systems. The course covers advanced concepts of the theory of machines and mechanisms and lubrication. The focus is on practices and procedures that will give students the expertise to apply kinematics analysis in designing mechanisms and understand how to synthesize the linkages in such mechanisms. The lubrication of machine elements is an essential aspect of the course as it governs the performance of mechanical components. The technical considerations primarily relate to the interaction between machine elements. We aim to demonstrate engineering procedures that involve selecting, specifying, designing, and sizing mechanisms to achieve specific motion objectives. Students are free to use computer software such as SolidWorks, MATLAB, Python, KISSsoft, or ROMAX to solve problems related to machine elements.

## Additional information

**EN:** This course is related to all UN's Sustainable Development Goals (SDG): 7 and 11.

## Study materials

- EN:** 1. Uicker Jr., John J and Pennock, Gordon R and Shigley, Joseph E, (2017). Theory of Machines and Mechanisms. (5th ed.) Cambridge University Press
2. Schmid, Steven R, Hamrock, Bernard J and Jacobson, Bo O, (2013). Fundamentals of Machine Elements (3rd ed.). CRC Press

## Literature

Uicker Jr., John J and Pennock, Gordon R and Shigley, Joseph E, (2017). Theory of Machines and Mechanisms. (5th ed.) Cambridge University Press

Schmid, Steven R, Hamrock, Bernard J and Jacobson, Bo O, (2013). Fundamentals of Machine Elements (3rd ed.). CRC Press

Norton, RL, (2020). Design of Machinery: An Introduction to the Synthesis and Analysis of Mechanisms and Machines. (6th ed.) McGraw-Hill Education,

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	5 cr
Course Completion		5 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	5 cr
Course Completion		5 cr

## CT30A3232 Basics of Linux

### CT30A3232 Basics of Linux

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Jouni Ikonen, Responsible teacher
Study level	Basic studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

#### Tweet text

**EN:** Location: Lappeenranta and Lahti

#### Prerequisites

**EN:** Basic computer use skills

#### Learning outcomes

**EN:** Upon completion of the course the student has the transferable skills for workstation use in later courses in computer science. Students are able log in to a Linux machine using both graphical and text based UI, know the basics of Ubuntu operating system, understand the benefits of command line use in Linux, navigate in the file system and manipulate files and their access rights. Additionally the student will know how to use command line I/O redirection, form searches and regular expressions, create shell scripts and use networking programs.

#### Content

**EN:** Installation of a Linux operating system. Virtualisation software. Graphical desktop environments in Linux. Terminal and basic command line use. Command line based text editors, command line programs and program installation. Command line I/O and file system management. Regular expressions, shell scripting, command line network programs and file transfer.

#### Additional information

##### EN: Note

Can't be included in the same degree as CT30A3230 Työaseman käytön perusteet.

Exam examination available only in LUT University campuses.

The course is related to UN's Sustainable Development Goals (SDG): 9 industry, innovation and infrastructure, 10 reduced inequalities, 11 sustainable cities and communities, 12 responsible consumption and production, 17 partnership for the goals

## Study materials

**EN:** Just Enough Linux - Learning about Linux one command at a time / Malcolm Maclean (online)  
Linux Fundamentals / Paul Cobbaut (online)

Advanced Bash-Scripting Guide / Mendel Cooper (online)

Getting to know Terminal: Linux and command line management, Lappeenrannan teknillinen yliopisto 2015, Annika Ikonen, Timo Hynninen ja Erno Vanhala

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	3 cr
Course Completion		3 cr
<b>Method 2</b>	Recurrence 1: 1. period-2. period	3 cr
Course Completion		3 cr

## CT60A5540 Computer networks and Internet

### CT60A5540 Computer networks and Internet

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Jouni Ikonen, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

### Tweet text

**EN:** Location: Lappeenranta and Lahti

### Prerequisites

**EN:** computer usage skills

### Learning outcomes

**EN:** At the end of the course students will be able to

1. Understands how data transfer is done in internet and knows what kind of components are involved and what are their tasks.
2. Explain why layered network model is needed.
3. Understands how each layer of tcp/ip model works.

### Content

**EN:** In today's connected world everybody should understand in some level how data is transferred in networks and more so in case of people building services used over Internet. Course familiarizes student with knowledge of how Internet works, what kind of components are involved and what kind of protocols are in-

volved. Topics include network topologies, network reference model, Data link layer (multiplexing, Ethernet, WLAN), network layer (switching, internet protocol), transport layer (tcp, udp), application layer (dns, http).

