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KARLSTAD UNIVERSITY



## PROGRAMMES AND COURSES







Nobody puts Baby in a corner

HUVUDENTRÉ

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FIND OUT MORE AT  
**KAU.SE/EN**

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Being a new student in Sweden can be like entering a new world, but we will do what we can to make you feel at home in Karlstad and at the university. Incoming international students are welcomed during our Introduction week and informed about studying at Karlstad University and living in Karlstad.

#### UNIVERSITY LIBRARY

Karlstad University Library is one of the finest university libraries in Sweden. It functions as a strong focal point of the university and offers excellent academic library services to students, researchers and the general public.

All course literature should be available at the university library. These books are in great demand, and can be reserved online once you have a library card and a pincode.

#### BUY OR BORROW COURSE LITERATURE

Studying involves a great deal of reading and examination is usually based on the required course literature. Course readings can be in Swedish and English.





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# APPLICATION & ADMISSION

International students may be admitted to courses and programmes taught in English. Karlstad University will only process applications received by the application deadline. It is essential that the application is completed in full and that all the required documents are submitted; otherwise the application will not be considered. Exchange students must be nominated by their home

university prior to applying for courses. Students from most countries outside the European Union must obtain a residence permit before coming to Sweden. Acquiring a residence permit can be a lengthy procedure. Please contact the Swedish embassy or consulate in your own country for details.

## EXCHANGE STUDENTS – HOW TO APPLY

Only students from higher education institutions with which Karlstad University has an exchange agreement are considered to be exchange students.

Exchange students can apply when they have been nominated by a partner university online on Moveon-net. Information about this is sent to all partner universities before the deadline. When the student has been nominated instructions on how and where to apply will be sent directly to the student, with a copy to the coordinator.

### PROCEDURE

The application procedure is the same for all exchange students independent of the type of exchange agreement/program (Erasmus, Nordplus, Bilateral etc.)

Please fill out all the fields in the on-line application form correctly and finalize it according to the instructions there. It is important that you read all information under “procedure” first.

Please note that we only accept online applications. You will be notified about acceptance in June for the autumn semester and in November for the spring semester.

## NON-EXCHANGE STUDENTS - HOW TO APPLY

Students from higher education institutions that do not have an exchange agreement with Karlstad University are considered to be non-exchange students, or free movers.

Applications from non-exchange students are submitted via the national website [www.universityadmissions.se](http://www.universityadmissions.se). Please note that the application cannot be submitted earlier than the respective application period.

You will be notified about acceptance at the end of March for the autumn semester and in September for the spring semester.

For all instructions regarding application, please see **[WWW.UNIVERSITYADMISSIONS.SE](http://WWW.UNIVERSITYADMISSIONS.SE)**.

### KEY DATES - EXCHANGE STUDENTS

NOMINATION FOR  
SINGLE SUBJECT COURSES:

**APR 1** Autumn semester  
**OCT 1** Spring semester

MASTER PROGRAMMES:

**FEB 15** Autumn semester

### KEY DATES - NON-EXCHANGE STUDENTS

SINGLE SUBJECT COURSES:

**JAN 15** Autumn semester  
**AUG 15** Spring semester

MASTER PROGRAMMES:

**JAN 1** Autumn semester

# GLOBAL MEDIA STUDIES

120 ECTS CREDITS MASTER PROGRAMME

Choosing this international programme, your main subject area and Master's degree will be in Media and Communication Studies or Information Systems, and in addition you will profile your studies within the area of Global Media Studies. Media technologies are at the core of the globalization process. While they generate global relations, they may also sustain local development. Global Media Studies are a matter of understanding, explaining, evaluating, and in various ways make use of this double potential.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

A Master's degree with a profile in Global Media Studies gives you a platform for an expert career within the international media and communication sectors, such as the cultural and creative industries, public institutions, and non-governmental organizations. The programme is designed to meet the increasing demand for communication strategists, analysts and designers/creators with global and intercultural competence. Potential work areas include public relations, communication for social change, cultural entrepreneurship, and various forms of media research. The programme is preparatory for doctoral research in Media and Communication Studies or Information Systems.

## EDUCATION

The programme stresses a combination of theoretical reflexivity, problem solving and creative work. In the first year you study specialization courses in your main subject, along with a faculty course in Common Skills. In the second year there is a focus on Global Media Studies. During the final semester a degree project is completed. The language of instruction is English.

