STUDY PERIODS

1A: *2010-08-30 – 2010-10-03*
1B: *2010-10-04 – 2010-11-07*
2 A: *2010-11-08 – 2010-12-12*
2 B: *2010-12-13 – 2011-01-16*
3 A: *2011-01-24 – 2011-02-27*
3 B: *2011-02-28 – 2011-04-03*
4 A: *2011-04-04 – 2011-05-08*
4 B: *2011-05-09 – 2011-06-12*

STUDY PERIOD 3 AND 4

SPRING SEMESTER

STUDY PERIODS

1A: *2010-08-30 – 2010-10-03*
1B: *2010-10-04 – 2010-11-07*
2 A: *2010-11-08 – 2010-12-12*
2 B: *2010-12-13 – 2011-01-16*
3 A: *2011-01-24 – 2011-02-27*
3 B: *2011-02-28 – 2011-04-03*
4 A: *2011-04-04 – 2011-05-08*
4 B: *2011-05-09 – 2011-06-12*

BUILDING ENGINEERING

Energy Optimization for Buildings

CODE: WBT014
CREDITS: 15
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise
PREREQUISITES: At least 120 credits in the technical or natural sciences areas with at least 90 credits in Building and/or Energy Engineering.
COURSE CONTENT: In this course calculation, analyses and parameter studies of the energy balance of buildings are made. It includes comparisons and analyses regarding energy consumption based on measurements as well as calculations. Thermal inertia and thermal indoor climate is also something that is important as well as calculations and analyses of life cycle costs and optimization regarding costs of energy, investment, maintenance etc. You will get practice in critical evaluations, and will be able to understand and utilize results taking different limitations into account. The course also includes a comprehensive view as well as deeper studies within parts of the broad field of interaction between buildings and installations.
CONTACT PERSON: Karin Spets, karin.spets@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

BUSINESS ADMINISTRATION

Contemporary Issues in Marketing

CODE: EFO218
CREDITS: 7,5
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: A Bachelor´s degree from an institution of higher education of three years or more, equivalent to at least 180 credits in Business Administration, Social Science or Technology; or at least 90 credits in Business Administration of which at least 30 credits on Basic level third year.
COURSE CONTENT: The purpose of this course is to give the student an overview of contemporary issues in marketing with a focus on - but not limited to - consumer behavior and service marketing. The course covers:
- Discuss and analyze the concepts regarding contemporary issues in marketing based on the student's own findings.
- To some extent perform business intelligence by collecting and analyzing information related to external environment of a business.
- Create models to deal with marketing issues with a focus on - but not limited to - consumer behavior and service marketing.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Managerial Economics and Financial Theory

CODE: EFO011
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Seminars, Paper
PREREQUISITES: Business administration 60 credits (at least 45 credits finished when the course starts). At least 20 credits in Business Administration have to be on Basic Level second year.
COURSE CONTENT: The course examines the theoretical and empirical aspects of management of existing resources within an organisation. Discussed topics are managerial economics of strategy, management in the situation of imperfect market conditions, the use of financial statements and financial rations for decision making, aquisitions, mergers, financial forecasting and planning, operational financial management, business valuation and corporate restructuring techniques. The course is based on literatur, lectures and active participation of the students, involving student-led seminars reflecting literature review, presentation of a paper and discussion of papers by the students.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Marketing Systems

CODE: EFO217
CREDITS: 7,5
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: A Bachelor´s degree from an institution of higher education of three years or more, equivalent to at least 180 credits in Business Administration, Social Science or Technology; or at least 90 credits in Business Administration of which at least 30 credits on Basic level third year.
COURSE CONTENT: The purpose of this course is to give the student an overview of the international environment(s) a company operates in and provide tools and concepts for handling marketing issues concerning marketing and purchasing between industrial actors in a business-to-business environment. The course covers:
- A network-approach to understanding business and marketing.
- Discuss and analyze the concepts making up the environment of a company based on their interactions.
- Means of internationalization.
- Building models to solve marketing problems in a business-to-business context.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Organization, Innovation and Entrepreneurship

CODE: EFO519
CREDITS: 15
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise, Project, Written and/or oral examination
PREREQUISITES: Business administration 60 credits (at least 45 credits finished when the course starts). At least 20 credits in Business Administration have to be on Basic level second year.
COURSE CONTENT: The course aims at providing knowledge and understanding of entrepreneurship, innovation and organizations from an entrepreneurial perspective. Emphasis is put on the interplay of entrepreneurship, organization and institutional conditions. The course aim is also to test different scientific perspectives on the empirical phenomena and to give an understanding of the perspectives effect on the knowledge produced. The role of entrepreneurship and innovation in different organizational contexts is considered as pivotal in relation to economic, social, environmental and organizational change. The content of this course focus on entrepreneurship, and the interrelationships between entrepreneurship, organisations and institutions on the basis of theory and research in this area. The course comprise of task assignments that develops knowledge and skills in undertaking research as well as a professional approach in relation to vocational issues.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Service Management

CODE: FÖA105
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3b
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise, Oral/Written examination
PREREQUISITES: 30 credits in Business Administration
COURSE CONTENT: The course will give you critical skills and gain knowledge needed to implement quality service and service strategies for competitive advantage across industries. You will learn frame-works for customer-focused management, and how to increase customer satisfaction and retention through service strategies. You will learn about service quality and customer lifetime value and profitability. You will learn to map services, understand customer expectations and develop relationship marketing strategies. The course is based on the Gaps Model of Service quality will be used as a framework. The lectures and seminars will cover aspects as:
- service from the customers point of view
- service management
- designing services
- services and employees
- communication of services
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Strategic Marketing Management

CODE: EFO210
CREDITS: 15
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Business administration 60 credits (at least 45 credits finished when the course starts). At least 20 credits in Business Administration have to be on Basic level second year.
COURSE CONTENT: The aim of the course is to critically examine different perspectives on strategy and actions a company can take towards its markets and environment, and to provide students with skills in analysing situations where companies and organizations are about to take decisions concerning strategies on marketing. The

examination consists of project work, seminars and a written test. Students are supposed to take an active part in the seminars. The course is structured upon a great deal of interaction between the students.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

The Internationalisation Process of Companies

CODE: FÖA200
CREDITS: 7,5
LECTURE HOURS: 35
LABORATORY HOURS: 0
START PERIOD: 4b
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: 30 credits in Business Administration (at least 15 credits must be finished).
COURSE CONTENT: Many companies face the issue of expanding onto an international market during their development. In this course we study the process of entering a foreign market. The issues behind why and how companies internationalize, as in how to obtain knowledge on the foreign market and the role of cultural diversity in that context are central themes. The main purpose of the course is to obtain knowledge and skills that you will need as a manager when developing strategies for the internationalization of your company. The course is also a good foundation if you wish to further study international marketing and business at out university. In this course we practice reading, writing, discussing and analyzing as means to attain knowledge on the internationalization process.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

CARING SCIENCE

Caring from a Cultural Perspective- Clinical Studies

CODE: OVA045
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 1, 3
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise
PREREQUISITES: Caring Sciences 30 credits on Basic level first year and 30 credits on Basic level second year or equivalent.
COURSE CONTENT: The course is designed for you being an international/Swedish student at School of Health Care and Social Welfare. You will have possibility to go deeper in your knowledge with focus on caring/welfare, human being, health, suffering and environment from a cultural perspective. Specific observations and reflections will be accomplished. This will be an effort to increase cultural awareness and self-knowledge. The course is available in the Nursing Program.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

Cultural Perspectives in Health and Care

CODE: OVA004
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 25%
LEVEL OF EDUCATION: Basic level
LOCATION: Eskilstuna
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Completed three years of upper secondary school or equivalent.
COURSE CONTENT: In today's society there is a broad cultural diversity and interest and need for cultural competence is increasing. The purpose of this course is that you get a basic understanding and awareness of cultural perspectives on health and health care. The course covers, among other things the basic cultural concepts, what cultural awareness means and how cultural awareness and cultural aspects affect the meeting between people. The course is an independent distance course, study rate of 25%.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

Health, Care and Social Welfare from a Swedish Perspective

CODE: VÅE019
CREDITS: 5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 1, 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Completed three years of upper secondary school or equivalent.
COURSE CONTENT: The course is designed for you who are an international student at the School of Health, Care and Social Welfare. You will get an overview of basic principles in Swedish practices of protecting and promoting health, from individual as well as from population perspectives, from hospital and health care centers to general health policy. The main topics of this course are within Social Work and Social Care, Nursing Care, Public Health and Physiotherapy. The design of your examination will then lead you into the main field of your studies at this School.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

COMMERCIAL LAW

Introduction to Commercial Law

CODE: EHA012
CREDITS: 15
LECTURE HOURS: 40
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Oral and written examinations.
PREREQUISITES: Three years of upper secondary school or equivalent.
COURSE CONTENT: The course intends to give the student basic knowledge of European Community law, the rules regarding Business Contracts in International Markets and Commercial law with focus on Competition law and Intellectual property law.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

COMPUTER SCIENCE

Advanced Component-based Software engineering

CODE: CDT501
CREDITS: 7,5
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Project
PREREQUISITES: At least 180 credits, where at least 90 credits are in the area of computer science with experience in an object-oriented language and research methodology.
COURSE CONTENT: The purpose of the course to give students insight in principals for building software systems from components, the latest trends in the practice and research in component-based software engineering. The students will be trained in searching for, in comprising the proper research information, in critical thinking, and presentation of relevant information.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Advanced Software Verification and Validation