### Additional information

**EN:** Course has an introduction lecture

The course is related to UN's Sustainable Development Goals (SDG): 8 decent work and economic growth, 9 industry, innovation and infrastructure, 10 reduced inequalities, 11 sustainable cities and communities.

### Study materials

**EN:** Computer Networking: A Top-Down Approach, 8th Edn 2022 James F. Kurose and Keith W. Ross

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period	3 cr
Course Completion		3 cr
<b>Method 2</b>	Recurrence 1: 1. period	3 cr
Course Completion		3 cr

## CT70A9110 Software Development Skills: Front-End

### CT70A9110 Software Development Skills: Front-End

Abbreviation: CT00CM00

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Erno Vanhala, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

### Tweet text

**EN:** Location: Lappeenranta (online)

### Prerequisites

**EN:** CT30A2803 User Interfaces and Usability  
CT60A0203 Introduction to Programming (or equivalent)

### Compulsory prerequisites

CT30A2803 User Interfaces and Usability

CT60A0203 Fundamentals of Programming

### Learning outcomes

- EN:**
1. Develop practical skills for software development
  2. Learn the best practices and approaches of software development
  3. Develop the skilled expected in industry to work as a software developer.

## Content

**EN:** This course aims give students a chance to create unique projects with a hands-on approach.

The course guides students to find their interest in software engineering skills and to help each student find their desired path in software developing in the future. There are also several other Software Development Skill courses available on different topics.

The goal in this course is to make a responsive webpage using html, CSS and a little JavaScript. These are the basic tools to make today's web-frontend. Students may use Bootstrap or animations in addition. The project focuses only on the layout, styles and the overall structure of the page.

Course is 100% online self-study.

## Additional information

**EN:** \*\*\*

The course is related to UN's Sustainable Development Goals (SDG):9 industry, innovation and infrastructure, 10 reduced inequalities

## Study materials

**EN:** Available online (Moodle)

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-Summer	3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## CT70A9140 Software Development Skills: Full-Stack

### CT70A9140 Software Development Skills: Full-Stack

Abbreviation: CT00CM01

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Erno Vanhala, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

## Tweet text

**EN:** Location: Lappeenranta (online)

## Prerequisites

**EN:** CT30A2803 User Interfaces and Usability  
CT60A0203 Introduction to Programming

CT60A2411 Object-Oriented Programming

CT60A4304 Basics of Database Systems  
(or equivalent)

### Compulsory prerequisites

CT30A2803 User Interfaces and Usability

CT60A0203 Fundamentals of Programming

CT60A2411 Object-Oriented Programming

CT60A4304 Basics of database systems

### Learning outcomes

- EN:** 1. Develop practical skills for software development  
2. Learn the best practices and approaches of software development  
3. Develop the skilled expected in industry to work as a software developer.

### Content

**EN:** This course aims give students a chance to create unique projects with a hands-on approach.

The course guides students to find their interest in software engineering skills and to help each student find their desired path in software developing in the future. There are also several other Software Development Skill courses available on different topics.

The course gives the student basic understanding of full-stack development. The goal is to create a basic front- and back-end and bundle them together as a complete system.

The focus is to understand the bigger picture and how to bundle different software components together to create a working program. You will learn how to use MEAN-stack as a full stack tool bundle to create an app from scratch.

Course is 100% online self-study.

### Additional information

**EN:** \*\*\*

The course is related to UN's Sustainable Development Goals (SDG):9 industry, innovation and infrastructure, 10 reduced inequalities

### Study materials

**EN:** Available online (Moodle)

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-Summer	3 cr
▫LAB/LUT: Course Completion	-----	3 cr

## CT70A9120 Software Development Skills: Mobile

CT70A9120 Software Development Skills: Mobile

Abbreviation: CT00CM02

Curriculum period

2024-2025

Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Erno Vanhala, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

### **Tweet text**

**EN:** Location: Lappeenranta (online)

### **Prerequisites**

**EN:** CT30A2803 User Interfaces and Usability  
CT60A0203 Introduction to Programming (or equivalent)

### **Compulsory prerequisites**

CT30A2803 User Interfaces and Usability  
CT60A0203 Fundamentals of Programming

### **Learning outcomes**

**EN:** 1. Develop practical skills for software development  
2. Learn the best practices and approaches of software development  
3. Develop the skilled expected in industry to work as a software developer.