## DEGREE

Upon completion of the programme, a Master's degree in Media and Communication Studies (MSSc) or Information Systems (MSc) is awarded

with the profile Global Media Studies. The Master's degree also qualifies you for further studies within PhD programmes in the major field of study. For examination and assessment regulations, see under the heading "Learning outcomes" in the programme study plan. Studies at the advanced level make you eligible for doctoral studies in, for instance, Media- and Communication Studies. The subject in which your doctor's degree will be awarded will depend on your previous studies. You also need to meet the prerequisites for doctoral studies of the subject chosen.

## FURTHER STUDIES

Studies at the advanced level make you eligible for doctoral studies in, for instance, Media- and Communication Studies. The subject in which your doctor's degree will be awarded will depend on your previous studies. You also need to meet the prerequisites for doctoral studies of the subject chosen.

## PROFESSIONAL CONTACT

Throughout the programme students have contact with external guest lecturers and partner companies. Degree projects can be carried out in conjunction with one or several companies or other organisations.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Admission to the programme requires Upper Secondary English course 6 or B or equivalent, and a Bachelor's degree of 180 ECTS credits including at least 60 ECTS credits in Media and Communication Studies or Information Systems or equivalent.

START: Autumn -17, APPLICATION CODE: KAU-69414

STUDENT AND CAREER COUNSELLOR: Christina Snell, [christina.snell@kau.se](mailto:christina.snell@kau.se)

DIRECTOR OF STUDIES: Elizabeth Van Couvering, [elizabeth.van-couvering@kau.se](mailto:elizabeth.van-couvering@kau.se)

# REGION BUILDING

120 ECTS CREDITS MASTER PROGRAMME

Increasingly, regions are responsible for managing societal issues in a globalised world, which involves approaching complex regional community building from different perspectives. The Region Building programme centres on different regional living environments, organisation and development in a comparative perspective.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees.

Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

The programme opens several professional opportunities in areas such as consultative research, evaluation, development, planning and project work in public agencies and other national or international organisations. Students also earn general eligibility for the Research School in Region Building at Karlstad University and other PhD programmes (see prerequisites).

## EDUCATION

Region Building is a multidisciplinary programme, which means that complex societal problems are addressed from several perspectives. In addition, students specialise in their Major subject, particularly in their degree projects. The Major subjects that are offered are: History, Human Geography, Social Work, Sociology and Political Science. Methodological issues are studied in a special course as well as integrated in other courses.

## DEGREE

On completion of the programme, students are awarded a Master of Science Degree (120 ECTS cr) in their chosen Major: History, Human Geography, Social Work, Sociology or Political Science. It is also possible to settle for a Master of Science Degree of 60 ECTS credits.

## FURTHER STUDIES

Master-level graduates have general eligibility for further studies at the doctoral level.

Students who have different Majors at the Bachelor's and Master's level may be required to add supplementary courses.

## PROFESSIONAL CONTACT

Students may take part in excursions, study visits and meet guest lecturers. It is also possible to complete their degree projects in conjunction with a possible future employer.

## STUDY PLAN

Download the completed Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Upper secondary school level English 6 or B, or equivalent.

Requirements for the chosen Major:

- History: Bachelor's Degree of 180 ECTS credits with a major in history, or equivalent.
- Human Geography: Bachelor's Degree of 180 ECTS credits with a major in human geography, tourism studies, environmental science, or a professional engineering degree in GIS, or equivalent. The major in tourism studies, environmental science and GIS must have a social science basis.
- Political Science: Bachelor's Degree of 180 ECTS credits with a major in political science, or equivalent.

START: Autumn -17, APPLICATION CODE: KAU-M1211  
STUDENT AND CAREER COUNSELLOR: Jannika Magnusson, [jannika.magnusson@kau.se](mailto:jannika.magnusson@kau.se)  
DIRECTOR OF STUDIES: Magnus Lindh, [magnus.lindh@kau.se](mailto:magnus.lindh@kau.se)

# BIOLOGY: ECOLOGY AND CONSERVATION BIOLOGY

120 ECTS CREDITS MASTER PROGRAMME

The programme focuses on Ecology and Conservation and is led by researchers in the Biology department at Karlstad University. It is a programme for those who want to deepen their knowledge and competence in ecology and conservation to prepare for employment or further research. We focus on applied ecology and conservation issues. The programme of study begins with the new resilience-based course on Ecosystem Stewardship, that provides an overview of ecosystem services and their management. We follow with a course on applied Ecological Resource Management and finish with an Advanced Methods course. Students have space for elective courses to sharpen their own focus. Finally the Masters project is an advanced research project within our extensive research network in Sweden and abroad.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees.

Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

The programme opens several professional opportunities in areas such as consultative research, evaluation, development, planning and project work in public agencies and other national or international organisations. Students also earn general eligibility for the Research School in Region Building at Karlstad University and other PhD programmes (see prerequisites).

## EDUCATION

Region Building is a multidisciplinary programme, which means that complex societal problems are addressed from several perspectives. In addition, students specialise in their Major subject, particularly in their degree projects. The Major subjects that are offered are: History, Human Geography, Social Work, Sociology and Political Science. Methodological issues are studied in a special course as well as integrated in other courses.

## DEGREE

On completion of the programme, students are awarded a Master of Science Degree (120 ECTS cr) in their chosen Major: History, Human Geography, Social Work, Sociology or Political Science. It is also possible to settle for a Master of Science Degree of 60 ECTS credits.

## FURTHER STUDIES

Master-level graduates have general eligibility for further studies at the doctoral level.

Students who have different Majors at the Bachelor's and Master's level may be required to add supplementary courses.

## PROFESSIONAL CONTACT

Students may take part in excursions, study visits and meet guest lecturers. It is also possible to complete their degree projects in conjunction with a possible future employer.

## STUDY PLAN

Download the completed Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Upper secondary school level English 6 or B, or equivalent.

Requirements for the chosen Major:

- History: Bachelor's Degree of 180 ECTS credits with a major in history, or equivalent.
- Human Geography: Bachelor's Degree of 180 ECTS credits with a major in human geography, tourism studies, environmental science, or a professional engineering degree in GIS, or equivalent. The major in tourism studies, environmental science and GIS must have a social science basis.
- Political Science: Bachelor's Degree of 180 ECTS credits with a major in political science, or equivalent.

START: Autumn -17, APPLICATION CODE: KAU-M1213  
STUDENT AND CAREER COUNSELLOR: Carina Skantz, [carina.skantz@kau.se](mailto:carina.skantz@kau.se)  
DIRECTOR OF STUDIES: John Piccolo, [john.piccolo@kau.se](mailto:john.piccolo@kau.se)



# ENGINEERING, DEGREE PROGRAMME IN ENGINEERING PHYSICS

120 ECTS CREDITS MASTER PROGRAMME

Engineering physicists have a variety of career options thanks to their broad knowledge of general and applied physics. With a theoretical understanding of physical phenomena they contribute to the development of new technological applications in areas such as nanotechnology, in which the quantum structure of matter is used to develop new applications, for instance, molecular electronics, organic solar cells and quantum computers.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

Engineering physicists have broad and varied career options. They work with materials development and the simulation of complex systems, or with research in innovative industries. The analytical abilities sharpened in this programme can open opportunities in computing or finance. Wherever physics gives rise to new technical possibilities, engineering physicists will carry on the development, perhaps in their own business. You will have a solid foundation in technology, natural sciences, and mathematics, as well as the ability to cooperate and communicate. Your competencies will be of use in many technical areas, especially where creativity, leadership, and a holistic view are also required.

## EDUCATION

The programme provides specialisation in engineering physics with an emphasis on applications in materials and nanotechnology through advanced theoretical courses in physics and mathematics, experimental techniques and simulation and modelling of materials. Nanostructured surface and solar cells are examples of areas of specialisation. There are also possibilities to study other subjects at Karlstad University or abroad.

## DEGREE

Students who meet the general as well as the special requirements will, on completion of the programme, be awarded a Degree of Master of Science in Engineering, Engineering Physics. For examination and assessment regulations, see under the heading "Learning outcomes" in the programme study plan.

## FURTHER STUDIES

Upon completion of the programme, you may continue with doctoral studies. The subject in which your doctor's degree will be awarded will depend on your previous studies. You also need to meet the prerequisites for doctoral studies of the subject chosen.

## PROFESSIONAL CONTACT

In the program you are introduced to various companies, via guest lectures, company visits, projects, etc.. The final degree project is often performed in cooperation with a company or other organisations.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

# ECONOMICS

60 ECTS CREDITS MASTER PROGRAMME

If you are interested in Economics, the Master's programme in Economics is ideal for you. Here is the chance to specialise further in exciting and current economic issues and get the chance to work with interesting tasks in the public and private sectors.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees.

Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

A Master's degree in Economics gives qualifications for positions that require great skills in economic analysis. Public agencies as well as private institutions, such as banks, are looking to employ people with such skills and abilities.

## EDUCATION

The Master's programme consists of courses in economics (at least 30 ECTS cr) including a degree project of 15 ECTS cr, plus statistics (at least 15 ECTS cr) and elective in other subjects (max. 15 ECTS cr). The mandatory programme courses in economics are: International Macroeconomics, Econometrics, Behavioural Economics, Valuation and the degree project. Optional courses in economics are, for instance: Financial Risk Management, Portfolio Analysis and Economic Growth (each 7.5 ECTS cr). Students' own efforts to unite theory and practice are central to all programme courses.

## DEGREE

The Master's programme in Economics consists of 60 ECTS credits and leads to a Master of Science in Economics. The degree qualifies for doctoral studies and can include 15 ECTS credits Bachelor-level courses.

## FURTHER STUDIES

The programme provides a good basis for further advanced studies and research. The Master degree also qualifies the student for further studies within PhD program in the major field of study.

## PROFESSIONAL CONTACT

Your most important contact with working life will be while you are doing the degree project. It will always be carried out in close cooperation with companies or other organizations.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Bachelor's Degree of at least 180 ECTS credits with a major in Economics including either the course NEGB01 Economics - continuation course 30 ECTS credits or the courses NEGB14 Macroeconomics 7.5 ECTS credits, NEGB22 Econometrics 7.5 ECTS credits and one of the courses NEGB13 Microeconomics 7.5 ECTS credits or NEGB25 Microeconomics and quantitative methods 15 ECTS credits.  
STGA01 Statistics I 15 ECTS credits or equivalent.  
Upper secondary level English 6 or B or equivalent.

START: Autumn -17, APPLICATION CODE: KAU-M1204  
STUDENT AND CAREER COUNSELLOR: Lena Wikström, [lena.wikstrom@kau.se](mailto:lena.wikstrom@kau.se)  
DIRECTOR OF STUDIES: Karl-Markus Modén, [karl-markus.moden@kau.se](mailto:karl-markus.moden@kau.se)



# MARKETING

60/120 ECTS CREDITS MASTER PROGRAMME

If you plan to embark on a career as a marketing manager, sales manager or marketing consultant, this programme is ideal. Master-level qualifications in marketing prepare students for managing different strategic business issues. You can study towards Master of Science degrees: Master (60 credits). A Master's degree in business administration meets international demands.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

This programme provides education adapted to different marketing jobs in companies and public agencies. The Master (60 cr) means a total study period of four years (three in undergraduate study plus one at Master level). This has been the standard requirement for economists in Sweden for a long time and is probably needed in a competitive employment sector.

## EDUCATION

Master (60 cr) students study marketing (30 ECTS cr), methodology (15 ECTS cr) and write a degree thesis (15 ECTS cr).

## DEGREE

The programme leads to a Master of Science qualification (60 credits). The degree requirements are specified under the heading "Programme Aims" in the Programme Study Plan.

## FURTHER STUDIES

Graduates are eligible to apply for doctoral programmes in primarily business administration. The discipline in which a doctor's degree will be awarded depends on the specialisations included in the student's previous studies. Students also have to meet the specific requirements for doctoral studies in the discipline.

## PROFESSIONAL CONTACT

Throughout the programme, students have the opportunity to make contact with representatives of the business world as guest lecturers and in other ways. Students usually complete their degree thesis in conjunction with one or several companies or other organisations, for instance.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Bachelor's Degree of at least 180 ECTS credits with a major in Business Administration. Upper secondary level English 6 or B or equivalent.

or

Bachelor's Degree in IT-Design: Enterprise Systems and Economy (180 ECTS credits), SGITD-AFEK, earned in accordance with programme degree requirements valid from the autumn of 2012.

# ACCOUNTING AND CONTROL

60/120 ECTS CREDITS MASTER PROGRAMME

This programme is designed for students who want to work as an accountant/auditor, financial manager or controller/comptroller. You can study towards one of three Master of Science degrees: Master (60 credits), Continuation Master (75 credits), or Master (120 credits). A Master's degree in business administration meets international demands.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

A business graduate working in a company's financial division needs knowledge of accounting and control. The Master (60 cr) means a total study period of four years (three in undergraduate study plus one at Master level). If you plan to work as a chartered accountant, a Master (60 credits), in business administration is required.

## EDUCATION

Master (60 cr) students study accounting (30 ECTS cr), methodology (15 ECTS cr) and write a degree thesis (15 ECTS cr).