CODE: DVA402
CREDITS: 7,5
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Laboratory work, Seminar, Project work.
PREREQUISITES: At least 120 credits or corresponding, out of which at least 60 should be from computer science, computer engineering or corresponding subjects. A course in real-time systems basics or equivalent is required.
COURSE CONTENT: The theme of the course is modeling and verification techniques for concurrent and real-time systems. The course will cover the following topics: transition systems, modal logics, modeling, verification by model-checking, deductive formal verification, and model-based testing and test-case generation.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Applied artificial intelligence

CODE: CDT406
CREDITS: 15
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise, Seminar, Thesis, Degree Project, Essay
PREREQUISITES: At least two years of studies on the basic level or at least 120 credits in the relevant subject area. Theoretical knowledge and practical competences in fundamentals of Artificial Intelligence
COURSE CONTENT: The course deals with all aspects from problem formulation to implementation of a intelligent system including methods and techniques from artificial intelligence:

- problem formulation
- identification solutions based on artificial intelligence (AI)
- knowledge about a number of projects that use AI
- ability and knowledge on how a decision system/ case based reasoning system is implemented
- how to explain and describe an "intelligent" AI based system

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SCHOOL: School of Innovation, Design and Engineering

Component Technologies

CODE: CDT401
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work, Project
PREREQUISITES: At least 180 credits with at least 90 credits in computer science where theoretical knowledge and practical competence in an object-oriented programming language like Java or C++ is included.
COURSE CONTENT: Introduction to component-based development
- Object-oriented programming and components component models
- Overview of components models such as COM/DCOM, Enterprise Javabeans (EJB), CORBA and .NET.
- Laboratory assignment to implement the different technologies
- Article writing and review
- Project in .NET to implement a distributed component-based application

CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Computer Graphics

CODE: DVA304
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work, Project
PREREQUISITES: Theoretical knowledge and practical competence in:
- Programming in a high level language (for example C, C++, C#, Java, or Ada)
- Data structures and algorithms
- Algebra and Calculus are desirable but not required

COURSE CONTENT: affine transformations, homogeneous coordinates, combined transformations, viewing, projection, rendering pipeline, phong lighting and shading, back face culling and hidden surfaces elimination, clipping, texture mapping, bump mapping, environment mapping, graphics hardware, shader programming, OpenGL, OpenGL Shading Language, color, BRDFs, anisotrophic shading, shadows, global illumination, ray tracing
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Computer Network I, distance course

CODE: CDT102
CREDITS: 7,5 **LECTURE HOURS:** 1
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work, Written examination
PREREQUISITES: Completed three years of upper secondary school or equivalent.
COURSE CONTENT: Network fundamentals, routing protocols and concepts. OSI- reference model, TCP/IP, IP-networks including IP-subnets. Ethernet, LAN, WAN, network components, router configuration, routing, routing protocols, switching, network terminology and traffic filtering.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Distributed Systems

CODE: CDT316
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work, Written and/or oral examination
PREREQUISITES: Mathematics from three years of upper secondary school with science profile. Also theoretical knowledge and good practical competences in programming in C, data communication and operating system are required.
COURSE CONTENT: History, design, process communications, remote procedure calls, distributed operating systems, distributed object orientation, distributed file systems, time and coordination, replication, distributed transactions, fault tolerance and safety
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Hardware for Embedded Systems

CODE: DVA405
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: Embedded Systems I, Embedded Systems II, or corresponding courses.
COURSE CONTENT: The course will focus on the hardware aspects of embedded systems that are important for understanding the overall behaviour of a system implementation. The content of the course will include how to choose and use hardware, e.g. Platform, sensors, ADC etc, to fulfil specific tasks.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Intelligent Systems

CODE: DVA406
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: At least 90 credits in computer science or electronics. Documented solid programming skills.
COURSE CONTENT: There are several algorithms in Artificial intelligence that solves various types of problems. In this course we will discuss how they can be implemented in software and hardware. We will also address the problem of choosing right algorithm for a given problem and integrate it into a system in an efficient way.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Project in Intelligent Embedded Systems

CODE: DVA409
CREDITS: 15 **LECTURE HOURS:** 20
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Full time **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: Project Methodology, Embedded Systems I, Embedded Systems II, Project in Embedded Systems 7,5 hp or corresponding courses.
COURSE CONTENT: The students will work with industrially based projects in groups of 4-6. Students will be able to work practically with skills obtained from their theoretical education and the projects will cover hardware construction as well as software construction and implementation of the both in embedded systems. Groups will be created where students with different skills are grouped to suit the selected project.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Real-Time Systems I, distance course

CODE: CDT308
CREDITS: 7,5 **LECTURE HOURS:** 1
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work
PREREQUISITES: Mathematics from three years of upper secondary school with science profile. Also theoretical knowledge and practical competences in programming in C, datastructures and algorithms and operating systems are required.
COURSE CONTENT: The course gives an insight into how real-time systems differ from traditional computer systems, covering the topics such as timeliness, real-time scheduling, operating system support, resource usage, design of real-time systems, real-time communication and distributed real-time applications. Furthermore, it explains how these theories can be applied when implementing and analysing such systems or real hardware platforms; case-based reasoning; clustring and fuzzy systems.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Real-Time Systems II

CODE: CDT505
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Laboratory work, Seminar
PREREQUISITES: At least 120 credits where theoretical knowledge and practical compe-

tence in the fundamentals of computer based real time systems (that is competences in scheduling, implementation of RT applications by using RTOS functionality, designing safety critical systems and time and event driven process communication) is included.
COURSE CONTENT: Worst Case Execution Time (WCET) analysis (analysis of worst case execution time of a computer program), advanced scheduling algorithms and response time analysis, real-time databases, model based development, Quality of Service (QoS) for non-hard real-time systems, distributed real-time systems.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Software Engineering Project

CODE: CDT412
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Full time
LOCATION: Västerås
LECTURE HOURS: 10
START PERIOD: 3, 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Project
PREREQUISITES: At least 120 credits of higher education where at least 60 credits are in the area of computer science where at least 15 credits is about foundations in Software Engineering.
COURSE CONTENT: The project work is individual, or done in a pair. The projects can cover different areas in Software Engineering, or in different domains (like web-based applications, or real-time systems, or development environments, etc.). The project is also introduction to thesis work. The work includes specification and analysis of the problem, searching for similar and related works in practices and research, and providing its solution on a modeling and possibly reimplementation level.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

ECONOMICS

Industrial Economics

CODE: NAA300
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Economics 60 credits (at least 45 credits finished when the course starts). At least 20 credits in Economics have to be on Basic level second year.
COURSE CONTENT: The aim of the course is to explore some recent developments in the field of Industrial Economics, using a rather formal (mathematical) analysis. The course covers the following topics: modern industry structure and performance; non-cooperative oligopoly models; cooperative games; product differentiation and monopolistic competition; non-linear pricing; limited and asymmetric information; regulation and deregulation.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Macroeconomic Theory

CODE: NAA302
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Economics 60 credits (at least 45 credits finished when the course starts). At least 20 credits in Economics have to be on Basic level second year.
COURSE CONTENT: The course analyzes how consumers, firms, the government, and the international economy interact on markets for goods, labor, physical and financial capital, and currencies. Models are developed for aggregate analysis of each of these markets and their interdependences. The theories presented deal with output determination, capital formation, consumption, savings, employment, unemployment, international trade, interest rates and exchange rates. The role of the government is analyzed and the scope for relevant economic policy discussed. The emphasis is on the long run development of the economy, such as causes and effects of economic growth and the structure of international trade, but the short and intermediate time horizon with adjustment and business cycles are also treated. A theme in the course is how macroeconomic relationships are founded in microeconomic analysis.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Macroeconomics and International Finance

CODE: NAA103
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 60
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Mathematics from three years of upper secondary school with science profile.
COURSE CONTENT: The aim of this course is to provide the student with analytical concepts and methods to understand and study how the economy works on an aggregate level and how economic policy is implemented.
Macroeconomics treats the working of the economy at the most aggregate level, i.e. a nation, a wider area of economic activity such as the EU, or even the world. The course introduces measures of economic activity such as the national accounts for GDP, consumption and international trade, and others for unemployment, inflation etc. These measures are used to analyze the development of the national and international economy. The analysis treats growth and structural change in the long term and business cycles in the medium term. Markets of special importance for macroeconomic performance, such as financial markets and the labor market are covered. International trade and international finance is treated with an emphasis on the perspective of a small open economy such as Sweden. Economic policy, fiscal as well as monetary, is discussed in terms of goals, means and effects.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Microeconomics and Trade Theory

CODE: NAA102
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 60
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Mathematics from three years of upper secondary school with science profile.
COURSE CONTENT: Economics is a social science and deals with the allocation of the limited resources to satisfy unlimited (and conflicting) needs. The aim of this course is to give students a solid background of the mechanism and the effects of the price system that is the corner stone to the market economies. The course covers topics such as Consumption theory; Cost theory, Production theory; Perfect & Imperfect competition; Monopoly & Oligopoly; Factor Markets; Externalities & Public goods; Absolute & comparative advantage; Classic and neo-classic trade theories; Trade policies; Trade unions; Labour and Capital movements
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

ELECTRONICS

Biomedical Engineering

CODE: ELA402
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 10
START PERIOD: 3
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: At least 90 credits in Computer Science and/or Electronics.
COURSE CONTENT: This course gives a survey of the subject Biomedical Engineering and treats measurements of biosignals, physical diagnostics, therapeutic interventions, radiology, medical informatics and telemedicine. Further, the complex models of measuring systems that arises with the registration of physiological parameters are explored.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Project Course in Electronics

CODE: CEL307
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Full timee
LOCATION: Västerås
LECTURE HOURS: 20
START PERIOD: 3, 4
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Project
PREREQUISITES: 90 credits, where at least 40 credits are within the subject electronics.
COURSE CONTENT: We can offer projects with the areas of biomedical engineering, robotics, wireless communication, sensor techniques, measurement techniques and embedded systems. The student should propose an area of interest and a supervisor will be selected. The supervisor will together with the student specify the details of the project.

CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Project Course in Electronics

CODE: ELA001
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
EXAMINATION: Project
LECTURE HOURS: 10
START PERIOD: 3, 4
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
PREREQUISITES: 90 credits, where at least 40 credits are within the subject electronics.
COURSE CONTENT: We can offer projects with the areas of biomedical engineering, robotics, wireless communication, sensor techniques, measurement techniques and embedded systems. The student should propose an area of interest and a supervisor will be selected. The supervisor will together with the student specify the details of the project.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Project in Electronics

CODE: CEL406
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
EXAMINATION: Seminar
LECTURE HOURS: 10
START PERIOD: 3, 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
PREREQUISITES: At least 150 credits from an institution of higher education with at least 90 credits in one of the below mentioned subject in electronics.
COURSE CONTENT: We can offer projects with the areas of biomedical engineering, robotics, wireless communication, sensor techniques, measurement techniques and embedded systems. The student should propose an area of interest and a supervisor will be selected. The supervisor will together with the student specify the details of the project.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Project in Electronics

CODE: CEL405
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Full time
LOCATION: Västerås
EXAMINATION: Seminar
LECTURE HOURS: 20
START PERIOD: 3, 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
PREREQUISITES: At least 150 credits from an institution of higher education with at least 90 credits in one of the below mentioned subject in electronics.
COURSE CONTENT: We can offer projects with the areas of biomedical engineering, robotics, wireless communication, sensor techniques, measurement techniques and embedded systems. The student should propose an area of interest and a supervisor will be selected. The supervisor will together with the student specify the details of the project.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Sensor Technique

CODE: CEL401
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
EXAMINATION: Exercise, Laboratory work, Project, Written and/or oral examination
LECTURE HOURS: 10
START PERIOD: 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
PREREQUISITES: At least 120 credits where theoretical knowledge and practical competences in algebra, calculus, analog electronics and measuring techniques are included.
COURSE CONTENT: In the course the physical principles and properties of different types of actuators and the methods for measuring parameters as i.e. temperature, flow, and pressure are dealt with.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

ENERGY ENGINEERING

Simulation and Modelling

CODE: WER043
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
EXAMINATION: Project report, Project presentation
LECTURE HOURS: 35
START PERIOD: 3
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
PREREQUISITES: 60 credits in energy, environmental or building engineering including at least 15 credits on Basic level third year and mathematics including algebra and calculus or 30 credits in product and process development at level 1 of 3 at advanced level and mathematics including algebra and calculus.
COURSE CONTENT: The overall aim of the course is to provide an understanding of methods, techniques and tools for modelling, simulation and performance analysis of manufacturing processes, energy engineering, environmental engineering and civil engineering. The course will discuss CFD computation, process simulation, process modelling as well as logistic simulation. The major topics covered:
- Overview of simulation paradigms (e.c. CFD, process simulation etc)
- How to define the modelling procedure (solver)
- Pre and post processor
- Validation of simulation models
- Input data modelling
- Output data analysis
CONTACT PERSON: Benny Ekman, benny.ekman@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Sustainable Energy Systems

CODE: WER003
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
EXAMINATION: Project, Examination
LECTURE HOURS: 40
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
PREREQUISITES: At least 60 credits from completed courses which must include 60 credits Energy Engineering or 160 credits from an engineering program are required.
COURSE CONTENT: The main purpose of the course is to give the participants a comprehensive view of how sustainable energy systems can be used together. The course illustrates how these affect the whole energy system in Sweden and worldwide, concerning both power- and energy consumption. Studies are performed on the resources that are available in Sweden and worldwide, and how the energy consumption pattern looks like for individuals and for the societies.
CONTACT PERSON: Benny Ekman, benny.ekman@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

ENGLISH

English 1

CODE: HEN100
CREDITS: 30
LABORATORY HOURS: 0
STUDY PACE: Full timee
LOCATION: Västerås, Eskilstuna
EXAMINATION: Oral and written examinations, Final examination, Assessment of optional course component
LECTURE HOURS: 120
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: This course offers an introduction to English Studies. If you plan to continue in the subject, English 1 will give you the foundation for your future studies. If you want to include a single term of English in your degree, this course will give you a good overview of the subject, as well as the chance to improve your English language skills.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 1, Language in context 1

CODE: HEN103
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås, Eskilstuna
EXAMINATION: Spoken and written assignments, Pronunciation, Final examination of optional course component
LECTURE HOURS: 60
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: In this course you will get an opportunity to improve your English by using English to communicate within a context. You will practice communication skills such as public speaking, debating and essay writing, and at the same time learn more about key features of contemporary British and American society. Assessment is by way of spoken and written assignments and a final examination.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

STUDY PERIODS

1A: 2010-08-30 – 2010-10-03
1B: 2010-10-04 – 2010-11-07
2 A: 2010-11-08 – 2010-12-12
2 B: 2010-12-13 – 2011-01-16
3 A: 2011-01-24 – 2011-02-27
3 B: 2011-02-28 – 2011-04-03
4 A: 2011-04-04 – 2011-05-08
4 B: 2011-05-09 – 2011-06-12

English 1, Linguistics 1

CODE: HEN102
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0, **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Written and spoken assignments
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: Linguistics 1 provides an introduction to three fundamental areas of English linguistics: grammar, phonetics and lexical semantics. Teaching is in the form of lectures and discussion groups. Assessment is by means of activities in and out of class, and a final written examination.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 1, Literature 1

CODE: HEN101
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, Final examination
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: This course will give you an introduction to contemporary Global English literature, and to the use of literary terminology and some techniques for literary study. The reading list consists of contemporary and important novels, short stories and plays from the English speaking world and reflects the course's focus on post-colonial literature. Assessment is by way of spoken and written assignments and a final examination.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 2

CODE: HEN200
CREDITS: 30 **LECTURE HOURS:** 120
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Oral and written examinations
PREREQUISITES: At least 30 credits in English as a major subject, or equivalent.
COURSE CONTENT: In English 2 you'll build on the knowledge and skills you gained in the first term to complete your foundation studies in English from a historical perspective. Like English 1, the course consists of three components: in Language in Context 2 you'll get an overview of important historical episodes in the English-speaking world, and you'll further develop your ability to understand and produce English, particularly in academic contexts. Literature 2 surveys the development of English-language literature, and in Linguistics 2 you'll sample a range of sub-disciplines in English linguistics, including the history of the English language.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 2, Language in Context 2

CODE: HEN201
CREDITS: 15 **LECTURE HOURS:** 60
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, British and American history and writing skills
PREREQUISITES: At least 30 credits in English as a major subject, or equivalent.
COURSE CONTENT: Language in Context 2 has two objectives: to give an overview of important historical trends and episodes in the English-speaking world, and to create opportunities for students to improve their English language skills.
Learning activities in Language in Context 2 include lectures, seminar discussions and individual writing conferences. Assessment activities consist of written assignments, participation in, and preparation for, class activities, and a final examination.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 2, Linguistics 2

CODE: HEN202
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, Final examination
PREREQUISITES: At least 30 credits in English as a major subject, including at least 7,5 credits linguistics.
COURSE CONTENT: Linguistics 2 provides a survey of key areas in English linguistics, including:
- the development of human language.
- the historical development of the English language
- phonology.
- pragmatics.
- sociolinguistics.
- discourse analysis.

CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 2, Literature 2

CODE: HEN203
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås, Eskilstuna **LANGUAGE:** English
EXAMINATION: Written and spoken assignments,
PREREQUISITES: At least 30 credits in English as a major subject, including at least 7,5 credits in literature.
COURSE CONTENT: Literature 2 builds on your previous studies in English and offers an historical review of English literature.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 3, Contemporary Detective Fiction: Trends and Theories

CODE: HEN308
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Eskilstuna **LANGUAGE:** English
EXAMINATION: Exercise, Seminar, Written and/or oral examination
PREREQUISITES: At least 60 credits in English as a major, including at least 15 credits in literature.
COURSE CONTENT: This course will extend your knowledge of literary studies in English, especially of the detective genre, a genre that deals with serious topics in a popular form. The reading list consists of contemporary detective and crime fiction, and of some literary theory and criticism. The course could help you identify a relevant essay topic and equip you for essay research. Assessment is by way of spoken and written assignments and a final examination.
CONTACT PERSON: Christina Kääriä christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 3, Essay in English Studies

CODE: HEN301
CREDITS: 15 **LECTURE HOURS:** 60
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Essay and ventilation seminar
PREREQUISITES: At least 60 credits in English as a major subject.
COURSE CONTENT: The essay in English studies on the 300 level and the advanced essay on the 400 level are independent research projects. During the course of the term you'll plan, carry out, and write up, a research project, under the supervision of a member of the English studies staff.
CONTACT PERSON: Christina Kääriä christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 3, Literature 3: From Modernism to Postmodernism

CODE: HEN312
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Oral and written excercises, Seminar, Final examination
PREREQUISITES: At least 60 credits in English, including at least 15 credits literature or equivalent.
COURSE CONTENT: This course will build on and extend your knowledge of literature in English, especially of British and North American texts of the Modernist and Postmodernist periods, and of literary analysis. It is also an introduction to literary theory and criticism. The reading list contains famous works from two related and highly important periods of literature in English. This course could help you identify relevant areas of study for the Essay in English and equip you for such research. Assessment is by way of spoken and written assignments and a final examination.