### **Content**

**EN:** This course aims give students a chance to create unique projects with a hands-on approach. The course guides students to find their interest in software engineering skills and to help each student find their desired path in software developing in the future. There are also several other Software Development Skill courses available on different topics.

The goal in this course is to make an Android app with Android Studio. The app should have basic functionality with buttons and views. This course aims to teach the basics of mobile development.

Course is 100% online self-study.

### **Additional information**

**EN:**  
\*\*\*

The course is related to UN's Sustainable Development Goals (SDG):9 industry, innovation and infrastructure, 10 reduced inequalities

### **Study materials**

**EN:** Available online (Moodle)

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-Summer	3 cr

LAB/LUT: Course Completion ----- 3 cr

## CT30A2910 Introduction to Web Programming

### CT30A2910 Introduction to Web Programming

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	3 cr
Languages	English
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LENS, Software Engineering 100%
Responsible persons	Jonna Naukkarinen, Administrative person Erno Vanhala, Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Information and Communication Technologies (ICTs)

#### Tweet text

**EN:** Course can be studied in Lappeenranta, Lahti and fully online

#### Compulsory prerequisites

CT60A0203 Fundamentals of Programming

#### Recommended prerequisites

CT60A2411 Object-Oriented Programming

CT30A3232 Basics of Linux

#### Learning outcomes

**EN:** At the end of the course student is able to: 1) Understand the programming concepts of the web, 2) Knows how to use HTML and CSS to build responsive web pages, 3) Create simple applications with JavaScript to run inside browsers and 4) Familiarize oneself with responsive design and utilization of external APIs

#### Content

**EN:** Web standards: HTTP, HTML, CSS and JavaScript. The browser environment with its Document object model (DOM). Building web sites with commonly used tools.

#### Additional information

**EN:** \*\*\*

The course is related to UN's Sustainable Development Goals (SDG):9 industry, innovation and infrastructure, 10 reduced inequalities

#### Study materials

**EN:** Lecture slides and videos.  
Other material announced in the lectures.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period	3 cr



Course Completion ----- 3 cr

## VA10A1500 Introduction to Entrepreneurship

### VA10A1500 Johdatus yrittäjyyteen

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English, Finnish
Grading scale	General scale, 0-5
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	LBS, Business Administration 100%
Coordinating organisation	University of Oulu 100%
Responsible persons	Hannes Velt, Responsible teacher Roman Teplov, Responsible teacher Suvi Tiainen, Administrative person ⚠ [information missing], Responsible teacher ⚠ [information missing], Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

#### Tweet text

**EN:** LITO course

#### Prerequisites

**EN:** The course includes a compulsory preliminary assignment that has to be completed successfully by a pre-defined date.

#### Learning outcomes

**EN:** During the course, the student will learn to understand the significance of an entrepreneurial team, and will form an understanding of entrepreneurship as a creative activity that happens in the form of business.

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

- define business-related principles, possibilities and challenges
- plan business initiating from customer needs, value creation, testing and agility
- interpret business-related substance areas where competence is needed

#### Content

**EN:** The decision to become an entrepreneur:

- an introduction to entrepreneurship

Creating viable business ideas:

- creating business opportunities
- preliminary research
- industry analysis
- business plan

From an idea to an entrepreneurial firm:

- building a team
- analysing start-up strengths and weaknesses from the funding perspective
- ethical and legal issues when starting a company
- writing a business plan and constructing a story
- attracting funding

Managing an entrepreneurial firm and creating growth:

- marketing

- Understanding VC (Venture Capital) operation
- IPRs (Intellectual Property Rights)
- The challenges of growth and managing growth
- growth strategies
- operation forms

### Additional information

#### EN: Note

Only for students of technology.

Please note that the students of LUT Master's programme in Entrepreneurship can NOT include this course in their Minor nor degree.

The latest information about the course is updated and published on the course platform at [www.lito.fi](http://www.lito.fi).

The course will run from early October to December 2024 (Weeks 40–48). There is a pre-assignment in week 40.

Please note that the completion of the course takes place on the DigiCampus learning platform. Login instructions to the platform will be provided to the students who have registered for the course via email.

The LITO courses are organised in co-operation with multiple universities. To enable registering credits when the course is completed, it is necessary to transfer data about the student from their home university to the university that is responsible for organizing the course. The data to be transferred consists of: name, gender, nationality, e-mail address, personal identification number and the home university. Data that is classified as secret is not transferred. Without data transfer it is not possible to have the course credits registered.