## DEGREE

The programme leads to a Master of Science qualification (60). The degree requirements are specified under the heading "Programme Aims" in the Programme Study Plan.

## FURTHER STUDIES

Graduates are eligible to apply for doctoral programmes in primarily business administration. The discipline in which a doctor's degree will be awarded depends on the specialisations included in the student's previous studies. Students also have to meet the specific requirements for doctoral studies in the discipline.

## PROFESSIONAL CONTACT

Throughout the programme, students have the opportunity to make contact with representatives of the business world as guest lecturers and in other ways. Students usually complete their degree thesis in conjunction with one or several companies or other organisations, for instance.

## STUDY PLAN

Download the completed Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Bachelor's Degree of at least 180 ECTS credits with a major in Business Administration. Upper secondary level English 6 or B or equivalent.

START: Autumn -17, APPLICATION CODE: KAU-M1207  
STUDENT AND CAREER COUNSELLOR: Christina Snell, [chrisnel@kau.se](mailto:chrisnel@kau.se)  
DIRECTOR OF STUDIES: Patrik Gottfridsson, [patrik.gottfridsson@kau.se](mailto:patrik.gottfridsson@kau.se)



# SERVICE MANAGEMENT

60/120 ECTS CREDITS MASTER PROGRAMME

More and more business graduates work with service production in service companies, in public agencies, and in other businesses where the service aspect is gaining ground. Our programme has evolved from the extensive research pursued at CTF (Service Research Centre), Karlstad University, in a multidisciplinary environment. You can study towards one of three Master of Science degrees: Master (60 credits), Continuation Master (75 credits), or Master (120 credits). A Master's degree in business administration meets international demands.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

This programme provides education adapted to different tasks in companies and public agencies. The Master (60 cr) means a total study period of four years (three in undergraduate study plus one at Master level). This has been the standard requirement for economists in Sweden for a long time and is probably needed in a competitive employment sector. If you choose the Continuation Master 75 ECTS cr, you will have attractive qualifications for Swedish employers. The Master (120 cr) is often a requirement for many positions internationally.

## EDUCATION

This programme offers the chance to acquire qualifications in the service management area. Master (60 cr) students study service management (30 ECTS cr), methodology (15 ECTS cr) and write a degree thesis (15 ECTS cr). Continuation Master students study service management 30 ECTS cr, methodology (15 ECTS cr) and write a degree thesis (30 ECTS cr). Master (120 cr) students study service management (30 ECTS cr), methodology (15 ECTS cr), electives (15 ECTS cr), electives in business administration (15 ECTS cr), mandatory course in business administration (15 ECTS cr) and write a degree thesis (30 ECTS cr).

## DEGREE

The programme leads to a Master of Science qualification (60/75[82.5] or 120 credits). The degree requirements are specified under the heading "Programme Aims" in the Programme Study Plan.

## FURTHER STUDIES

Graduates are eligible to apply for doctoral programmes in primarily business administration. The discipline in which a doctor's degree will be awarded depends on the specialisations included in the student's previous studies.

## PROFESSIONAL CONTACT

Throughout the programme, students have the opportunity to make contact with representatives of the business world as guest lecturers and in other ways. Students usually complete their degree thesis in conjunction with one or several companies or other organisations, for instance.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Bachelor's Degree of at least 180 ECTS credits with a major in Business Administration. Upper secondary level English 6 or B or equivalent.

Alternative

Degree in; Study Programme in IT-Design: Enterprise Systems and Economy (180 ECTS credits), SGITD-AFEK according to Study Plan valid from HT2012.

# COMPUTER SCIENCE

120 ECTS CREDITS MASTER PROGRAMME

This master programme is a two-year programme which builds on a three-year bachelor degree in Computer Science or equivalent. The objective is to provide you with advanced expertise in Computer Science with a focus on computer security, computer networks and wireless mesh networks.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees.

Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

The programme offers a wide range of possibilities, from a research track for students wishing to continue to licentiate and Ph D studies to more practical applications, both of which may include an international aspect. You may combine for example the final dissertation in the 4th term with more industry oriented choices in the 3rd term if they are aiming for employment in industry or with a research project for a more academic future. The programme provides a good background in current developments in the area of computer security, computer networks and wireless mesh networks and as such should enhance your employability.