STUDY PERIODS

1A: *2010-08-30 – 2010-10-03*
1B: *2010-10-04 – 2010-11-07*
2 A: *2010-11-08 – 2010-12-12*
2 B: *2010-12-13 – 2011-01-16*
3 A: *2011-01-24 – 2011-02-27*
3 B: *2011-02-28 – 2011-04-03*
4 A: *2011-04-04 – 2011-05-08*
4 B: *2011-05-09 – 2011-06-12*

CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 3, Social and Regional Variation

CODE: HEN304
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Eskilstuna
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Spoken and written assignments, Preparation for and participation in course activities, Final examination
PREREQUISITES: At least 60 credits in English as a major, including at least 15 credits linguistics.
COURSE CONTENT: The focus of this course is examing the variation in how English is used around the world and in a range of contexts. We'll look at questions such as
- how people from different social groups differ in their use of English,
- similarities and differences in how men and women use language.
- the varieties of English spoken around the world
- and the implications of the growth of English as an international language.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 3, Translation Studies

CODE: HEN313
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 30
START PERIOD: 4
LEVEL OF EDUCATION: Basic level
LANGUAGE: English
EXAMINATION: Spoken and written assignments, Preparation for and participation in course activities, Final examination
PREREQUISITES: At least 60 credits in English as a major subject or equivalent.
COURSE CONTENT: This course provides an introduction to the field of Translation Studies, including its historical development and current concerns. We'll acquaint ourselves with the core issues (What is a translation? How should one translate? What is the role of translation in society?), as well as some of its more specialized subareas, such as:
- literary translation
- poetry translation
- technical translation
- screen translation
- interpreting
- translation and language learning
- translation of specific textual features such as humour and culture-related elements

Theoretical studies will be combined with hands-on exercises, both in the seminars and in the projects to be carried out.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 4, Advanced Essay in English Studies

CODE: HEN401
CREDITS: 15
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 60
START PERIOD: 3
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Essay and ventilation seminar
PREREQUISITES: At least two years of studies on the basic level or at least 120 credits, of which 90 credits are in English.
COURSE CONTENT: The essay in English studies on the 300 level and the advanced essay on the 400 level are independent research projects. During the course of the term you'll plan, carry out, and write up, a research project, under the supervision of a member of the English studies staff.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 4, Contemporary Detective Fiction: Trends and theories

CODE: HEN408
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Eskilstuna
LECTURE HOURS: 30
START PERIOD: 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Exercise, Seminar
PREREQUISITES: At least two years of studies on the basic level or at least 90 credits in English, including at least 22,5 credits literature
COURSE CONTENT: This course will extend and deepen your mastery of literary studies in English, particularly within the detective genre. We investigate trends and theories of a genre with deep as well as broad applications; a genre that deals with serious topics in a popular form. The reading list contains contemporary British and American detective fiction, as well as literary theory and criticism applied to this genre. This course could help you identify a relevant topic for the Advanced essay and will equip you for such research. Assessment will be by way of spoken assignments and a 7-8 page essay.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 4, Literature 4: From Modernism to Postmodernism

CODE: HEN412
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Exercise, Seminar
PREREQUISITES: At least two years of studies on the basic level or at least 90 credits in English, including at least 22,5 credits in literature.
COURSE CONTENT: This course will extend and deepen your mastery of literary studies in English, particularly of British and American Modernist and Postmodernist texts and of literary analysis. The reading list contains famous works from these important literary periods, and applied literary theory and criticism. On the 400 level this course could also help you identify a relevant topic for the Advanced essay and equip you for such research. Assessment will be by way of spoken assignments and a 7-8 page essay.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 4, Social and Regional Variation

CODE: HEN403
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Eskilstuna
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Spoken and written assignments, Preparation for and participation in course activities, Final examination
PREREQUISITES: At least two years of studies on the basic level or at least 120 credits, of which 90 credits are in English.
COURSE CONTENT: The focus of this course is examing the variation in how English is used around the world and in a range of contexts. We will look at questions such as
- how people from different social groups differ in their use of English.
- similarities and differences in how men and women use language.
- the varieties of English spoken around the world.
- the implications of the growth of English as an international language.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English 4, Translation Studies

CODE: HEN413
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LOCATION: Västerås
LECTURE HOURS: 30
START PERIOD: 4
LEVEL OF EDUCATION: Advanced level
LANGUAGE: English
EXAMINATION: Spoken and written assignments, Preparation for and participation in course activities, Final examination
PREREQUISITES: At least two years of studies on the basic level or at least 120 credits, of which 90 credits are in English.
COURSE CONTENT: This course provides an introduction to the field of Translation Studies, including its historical development and current concerns. We'll acquaint ourselves with the core issues (What is a translation? How should one translate? What is the role of translation in society?), as well as some of its more specialized subareas, such as:
- literary translation
- poetry translation
- technical translation
- screen translation
- interpreting
- translation and language learning
- translation of specific textual features such and humour or culture-related elements

Theoretical studies will be combined with hands-on exercises, both in the seminars and in the projects to be carried out. The demands on 4th-term students will be somewhat higher than on 3rd-term students as regards, for example, their scientific attitude and approach, as well as oral and written presentation skills.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English for Academic Purposes 1

CODE: HEN002
CREDITS: 7,5
LABORATORY HOURS: 0
STUDY PACE: Part time 50%
LECTURE HOURS: 30
START PERIOD: 3
LEVEL OF EDUCATION: Preparatory level

LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, Preparation for and participation in scheduled activities, Grammar and vocabulary examination
PREREQUISITES: Completed three years of upper secondary school or equivalent.
COURSE CONTENT: English for Academic Purposes 1 aims at developing oral and written proficiency in English at the upper intermediate level. The course comprises lectures, seminars and individual and group exercises.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English for Academic Purposes 3

CODE: HEN112
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, Seminar, Written examination
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: English for Academic Purposes 3 offers an opportunity to put your knowledge of English to work on a range of communicative tasks.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

English for Business Purposes

CODE: HEN107
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Written and spoken assignments, Preparation for and active participation in campus meetings, Written examination
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course is designed to improve oral and written techniques in business contexts. Features of style and the language of different types of business correspondence are practised: how to say what mean can make or break a business deal. Other business-related matters such as banking, insurance, personnel, social correspondence, interview skills and intercultural communication are also dealt with.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

The English Identity

CODE: HEN114
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Seminar, Written and oral examination
PREREQUISITES: TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: What makes a person "typically English"? In this course we look at the cultural and social behaviour patterns in England and at the same time develop oral and written skills in English. After a brief introduction aiming at providing a general background to the social structure of England, particular aspects of conversation and behaviour codes are examined and discussed: language, class, humour, dress, food, work, play etc. Comparisons with corresponding phenomena in Sweden and/or the student's own country are also discussed.
CONTACT PERSON: Christina Kääriä, christina.kaaria@mdh.se
SCHOOL: School of Education, Culture and Communication

ENVIRONMENTAL SCIENCE

Biostatistics

CODE: WMX022
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. Basic knowledge in statistics. Basic knowledge in statistics can be acquired in the course Methods in Natural Sciences 15 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The students will get knowledge about scientific research methodology and the selection of appropriate statistical methods to manage, compare and present scientific data. The aim is to teach the students critical analysis of information and research results. Topics covered are: Design of field- and experimental work to meet requirements for statistical analyses and scientific relevance. Descriptive statistics. Sampling area. Sampling methods. Parametric tests and their assumptions: 1-sample and 2-sample t-tests. ANOVA (One and two-factor, multifactor), multiple comparison tests, interactions, balanced and unbalanced designs, hierarchical analysis of variance, GLM ANOVA. Simple and multiple linear regression and correlation. Assumptions of regression analysis. Regression diagnostics. Non-linear regression. Non-parametric tests: Sign, Wilcoxon, Mann-Whitney, Kruskal-Wallis, Friedman, Mood's median test. Contingency tables, x^2 tests, Fisher's exact test, log-linear models. Multivariate analyses: Principal component analysis, factor analysis, cluster analysis, descriminant analysis, correspondence analysis.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Ecological Risk Assessment