### Study materials

**EN:** Barringer, B. ; Ireland. D. (2012). Entrepreneurship: Successfully Launching New Ventures, 4th Edition. Prentice Hall. Later editions can also be used, but please note that the page numbers for the later versions vary.

Completion method and assessment items	Recurrence	Credits
Method 1	Recurrence 1: 1. period-2. period	5 cr
Course Completion		5 cr

## VA10A1700 Understanding and Managing a Business as a Dynamic Whole - Business Simulation Game

VA10A1700 Liiketoimintaosaamisen kokonaisdynamiikka ja sen ohjaaminen - yrityssimulaatio

Curriculum period	2024-2025
Validity period	since 1 Aug 2024
Credits	5 cr
Languages	English, Finnish
Grading scale	Pass-Fail
University	Lappeenranta-Lahti University of Technology LUT
Responsible organisation	Education other than LUT University 100%
Coordinating organisation	University of Turku 100%

Responsible persons	Suvi Tiainen, Administrative person ⚠ [information missing], Responsible teacher
Study level	Intermediate studies
Study field	Fields of education (Ministry of Education and Culture), Business, administration and law

### Tweet text

**EN:** LITO course

### Prerequisites

**EN:** The course serves as a capstone, bridging together the other modules in the LITO entity. The course provides an overall picture of business dynamics and explains how the different fields of business studies are related to it. Various tools and services outside the LITO learning platform may be used in the analyses during the course.

It is recommended that before taking this course, the student has taken at least the following LITO courses: 'Introduction to Accounting and Financial Management' and 'Basics of Management and Organisations'. Alternatively, the student must possess sufficient previous knowledge in these fields in order to be able to analyse a business as a whole.

### Recommended prerequisites

VA10A1000 Basics of Management and Organisations

VA10A1200 Introduction to Accounting and Financial Management

### Learning outcomes

**EN:** After completing the course, students will be able to:

- describe how different areas in business studies are connected in the entity of enterprise functions and in making a profit
- apply various methods of collaboration in a virtual team and to become aware of the key regularities in the collaborative business environment
- apply different business analysis tools in planning and managing a business and understand the essential role of strategy in the process.

A central part of the course is the optimisation of a business as a whole with respect to both various business functions and goals; students will understand why it is not practical to optimise single functions separately and why the management needs to have a holistic perspective of the company that simultaneously takes into account social, ecological and financial responsibility.

### Content

- EN:**
- The foundation for this course is a decentralised and collaborative business simulation exercise in which students work in teams and collaborate with other teams. Besides engaging in real-time decision-making during the simulation days, the students will complete assignments that relate to various business sciences and analyse the actions taken in the simulation outside the simulation days.
  - Participation takes place in small virtual groups, the members of which come from different universities.
  - The thematic core for the simulation is the entity formed by the different functions of a company and the responsible agency of the company in a network of enterprises. The relevant themes include several areas of cross-company functions (purchasing, project management, distribution and customer relationships) and the reporting related to these topics. The course emphasises the entity of business operations from the perspective of responsible management.
  - During the course, students are introduced to the dynamics of business networks where the students' company is part of a network of competitors, suppliers and customers.
  - The theoretical material and the exercises distributed on the course are related to the thematic core for the simulation and for other LITO learning themes.

### Additional information

**EN:** The first course period runs from late September to late November 2024 (Weeks 39–47). There is a pre-assignment in Week 39.

The second course period runs from late January to late March 2025 (Weeks 4–12). There is a pre-assignment in Week 4.

The third course period runs from mid-March to mid-May 2025 (Weeks 11–19). There is a pre-assignment in Week 11.

Please note that the completion of the course takes place on the DigiCampus learning platform. Login instructions to the platform will be provided via email.

The LITO courses are organised in co-operation with multiple universities. To enable registering credits when the course is completed, it is necessary to transfer data about the student from their home university to the university that is responsible for organizing the course. The data to be transferred consists of: name, gender, nationality, e-mail address, personal identification number and the home university. Data that is classified as secret is not transferred. Without data transfer it is not possible to have the course credits registered.

### Study materials

**EN:** The literature includes: simulation game instructions, a description of the simulation environment, learning videos, a course hand-out and a selection of other articles (to be announced).

Completion method and assessment items	Recurrence	Credits
<b>Method 1</b>	Recurrence 1: 1. period-2. period	5 cr
	Recurrence 2: 4. period, 3. period	
	Recurrence 3: 4. period	
Course Completion		5 cr