## EDUCATION

The programme starts in the autumn term every year. The first term consists of four introductory courses in Computer Security and Computer Networking. The second term consists of four advanced level courses in Computer Science with a focus on security, computer networks and wireless mesh networks. In the third term the student may choose which elective path to follow. The student may choose between such options as research or industry oriented electives. During the fourth term, the student will write a 30hp dissertation.

## DEGREE

Together with your previous bachelor degree, the programme leads to a master's degree of 120 ECTS

credits in Computer Science. On completion of the programme you are qualified to continue with licentiate or doctoral studies provided that you meet the prerequisites for such studies in the chosen subject.

## FURTHER STUDIES

After completion of the Master's Degree the student may continue with further studies to the Ph.D. level. In the 3rd and 4th terms of the Master Program, the student has the possibility to start studying research topics and may if he/she so chooses spend this year on research related topics.

## PROFESSIONAL CONTACT

During the programme it is possible to arrange for placements with external organisations.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Admission to the programme requires Upper Secondary English course B or equivalent, and a Bachelor of Science degree of 180 ECTS in Computer Science, or equivalent, including the following:

At least 90 ECTS in Computer Science courses including:

DVG A01 Programming Technique 7,5hp  
DVG A02 Software Development Methodology 7,5hp  
DVG B01 Operating Systems 7,5hp  
DVG B02 Computer Networking I 7,5hp  
and  
STG A09 Mathematical Statistics 7,5hp  
(or equivalent courses to the above named)

START: Autumn -17, APPLICATION CODE: KAU-M1212  
STUDENT AND CAREER COUNSELLOR: Eva Hallgren, [eva.hallgren@kau.se](mailto:eva.hallgren@kau.se)  
DIRECTOR OF STUDIES: Johan Eklund, [johan.eklund@kau.se](mailto:johan.eklund@kau.se)



# INFORMATION SYSTEMS

120 ECTS CREDITS MASTER PROGRAMME

The Master Programme in Information Systems is a Master's level, two-year programme with a major in Information Systems, offering students the opportunity to deepen their knowledge within the Information Systems field and to develop the skills needed to analyse and design e-service architectures across organisational and technical system boundaries. The programme welcomes international students. All instructions and communication will be in English.

## APPLICATION AND TUITION FEES FOR NON-EXCHANGE STUDENTS

If you are an exchange student, or if you have citizenship in a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are NOT required to pay application or tuition fees. Visit [kau.se/en](http://kau.se/en).

## EMPLOYMENT MARKET

The program prepares the students for advanced work positions in companies in need of solving complex information system development problems in organisational contexts. It also prepares the students for PhD studies.

## EDUCATION

The programme includes advanced studies in Information Systems and emphasises a combination of theoretical reflexivity, problem solving and design work. The overall structure of the programme is as follows: Semester 1 - mandatory coursework of 15 ECTS credits in the field of Information Systems and 15 ECTS credits interdisciplinary courses. Semester 2 - mandatory coursework of 30 ECTS credits in the field of Information Systems. Semester 3 - elective coursework of 30 ECTS credits. Semester 4 - degree project of 30 ECTS credits in the field of Information Systems.

## DEGREE

The programme leads to a Master Degree of 120 ECTS credits in information systems. To be awarded a Master degree the student is expected to complete an independent project of at least 30 ECTS credits in the major field of study.

For examination and assessment regulations, see under the heading "Learning outcomes" in the Programme Study Plan.

## FURTHER STUDIES

The programme provides a good basis for further advanced studies and research. The Master degree qualifies the student for further studies within PhD programmes in the major field of study.

## PROFESSIONAL CONTACT

Karlstad University has close connections with the leading IT companies in the region, and organizes IT lunches and other activities so that students and future employers can meet. Some of the research projects we participate in are run in partnership with international businesses and academic institutions why the master students have further opportunities to get valuable acquaintances.

## STUDY PLAN

Download the complete Programme Study Plan at [kau.se/education](http://kau.se/education).

## PREREQUISITES

Upper Secondary English course B or equivalent, and a Bachelor's degree of 180 ECTS credits including at least 90 ECTS credits in Information Systems or Computer Science.