CODE: WMX024
CREDITS: 6 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. Basic knowledge in statistics can be acquired in the course Methods in natural Sciences 15 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course will provide knowledge about ecotoxicology, environmental analysis and predictive modeling. The theoretical background, methodology and criteria for testing toxicity and environmental monitoring. Ranking and modelling of environmental threats. Assessment of the outcome of measures to reduce the extent of threats to the environment. The course covers: Case studies. Characterisation of ecological effects. Stressor-response analysis. Quantification of ecological effects: LC50, EC50, NOEC. Ecological effects on different ecological levels: single species tests, population studies, ecosystem-level tests (microcosm's, mesocosm's and field studies). Ecological risk assessment: field, objectives and concepts. Ecological risk assessment as a decision-making tool: ecological risk assessment and risk management, participants, quality assurance. Exposure characterisation. What is exposure? Definition Exposure analysis: exposure pathways, fate and transport models. Planning laboratory tests; Selection of appropriate end-points; Tiered approach. Risk characterisation; Quantification of risk; Uncertainty assessment. Risk assessment tools 1; Fate and transport models; Modelling exposure of biotic stressors; population dynamics models; Toxicokinetic and toxicodynamic models; SAR and OSAR models; Stressor characterisation; Chemical, physical and biological stressors (exotic species and GMOs); Secondary stressors; Interaction of stressors: graph theory.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Ecotoxicological Bioassays

CODE: WMX025
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. Basic knowledge in ecotoxicology and statistics. Basic knowledge in statistics can be acquired in the course Methods in Natural Sciences 15 credits and basic knowledge in ecotoxicology can be acquired in the course Ecotoxicology 4 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course will define the role of ecotoxicolgical bioassays in the framework of ecotoxicology; ecological risk assessment; life cycle assessment and ecological biomonitoring systems as well as provide an overview of the principles of ecotoxicological bioassays including legislative consequences and scientific development in the area. The course will also explain the sources of variability in ecotoxicological bioassays and their importance in data validation; inter laboratory comparisons and systems of accreditation. In the course will learn how to enable the selection of bioassay tests appropriate to specific samples. The course covers: Basic

terminology. A role of bioassays in ecotoxicology. Test-standardisation at EU, international and national levels. In practical courses, attention is focused on sampling and sample preparation, bioassays for liquid samples, ecotoxicological bioassays for soil and sediment samples; specific types of ecotoxicological bioassays, legislation, sources of variability, validation and interpretation of results of ecotoxicological bioassays and professional contacts and advanced communication in the field of bioassays.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Ecotoxicology

CODE: WMX036
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course will cover: History and current structure of ecotoxicology. Chemical compounds in ecosystems. Effects of chemical stressors on ecosystems and on organisms. Acute and chronic toxicity vs. genotoxicity vs. carcinogenicity. Biomarkers. Hierarchy of the biological system, effects at subcellular and cellular levels; biochemical and molecular modes of toxic action. Properties, structure and functions of ecosystems; stress in communities and ecosystems; spatial and temporal changes; experimental approaches: laboratory testing vs. in situ studies vs. biomonitoring. Methods and experiments of different complexities in ecotoxicology. Laboratory biotests and ecological studies; in situ studies; in situ study methods. Major classes of important contaminants: individual chemicals vs. mixtures and complex samples. Applications of predictive ecotoxicology: principles and characteristics of structure-activity relationship modelling (QSAR); mathematical models for fate and transport of chemicals in the environment and in food chains. Risk assessment - basic concepts and realization; hazard vs. risk.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Environmental Informatics

CODE: WMX026
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The student will learn how to develop multimedia-based information materials relevant to his/her research work as well as how to communicate information about his/her research work to lay persons and to research Institutes on the Web and/or on CD/DVD. Basic knowledge of picture processing. Basic knowledge of communication. Basic knowledge of building web pages using Macromedia MX 2004 (Flash and/or Dreamweaver).
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Eutrophication

CODE: WMX028
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. Knowledge in statistical analysis. These can be acquired in the course Methods in Natural Sciences 15 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course will give complex interactions among various pressures, factors, components and processes associated with eutrophication in aquatic systems and the methods and tools used in assessing eutrophication. The course will also give a description of the European and global dimension of eutrophication problems and the effort needed to solve these problems. The student will be familiarised with effective communication of eutrophication issues to administrative bodies and the general public. The course covers: Definition and historic overview of eutrophication. Causes of Eutrophication: nutrient enrichment-Altered nutrient fluxes, overfishing and hydrological-morphometric alterations. Consequences of Eutrophication: algal blooms-toxic blooms, responses of aquatic communities, differentiation of production and decomposition (autotrophic/heterotrophic states), oxygen deficit, turbidity and water quality degradation. Information-type sources for eutrophication. Eutrophication Assessment: historical data, monitoring, tools and methods, assessment quality elements, quantitative criteria for assessment, trophic states classification. Case studies in freshwaters. Socio-economic aspects of eutrophication: eutrophic drinking water reservoirs and effects of harmful algal blooms on fish and shellfish production. Eutrophication and EU legislation: EU Directives related to Eutrophication. Restoration measures: nutrient control, biomanipulation, hydrological adjustments and other measures. Report preparation. Communication of results.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Predictive Limnology

CODE: WMX030
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. Basic knowledge in freshwater ecology and in statistics. Basic knowledge in freshwater ecology can be acquired in the course Aquatic Ecology 6 credits. Basic knowledge in statistics can be acquired in the course Methods in Natural Scinces 15 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: In this course the students will gain knowledge necessary to build models for water quality assessments and gain information concerning the criteria for a model, steps in building a model employing "user friendly" building software, model evaluation and reconstruction, critera for use of a model and evaluation of model results. The course covers: Time and area compatibility of data. Statistical analyses: Prairies staircase, Regression analyses, Variability within and among ecosystems, Uncertainties in empirical data and Basic principles determining the predictive success of ecosystem models. Dynamical and statistical ecosystem modelling: Effect-Load-Sensitivity models. Predictions using a model: Testing functions in a validated model. Model development: Building a simulation model. Model testing: Calibration, Validation and Uncertainty tests using Monte Carlo techniques.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Remediation

CODE: WMX031
CREDITS: 4 **LECTURE HOURS:** 35
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering and the courses Ecotoxicology 4 credits, Sedimentology 4 credits and Wastewater Treatment 4 credits. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: Ex Situ and In Situ methods:
- Physical methods including isolation, lining, capping and dredging of materials.
- Chemical methods including precipitation, buffering, flocculation, dispersion and buffering.
- Biological methods including the use of biocides, bioremediation (microorganisms) phytoremediation, manipulation of food chains, control and removal of invasive species and pathogenic organisms and biostimulation.
- Commercial products and techniques; current state of the art, potential and limitations.

Systems for selecting and evaluating remedial actions:
- Handling of waste including dredged materials obtained in remedial actions.
- Evaluation of present large scale remedial projects in Europe; ecosystem, remedial actions and monitoring.

Design of monitoring programmes for following up remedial actions:
- Evaluation of the efficiency of remedial actions and monitoring programmes.

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SCHOOL: School of Sustainable Development of Society and Technology

Sedimentology

CODE: WMX032
CREDITS: 4 **LECTURE HOURS:** 40
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project, Seminar, Written and/or oral examination
PREREQUISITES: Three years of university studies at basic level in biology, chemistry, environmental science or environmental engineering. TOEFL test result, minimum score 550 with a TWE score of at least 4 (PBT) or 79 with a TWE score of at least 17 (iBT) or an IELTS test result with an overall band score of minimum 6.0 and no band score below 5.0 or equivalent.
COURSE CONTENT: The course will provide information concerning the different processes influencing recent sediments and how different major processes e.g. sea level, climate changes etc. affect sedimentation in aquatic ecosystems. In this course, sediment structures, stratification and erosion, deposition and sediment transport processes will be discussed. Students will also learn about the factors influencing formation of sediments, sedimentation processes and different sediment types. An important topic will be an assessment of quality using sediment data.
Topics covered: Geomorphology of ecosystems. Processes influencing recent sediments. Effects of different environmental conditions on sedimentation processes. Effects of plants and animals on sediments. Deposition and transport processes. Different types of sediments. Quality assessment using sediment data. Human impacts. Sediments in regulated rivers. Eutrophication and effects on sediments. Heavy metals and organic pollution of sediments. Remediation of contaminated sediments.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Swedish Environmental problem solving, project

CODE: WMX047
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project
PREREQUISITES: At least 30 credits Environmental Science or 30 credits Environmental Engineering or equivalent knowledge.
COURSE CONTENT: The course can be chosen by students in building engineering, energy engineering, environmental science and environmental engineering. You connect your field of studies to environmental problems and focus on solutions to the specific problems. The course will provide advanced knowledge in environmental science / environmental engineering, and provide knowledge on how to work with the environmental problem in Sweden. The course will also develop the ability to define problems, evaluate data and to work independently and develop the ability to recognize knowledge and achievements in speech and writing. The greater part of the course consists of an independent work. The study may include comparative studies within the project area between Sweden and the student's home country.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Swedish Environmental problem solving, project

CODE: WMX048
CREDITS: 15 **LECTURE HOURS:** 40
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Project
PREREQUISITES: At least 30 credits Environmental Science or 30 credits Environmental Engineering or equivalent knowledge.
COURSE CONTENT: The course can be chosen by students in building engineering, energy engineering, environmental science and environmental engineering. You connect your field of studies to environmental problems and focus on solutions to the specific problems. The course will provide advanced knowledge in environmental science / environmental engineering, and provide knowledge on how to work with the environmental problem in Sweden. The course will also develop the ability to define problems, evaluate data and to work independently and develop the ability to recognize knowledge and achievements in speech and writing. The greater part of the course consists of an independent work. The study may include comparative studies within the project area between Sweden and the student's home country.
CONTACT PERSON: Åke Forsberg, ake.forsberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