START: Autumn -17, APPLICATION CODE: KAU-M1203  
STUDENT AND CAREER COUNSELLOR: Elisabeth Sandlund, [elisabeth.sandlund@kau.se](mailto:elisabeth.sandlund@kau.se)  
DIRECTOR OF STUDIES: John Sören Pettersson, [john\\_soren.pettersson@kau.se](mailto:john_soren.pettersson@kau.se)



# BIOLOGY

## ECOSYSTEMS IN A CHANGING WORLD, 15 ECTS credits

**Application Code:** KAU-30415 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- give an account of the concept ecosystem services and relate these to the development of the human community,
- give an account of and explain the resilience of the ecosystems,
- explain how terrestrial and aquatic ecosystems respond to and are affected by the surrounding environment,
- explain how organisms respond to increased stress and changed environmental factors at the ecosystem level,
- summarise, critically review and assess current research literature, orally and in writing.

**Prerequisites:** Biology courses of at least 75 ECTS cr, including 15 ECTS cr in ecology at specialisation level. Upper secondary school level English 6 or A, or equivalent.

## ECOSYSTEMS IN A CHANGING WORLD, 15 ECTS credits

**Application Code:** KAU-30416 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- give an account of the concept ecosystem services and relate these to the development of the human community,
- give an account of and explain the resilience of the ecosystems,
- explain how terrestrial and aquatic ecosystems respond to and are affected by the surrounding environment,
- explain how organisms respond to increased stress and changed environmental factors at the ecosystem level,
- summarise, critically review and assess current research literature, orally and in writing.

**Prerequisites:** Biology courses of at least 75 ECTS cr, including 15 ECTS cr in ecology at specialisation level. Upper secondary school level English 6 or A, or equivalent.

# BUSINESS ADMINISTRATION

## ACCOUNTING AND CONTROL, 7.5 ECTS credits

**Application Code:** KAU-30470 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- -give an account of the current research areas of accounting and control and describe central conclusions in one such area,
- demonstrate good insight into central legal, institutional, theoretical and practical aspects of auditing in the private and public sectors, and
- demonstrate understanding of auditing as an independent process for assessing and valuing economic documents and activities.

**Prerequisites:** Business Administration 90 ECTS cr, including at least 30 ECTS cr at G2F-level or higher. Upper Secondary English 6, English B, or equivalent.

## ADVANCED SERVICE MANAGEMENT, 15 ECTS credits

**Application Code:** KAU-30472 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- discuss concepts in service management research,
- discuss concepts, models, theories and perspectives in the service management field,
- explain the differences between traditional and current theories of service management,
- describe, discuss, analyse and critically reflect on the role and importance of the service perspective to customers, stakeholders, organisations and society,
- apply concepts and models to service operations with a focus on value creation, and
- explain the value creation of the service perspective and its application to customers, stakeholders, organisation and society.

**Prerequisites:** Business Administration 90 ECTS cr of which at least 30 ECTS cr are for master-level courses. Upper secondary level English 6, B or equivalent.

## BUSINESS MARKETING, 15 ECTS credits

**Application Code:** KAU-30468 Autumn 2017, week 35 - 44

Knowledge and understanding

Upon completion of the course, students should be able to:

- -demonstrate a thorough knowledge of business marketing from different perspectives.

## Competence and skills

Upon completion of the course, students should be able to:

- -independently problematize and analyze various business marketing problems in established organizations
- express themselves in speech and writing and use relevant concepts in business marketing theory, and
- reflect on their own learning process and present and argue for their own approach to industrial marketing.

## Judgement and approach

Upon completion of the course, students should be able to:

- -critically examine their own as well as other scholarly works in terms of theoretical approaches and the use of theories in the interpretation and analysis.

**Prerequisites:** Business Administration 90 ECTS cr, including at least 30 ECTS cr at G2F-level or higher. Upper Secondary English 6, English B, or equivalent.

## CRAFTING AND EXECUTING SERVICE STRATEGIES, 6 ECTS credits

**Application Code:** KAU-30475 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- perform computer simulation based on service theories on determining the effects of different decision options in service enterprises,
- analyse and discuss problems related to employing, dismissing, maintaining and compensating service personnel,
- analyse and discuss problems relating to segmentation, market selection, differentiation, market mix, design of services and portfolio in the area of marketing, and
- analyse and discuss problems pertaining to technology, productivity, capacity, prognosis and service quality and applying the conclusions of computer simulations of services to real problems.

**Prerequisites:** - Completed undergraduate courses of at least 60 ECTS cr or equivalent (e.g. work experience)

- Three years of work experience
- Upper secondary school level Swedish or B, Swedish as a second language or B, or equivalent, and English if the course is taught in Swedish. If the course is taught in English, Swedish is not a requirement but upper secondary English or B, or equivalent is.