FRENCH

Business French

CODE: FRA105
CREDITS: 7,5 **LECTURE HOURS:** 24
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** French
EXAMINATION: Exercise, Seminar, Oral and written examination
PREREQUISITES: French from three years of upper secondary school or equivalent.
COURSE CONTENT: Business Texts, Written Exercises in the form of Memos, CVs, Business Letters, Business Communication, French Business Culture
CONTACT PERSON: Hans Färnlöf, hans.farnlof@mdh.se
SCHOOL: School of Education, Culture and Communication

Business French

CODE: FRA205
CREDITS: 7,5 **LECTURE HOURS:** 24
LABORATORY HOURS: 0 **START PERIOD:** 4
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** French
EXAMINATION: Exercise, Seminar, Oral and written examinations
PREREQUISITES: 30 credits in French as a major subject.
COURSE CONTENT: Business Texts, Written Exercises in the form of Memos, CVs, Business Letters, Business Communication, French Business Culture
CONTACT PERSON: Hans Färnlöf, hans.farnlof@mdh.se
SCHOOL: School of Education, Culture and Communication

INFORMATION SYSTEMS

Marketing and IT

CODE: EIK035
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3a
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Written and/or oral examination, Group Project, Seminar
PREREQUISITES: 30 credits in Business Administration (at least 15 credits finished when the course starts) and Informatics 7,5 credits.
COURSE CONTENT: The purpose of this course is to let the students develop knowledge about the use of information technology (IT) in marketing situation. The students will develop understanding for the consequences and significance of the use of information systems (IS) in companies and organizations. Perspectives on different information system in marketing contexts are discussed based on scientific articles in seminar form. In this course, the student will develop an understanding of how information technology enables marketing thinking. At the course the student will be training on oral and written presentations. The students will read academic texts, on marketing and IT subjects, and discuss them in seminar form. The course contains of lecturers, literature seminars, student driven seminars and group projects. These course elements demands active participation from the students. The project work is concluded in a presentation in front of the class.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

Project and innovation management with an IT focus

CODE: EIK033
CREDITS: 15 **LECTURE HOURS:** 50
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Advanced level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Exercise, Written and/or oral examination
PREREQUISITES: A Bachelor´s degree from an institution of higher education of three years or more, equivalent to at least 180 credits in Business Administration, Social Science or Technology; or at least 90 credits in Business Administration or Informatics of which at least 30 credits on Basic level third year.
COURSE CONTENT: The aim of the course is to examine how to conduct and evaluate product and service innovation projects with special focus on the field of Information Technology (IT) as well as other fields with the support of IT. The course examines innovation project planning Information Technology (IT) in an innovation management perspective. This includes types of innovations, the diffusion of innovation in social systems, the adoption of innovation in organizations, groups and at the individual level. Furthermore facilitating and hindering factors are covered as well as how to manage the complex processes involved, for example how to organize innovation projects and when to launch a product and/or service on the market for successful diffusion. A central dimension, beside functionality, is the design and

usability aspects of products, software and hardware. Also methodological issues related to the course as well as the program as a whole are include. The objective is to provide students with a better understanding of innovation processes including those based on IT and developed with IT as well as how to manage these processes based on scientific knowledge.
CONTACT PERSON: Madeleine Lundberg, madeleine.lundberg@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

INNOVATION TECHNOLOGY

Graduation Project in Innovation Management

CODE: INO001
CREDITS: 15
LECTURE HOURS: 20
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Full time
LEVEL OF EDUCATION: Advanced level
LOCATION: Eskilstuna
LANGUAGE: English
EXAMINATION: Written and/or oral examination, Project work, Final paper
PREREQUISITES: Pass (G) in the courses Innovation Management, KIN320 and Creativity Tools, KIN280.
COURSE CONTENT: The project is mainly an independent task to be carried out in a company or another type of organization in working life. It is required that the student heavily emphasizes the description, analysis and development of the project. The project may also consist of the development of a personal product concept or business idea. In total, the work shall correspond to ten weeks of full time labor. The progression shall be documented in a "reflective diary" during the whole extent of the project. Most of the work is done independently and there is only a limited time of classroom-scheduled activities. The student´s knowledge creation is mainly experienced based and staff independent. Main support is given through (group-) tuition by supervisors and a certain amount of lectures and seminars are given during the course. A peer-debriefing procedure is also organized where the students support each other.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Trendspotting

CODE: INO101
CREDITS: 7,5
LECTURE HOURS: 1
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 25%
LEVEL OF EDUCATION: Basic level
LOCATION: Eskilstuna
LANGUAGE: English
EXAMINATION: Group assignment with written, oral and visual reports, Individual assignment plus seminar.
PREREQUISITES: Completed three years of upper secondary school of euivalent.
COURSE CONTENT: Source evaluation with emphasis on web-based sources. Research basics (covering texts, digital media and real world research). The 7-step model for Business Intelligence and trend spotting. Collection, sorting, compilation, analysis and presentation. Project work with group assigned environmental analysis, trend spotting and presentations
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

MATHEMATICS/APPLIED MATHEMATICS

Actuarial Mathematics

CODE: MMA713
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Continuous examination/project, Seminars
PREREQUISITES: At least 120 credits in the technical, natural sciences, business administration or economics areas where Probability 7,5 credits or equivalent is included.
COURSE CONTENT: Actuarial mathematics constitutes the mathematical foundation of the insurance business. The stochastic nature of accidents and the length of people's lives make uncertainty an integral part of this business. The course Actuarial Mathematics provides students with essential knowledge and tools required to explore the consequences of uncertainty as well as to solve other mathematical and statistical problems arising in the insurance business. The concepts of risk theory and risk processes are introduced. Various forms of life insurance and their mechanisms are considered. Insurance models, reinsurance contracts, different types of distributions and simulation methods for both claim sizes and claim numbers will be analysed in the framework of non-life insurance. A computer software package is used throughout the course.
CONTACT PERSON: Oskar Schyberg, oskar.schyberg@mdh.se
SCHOOL: School of Education, Culture and Communication

Calculus I

CODE: MMA302
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Project, Seminar, Written examination
PREREQUISITES: Advanced mathematics from three years of upper secondary school with science profile.
COURSE CONTENT: Many problems in business and economics (as well as in many other fields) can be described by functions of a real variable. For instance: How does the cost of production change when production increase? What is the marginal cost of production? How many units should be produced in order to maximize the company's profit? What is the net excess profit of investment plan A over investment plan B?
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Degree Project in Mathematics

CODE: MMA390
CREDITS: 15
LECTURE HOURS: 25
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Degree project
PREREQUISITES: Non-overlapping courses in Mathematics/Applied Mathematics, excluding previous degree projects, with a total sum of at least 75 credits.
COURSE CONTENT: The course:
- gives deeper knowledge in a mathematical subject
- develops the ability to formulate a problem and to work independently
- develops the ability to make oral and written presentations of knowledge and the results obtained.
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Degree Project in Mathematics

CODE: MMA890
CREDITS: 15
LECTURE HOURS: 25
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Full time
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Degree project
PREREQUISITES: A completed degree project 15 credits on the basic level in Mathematics/Applied Mathematics and non-overlapping courses in Mathematics/Applied Mathematics with a total sum of at least 90 credits, excluding previous degree projects, of which at least 15 credits must relate to courses at advanced levels.
COURSE CONTENT: The course:
- gives deeper knowledge in a mathematical subject
- develops the ability to formulate a problem and to work independently
- develops the ability to make oral and written presentations of knowledge and of the results obtained.
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Degree Project in Mathematics

CODE: MMA891
CREDITS: 30
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Full time
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Degree project
PREREQUISITES: Non-overlapping courses in Mathematics/Applied Mathematics with a total sum of at least 90 credits, excluding previous degree projects, of which at least 30 credits must relate to courses on the advanced level.
COURSE CONTENT: The course:
- gives deeper knowledge in a mathematical subject
- develops the ability to formulate a problem and to work independently
- develops the ability to make oral and written presentations of knowledge and of results obtained.
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Financial and Risk Management Software

CODE: MMA709
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English

EXAMINATION: Projects, Seminars
PREREQUISITES: At least 120 credits in the technical, natural sciences, business administration or economics areas where Analytical Finance II 7,5 credits or equivalent is included.
COURSE CONTENT: An introduction to systems that are used by financial institutions for trading and risk management. Along with the basics of trading system usage, SQL and Python will be covered to further extend system functionality. After this course the student will have a good understanding of what a trading system is and how it is used at various departments of a trading organization.
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Introduction to Financial Mathematics

CODE: MMA303
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Continuous examination and quizzes, Seminars, Written examination
PREREQUISITES: Calculus I 7,5 credits or equivalent.
COURSE CONTENT: Financial economics is perhaps the most mathematical branch of economics. Mathematical finance aims to solve real problems in financial economics using simple mathematical models. This subject is taught in both business schools and mathematical science departments, and it is also widely and extensively utilized in the financial industry. The course will give an introduction to some basic notions such as, cash-flows, interest rates, present value, option pricing and arbitrage, in mathematical finance.
CONTACT PERSON: Ying Ni, ying.ni@mdh.se
SCHOOL: School of Education, Culture and Communication

Methods of Statistical Inference

CODE: MMA308
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Continuous examination, Quiz, Seminar, Written examination
PREREQUISITES: Probability 7,5 credits or equivalent.
COURSE CONTENT: Statistical analysis of real market data has an important role in analytical finance and economics. The course aims to equip students with the skills required for statistical inference. The course presents the main concepts and methods of statistical inference, such as estimation, confidence intervals, hypothesis testing, regression analysis, analysis of variances. It is anticipated that Matlab and other software will be used throughout the course. Review of Probability: probability, random variables, distributions, expectations, sampling distributions, sampling from normal distribution, Estimation: unbiased estimates and mean square error, selection of sample size, efficiency, consistency, sufficiency, minimum variance estimation, moment estimation, maximum likelihood estimation. Confidence Intervals: two-sided and one-sided intervals, coverage probability, confidence intervals for parameters of normal distributions, pivots. Hypothesis Testing: error probabilities, likelihood ratio tests, tests for parameters of normal distribution, power of tests, Neyman-Pearson lemma, hypothesis testing and confidence intervals, p-values. Regression Analysis: linear models, estimation by least squares, inference for regression parameters, regression prediction. Analysis of Variance: one-way layout analysis, ANOVA tables, statistical inference for one-way layout.
CONTACT PERSON: Anna Fedyszak-Koszela, anna.koszela@mdh.se
SCHOOL: School of Education, Culture and Communication

Numerical Methods with MATLAB

CODE: MMA307
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Laboratory work, Computer project, Folder examination and quizzes
PREREQUISITES: Algebra 7,5 credits and Calculus I 7,5 credits or equivalent.
COURSE CONTENT: Numerical methods are used to solve mathematical problems by the help of computers. In economics and engineering different mathematical models are developed to analyse some problem of interest. These models are often very complex and involve a large number of variables and conditions. Different kinds of approximations can be used to solve the problems by a computer. The course focus on some of the most important methods to solve mathematical problems with the aid of a computer. The World spread numerical software package MATLAB is introduced and used throughout the course. Explicitly the course consists of an introduction to MATLAB, including basic algorithms and programming in MATLAB, and the following topics: Non-linear equations, linear systems, interpolation, numerical differentiation, differential equations and numerical integration, applications in economics e.g. valuation of fixed income securities, Black-Scholes model and pricing American options by binomial lattices.
CONTACT PERSON: Anatoliy Malyarenko, anatoliy.malyarenko@mdh.se
SCHOOL: School of Education, Culture and Communication

Operations Research

CODE: MAA315
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercises, Written examination
PREREQUISITES: Calculus II 7,5 credits and Numerical Methods 7,5 credits or equivalent.
COURSE CONTENT: Optimization, a subfield of operations research, deals with mathematical models and algorithms for solving practical problems in the areas of computer science, economics, engineering, physics, chemistry, biology etc. The course gives a broad orientation of the field of optimization, with emphasis on basic theory and methods for continuous linear and nonlinear as well as discrete linear optimization problems. Two examples of optimization problems which we all meet in our everyday life, and which are easy to model and solve after completing the course are: ”Which path should we take from town A to town B, if we want the driving distance to be as short as possible” and ”With the requirement that the driving time must not be longer than X minutes, how fast should we drive on each part to obtain the lowest possible fuel consumption.” Exercises and laboratory problems are solved in MATLAB and optimization modelling languages using state-of-the-art software.
CONTACT PERSON: Torgil Abrahamsson, torgil.abrahamsson@mdh.se
SCHOOL: School of Education, Culture and Communication

Portfolio Theory II

CODE: MMA705
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Project, Continuous examination, Seminar, Final examination
PREREQUISITES: At least 120 credits in the technical, natural sciences, business administration or economics areas where Portofolio Theory I 7,5 credits or equivalent is included.
COURSE CONTENT: The course is a continuation of Portfolio Theory. The Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) are surveyed in more detail during the semester. In addition, students study the valuation of assets and the inputs needed for construction of ex-ante optimal financial portfolios. Asset valuation focuses on equity instruments using various techniques. Performance measurement and attribution are examined through risk-adjusted methods. Market timing and style investing are discussed. Other topics surrounding portfolio allocation include: Passive versus active management, market efficiency, value vs. growth, Roll´s criticism, performance persistency, alternative investments, benchmarks, impact of transactions costs and peer groups. Risk management is addressed via Value-at-Risk. There is a project during the course.
CONTACT PERSON: Lars Pettersson, lars.pettersson@mdh.se
SCHOOL: School of Education, Culture and Communication

Simulation

CODE: MAA313
CREDITS: 7,5
LECTURE HOURS: 30
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Computer exercises, Written examination
PREREQUISITES: Methods of Statistical Inference 7,5 credits or equivalent.
COURSE CONTENT: The aim of this course is to give a general introduction to several different simulation techniques, a deeper knowledge in Monte Carlo simulation, explain the advantage as well as the disadvantage of the use of different simulation techniques and to give examples of applications in finance.
CONTACT PERSON: Robin Lundgren, robin.lundgren@mdh.se
SCHOOL: School of Education, Culture and Communication

PRODUCT AND PROCESS DEVELOPMENT

Applied Operations Research and Logistics

CODE: KPP226
CREDITS: 7,5
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Eskilstuna
LANGUAGE: English

EXAMINATION: Thesis, Degree Project, Essay
PREREQUISITES: Production and logistics planning 7,5 credits or Planning and control 7,5 credits or equivalent and a Bachelor's degree in the fields of technology from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics or a Bachelor's degree in the fields of economics, business or science from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics with one year of working experience in the industry.
COURSE CONTENT: Operations Research is concerned with the application of mathematical modelling of problems arising in the management and operation of systems of human beings, machines, materials and money in industry, business...etc. The purpose is to help management to determine its policy and actions. Techniques of operations research considered are: Linear programming, Transportation and Assignment problems. Game theory and Decision analysis, Dynamic programming, Nonlinear programming, Integer programming, and Inventory theory.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Production-, Maintenance-, and Quality Management

CODE: KPP206
CREDITS: 7,5
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Eskilstuna
LANGUAGE: English
EXAMINATION: Project, Written and/or oral examination
PREREQUISITES: Innovative Production and logistics 7,5 credits and Process Quality 7,5 credits or equivalent and a Bachelor's degree in the fields of technology from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics or a Bachelor's degree in the fields of economics, business or science from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics with one year of working experience in the industry.
COURSE CONTENT: The course aims to give an understanding of production and quality development within the industrial operations. After the course, the students should be able to apply modern methods and activities to conduct developments within the production processes. They will also be able to lead development work independently and have the ability to analyse and evaluate problems in production processes and develop measures and improvement plans.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

Supply Chain Management

CODE: KPP241
CREDITS: 7,5
LECTURE HOURS: 10
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Eskilstuna
LANGUAGE: English
EXAMINATION: Exercise, Seminar
PREREQUISITES: At least 22,5 credits on advanced level in product and process development and a Bachelor's degree in the fields of technology from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics or a Bachelor's degree in the fields of economics, business or science from an institution of higher education of three years or more, equivalent to at least 180 credits with at least 22,5 credits in mathematics/applied mathematics with one year of working experience in the industry.
COURSE CONTENT: The course aims to give a deeper understanding and to prepare the student for research in the area of Supply Chain Management. The course focus on logistics and process development. The course deals with logistics development, cooperation and collaboration betwen companies, to by/ to manufacture questions and the connection between the value chain and the work in product development. The aim of the course is also to give a deeper discussion and knowledge of "Supply Chain Management" - what it comprises and means and how the work is done.
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering

PSYCHOLOGY

Intercultural Leadership Programme

CODE: SPO006
CREDITS: 30
LECTURE HOURS: 120
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Written and oral examination
PREREQUISITES: Three years of upper secondary school or equivalent.
COURSE CONTENT: In the light of globalization and an increasingly culturally diverse labour market, managers and coaches need new competences. Drawing from a broad range of theories and concepts in the social sciences, the program focuses leadership processes and management strategies in intercultural contexts. Special attention is given to management challenges and problems emanating in culture differences, as they are expressed in symbols, language, time conception, values, norms, habits, power distance, management styles etc. In lectures, seminars, workshops and study assignments theoretical studies are combined with practical applications, where students are expected to perform independently as well as in multicultural study groups.
CONTACT PERSON: Agneta Brav, agneta.brav@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

SCIENCE OF PUBLIC HEALTH

Global Health Perspective on Drugs and Drug Abuse

CODE: FHA012
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 4
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: 15 credits in Public health sciences or equivalent.
COURSE CONTENT: In today's world more and more people abuse drugs which has an effect on the society and the public health. There are different kinds of drugs in different cultures, but there are also drugs common for most countries. This course provides a basic understanding of these different drugs, the consequences of the abuse and knowledge about preventive measures to reduce the problem. Throughout the course a global perspective is used.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

Inequality in Health - in a Global Perspective

CODE: FHA006
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: 15 credits in Public health sciences or equivalent.
COURSE CONTENT: People are healthier and live longer, however there is still an imbalance between socioeconomic groups, men and women, people from different countries/cultures, even though our world has developed. A lot of the inequalities can be avoided since they are related to peoples living conditions, and which are dictated by factors such as politics, economy, and culture. If you are interested in global health inequalities this is the online course for you.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

Project Management in Public Health

CODE: FHA014
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Part time 50%
LEVEL OF EDUCATION: Advanced level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Oral and/or written examinations
PREREQUISITES: Degree of Bachelor or equivalent.
COURSE CONTENT: Important parts of public health work are carried out in the format of projects. Most public health students will certainly be working as project managers from time to time in the future. However, theories and knowledge about project work are mainly adapted to trade and industry. Thus it is important to understand project management from the perspective of the public health sector, which is the general purpose of this course. Your knowledge, abilities and attitudes will improve within project management. The course can be included in your master exam.
CONTACT PERSON: Lillemor Fernqvist, lillemor.fernqvist@mdh.se
SCHOOL: School of Health, Care and Welfare

SOCIAL WORK

Social Welfare from a Cultural Perspective

CODE: SAA001
CREDITS: 7,5
LECTURE HOURS: 50
LABORATORY HOURS: 0
START PERIOD: 3
STUDY PACE: Full time
LEVEL OF EDUCATION: Basic level
LOCATION: Västerås
LANGUAGE: English
EXAMINATION: Exercise
PREREQUISITES: Social sciences 30 credits on Basic level first year or equivalent.

COURSE CONTENT: The idea of social welfare and the ways of running social work are inspired by fundamental values in the society. The cultural context of everyday life of the individual is confirming respect and integrity. With reference to practical work and a theoretical approach the importance of cultural understanding has to be stressed to achieve quality of social work in a multicultural society. This course addresses to students within care sciences and social work from Sweden and foreign nations. In this way specific observations and reflections will be accomplished. English is the main language of this course.
CONTACT PERSON: Håkan Karp, hakan.karp@mdh.se
SCHOOL: School of Health, Care and Welfare

SPANISH

Spanish 1, Basic Cultural Studies

CODE: HSP103
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** Spanish
EXAMINATION: Seminar
PREREQUISITES: Spanish from three years of upper secondary school or equivalent.
COURSE CONTENT: Pure Literature and Culture, 7,5 credits
Intensive training of language proficiency on the basis of modern literature. Continual presentation of the texts under the teacher's guidance. Exercises in written work, mainly in the form of summaries and reports in connection with the presentation of the texts. Lectures on the history of ideas and art in the Spanish-speaking countries.
CONTACT PERSON: Magda Salinas, magda.salinas@mdh.se
SCHOOL: School of Education, Culture and Communication

Spanish 1, Speaking Skills

CODE: HSP102
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** Spanish
EXAMINATION: Oral and written examinations.
PREREQUISITES: Spanish from three years of upper secondary school or equivalent.
COURSE CONTENT: The course comprises the following parts:
(3 credits) Phonetics
(1.5 credits) Pronunciation Practice
(3 credits) Oral Communication
Lectures on the main features of general and Spanish phonetics: Spanish phonemes, phonetic signs, types of intonation and phonological processes and also a little about regional deviations from standard pronunciation. Conversation exercises.
CONTACT PERSON: Magda Salinas, magda.salinas@mdh.se
SCHOOL: School of Education, Culture and Communication

Spanish American Society and Culture

CODE: HSP202
CREDITS: 7,5 **LECTURE HOURS:** 30
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Part time 25% **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** Spanish
EXAMINATION: Presentation of tasks and written work
PREREQUISITES: Spanish from three years of upper secondary school or equivalent.
COURSE CONTENT: Knowledge of the history, politics and social institutions, economics and general cultural conditions of present-day Spanish America. Oral and written presentations. Continual presentations of texts.
CONTACT PERSON: Magda Salinas, magda.salinas@mdh.se
SCHOOL: School of Education, Culture and Communication

STATISTICS

Statistics for Business

CODE: EST001
CREDITS: 15 **LECTURE HOURS:** 60
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level
LOCATION: Västerås **LANGUAGE:** English
EXAMINATION: Written and/or oral examination
PREREQUISITES: Mathematics from three years of upper secondary school with science profile.
COURSE CONTENT: The course will apply various statistical methods to managerial decisions, in fields of economics, market research, marketing, financial analysis, accounting, auditing, personnel selection, government relations, information services, quality improvement of products and services, production process improvement, and research and development. Topics include populations and samples; the presentation and interpretation of data; measures of central tendency and variability; basic probability; the binomial, hyper geometric and normal distributions; estimation and hypothesis testing; index numbers; simple and multiple regression and correlation; time series analyses and forecasting. Statistical software is used to extensively analyze real world economic data.
CONTACT PERSON: Mona Andersson, mona.andersson@mdh.se
SCHOOL: School of Sustainable Development of Society and Technology

SWEDISH

Scandinavian Studies 1: Language and Society

CODE: SVA003
CREDITS: 30 **LECTURE HOURS:** 120
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Preparatory level
LOCATION: Västerås **LANGUAGE:** Swedish
EXAMINATION: Oral and written examinations
PREREQUISITES: General entry requirements for university studies in Sweden. At least 100 hours of Swedish studies (with documentation) or equivalent knowledge is required.
COURSE CONTENT: Unit 1: Oral Communication and Phonetics, 8 credits
In this unit the basic ability to express oneself orally in Swedish is practised as well as the ability to understand simple spoken Swedish.
Unit 2: Written Communication, 7 credits
In this unit the basic ability to read and write simple texts in Swedish is practised as well as the use of dictionaries and other aids.
Unit 3: Grammar, 8 credits
This unit deals with the structure and characteristic features of the Swedish language as well as giving basic knowledge for the discussion of linguistics issues.
Unit 4: Social Conditions and Culture, 3 credits
This unit comprises studies in Swedish geography, politics and social structure.
Unit 5: Project (Work), 4 credits
This unit is given across the whole semester and the skills acquired from the other units will be used to write a project.
CONTACT PERSON: Magnus Jansson, magnus.jansson@mdh.se
SCHOOL: School of Education, Culture and Communication

Scandinavian Studies 2: Language and Culture

CODE: SVA004
CREDITS: 30 **LECTURE HOURS:** 120
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Preparatory level
LOCATION: Västerås **LANGUAGE:** Swedish
EXAMINATION: Oral and written examinations
PREREQUISITES: General entry requirements for university studies in Sweden, with the exception of upper-secondary advanced-level studies in Swedish, apply. Previous knowledge corresponding to the course Scandinavian Studies 1: Language and Society (30 credits) is required.
COURSE CONTENT: Unit 1: Language Description, 6 credits
This unit deals with structure and characteristic features of the Swedish language as well as giving advanced knowledge for the discussion of linguistics issues.
Unit 2: Written Work, 7 credits
In this unit the ability to read and write various types of texts in Swedish is practised as well as the use of dictionaries and other aids.
Unit 3: Oral Work and Listening Comprehension, 7 credits
In this unit the ability to express oneself in Swedish is practised as well as the ability to understand spoken Swedish.
Unit 4: Swedish Literature, 3 credits
The course comprises studies in the Swedish literature.
Unit 5: Swedish History, Swedish Social Conditions and Swedish Culture, 3 credits
The course comprises studies in Swedish history, Swedish social conditions and Swedish culture.
Unit 6: Project (Work), 4 credits
This unit is given across the whole semester and the skills acquired from the other units will be used to write a project.
CONTACT PERSON: Magnus Jansson, magnus.jansson@mdh.se
SCHOOL: School of Education, Culture and Communication

Scandinavian Studies 3: Language, History and Literature

CODE: SVA102
CREDITS: 30 **LECTURE HOURS:** 120
LABORATORY HOURS: 0 **START PERIOD:** 3
STUDY PACE: Full time **LEVEL OF EDUCATION:** Basic level

LOCATION: Västerås **LANGUAGE:** Swedish
EXAMINATION: Oral and written examination
PREREQUISITES: General entry requirements for university studies in Sweden+. Previous knowledge corresponding to the courses Scandinavian Studies 1: Language and Society (30 credits) and Scandinavian Studies 2: Language and Culture (30 credits) is required.
COURSE CONTENT: Unit 1: Language Description, 4, 5 credits
This unit deals with descriptive and prescriptive grammar and also phonetics.
Unit 2: Oral Work, 4,5 credits
This unit deals with various speaking situations, preparation, structuring, target audience adaption, argumentation and the use of aids.
Unit 3: Written Work, 6 credits
This unit deals with various writing situations, text types, the writing process, structuring, target group adaption as well as the use of handbooks/dictionaries.
Unit 4: Nordic History and Modern Nordic Literature with a Project Work, 15 credits
The unit deals with the history of the Nordic countries politically, socially, economically and culturally.
The emphasis is placed on Sweden and Swedish conditions. It also comprises studies in Nordic literature from the modern breakthrough period up to the present with the emphasis on Swedish literature. One theme within the subject area will be covered by project work.
CONTACT PERSON: Magnus Jansson, magnus.jansson@mdh.se
SCHOOL: School of Education, Culture and Communication

THEATRE

Multicultural Improvisation

CODE: IÖÄ001
CREDITS: 7,5 **LECTURE HOURS:** 10
LABORATORY HOURS: 0 **START PERIOD:** 3b
STUDY PACE: Part time 50% **LEVEL OF EDUCATION:** Basic level
LOCATION: Eskilstuna, Västerås **LANGUAGE:** English
EXAMINATION: Written and/or oral examination,
PREREQUISITES: Curiosity towards developing one's own multicultural awareness and social skills.
COURSE CONTENT: The course aims: - to enhance social skills that support constructive and friendly interaction in a multicultural environment - to create methods for becoming aware of and decreasing false negative attitudes, prejudices and isolation - to support the foreign students' acculturation process, i.e. adjusting to and coping with a new culture - to explore, compare and contrast customs and features of the different cultures represented in the group - to offer creative challenges that require working together in small and large groups - to give the students the chance to make friends and to support expanding their social network - to encourage the students to get more involved, committed and active in the student life and studies in the university
CONTACT PERSON: Annika Björklund, annika.bjorklund@mdh.se
SCHOOL: School of Innovation, Design and Engineering