## CURRENT RESEARCH IN BUSINESS ADMINISTRATION, 15 ECTS credits

**Application Code:** KAU-30476 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- assess and argue for a choice of method for different business administration related research problems with consideration of both qualitative and quantitative approaches,
- demonstrate profound understanding of a company's means of contributing to and supporting a sustainable society,
- demonstrate knowledge of what constitutes current research in different areas of business administration,
- problematise a given question and compile existing research results with the help of current research,
- discuss expected research results in the field in relation to the method applied, and
- design a research plan

**Prerequisites:** Upper secondary school English B or equivalent. Bachelor's Degree with a Major in Business Administration or equivalent plus at least 30 ECTS cr in Business Administration at Master's level.

## CURRENT RESEARCH IN INDUSTRIAL ENGINEERING AND MANAGEMENT, 15 ECTS credits

**Application Code:** KAU-30495 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- assess and argue for a methodological choice for different problems related to industrial engineering and management, qualitative as well as quantitative, and an approach suitable for delimiting, formulating and solving a problem in engineering,
- demonstrate deepened understanding of a company's opportunities to consider human circumstances and needs and



societal objectives in terms of economically, socially and ecologically sustainable development,

- demonstrate knowledge of current research in different subareas of industrial management, including technical aspects,
- with the help of current research problematise a given question and summarise existing research results,
- discuss expected research result in the area based on a chosen research method,
- design a research plan,
- plan, conduct, and present a project orally and in writing in a relevant way for the technological field in terms of international standards,
- critically review a fellow student's project, and reflect on their own needs for further knowledge and professional development.

**Prerequisites:** Upper secondary school level English 6 or B or equivalent. 180 ECTS cr for the Master of Science in Engineering programme: Industrial Engineering and Management

#### INDUSTRIAL MARKETING, 7.5 ECTS credits

**Application Code:** KAU-30498 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- demonstrate group work skills,
- demonstrate report writing skills,
- demonstrate ability to explain and defend the results of analysis obtained in case practical case studies and other assignments,
- demonstrate understanding of the importance of business economics in a societal perspective,
- demonstrate understanding of basic concepts and theories in the marketing field primarily from a business perspective,
- demonstrate the need for analysis of the changing world of business, the market, and ability to analyse the need for information on the market situation and conditions,
- demonstrate familiarity with new approaches to marketing,
- demonstrate deep understanding of the business market (B2B) based on a relation and network perspective,
- demonstrate good insights into the relevancy and implications of the market legal system for marketing,
- demonstrate deep understanding of strategic marketing issues.

**Prerequisites:** Admission to the industrial management programme at Karlstad University

#### INTERNATIONAL FINANCIAL ACCOUNTING, 7.5 ECTS credits

**Application Code:** KAU-30466 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- demonstrate familiarity with the international development of financial accounting and the consequences for different types of businesses,
- demonstrate understanding of how accounting deals with and assesses material and immaterial assets,
- explain the relevance of accounting to various interested parties with a special focus on the stock market,
- demonstrate understanding of the consequences of neglecting to follow accounting rules,
- demonstrate understanding of the relation between accounting and taxation,
- present the advantages and disadvantages of different accounting methods,
- argue for and against set positions regarding accounting designs,
- relate their own conclusions to theoretical literature in the field.

**Prerequisites:** Business Administration 90 ECTS cr, including at least 30 ECTS cr at G2F-level or higher. Upper Secondary English 6, English B, or equivalent.

#### MAKING SENSE OF SERVICE LOGIC, 1.5 ECTS credits

**Application Code:** KAU-30474 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- discuss key concepts such as service, customer experience, value creation, goods and service logic,
- identify and evaluate sources of knowledge in the field of service logic,
- explain and apply the ways in which service logic can be used to create value for customers and other stakeholders in a concrete case.

**Prerequisites:** - Completed undergraduate courses of at least 60 ECTS cr or equivalent (e.g. work experience)

- Three years of work experience
- Upper secondary school level Swedish or B, Swedish as a second language or B, or equivalent, and English if the course is taught in

Swedish. If the course is taught in English, Swedish is not a requirement but upper secondary English or B, or equivalent is.

#### MARKETING STRATEGIES, 15 ECTS credits

**Application Code:** KAU-30490 Autumn 2017, week 35 - 44

Having successfully completed this course, a student will be able to

- demonstrate in-depth knowledge in central areas of marketing, such as consumer behavior, competitive strategy and market communication
- identify and analyse strategic situations in business.

**Prerequisites:** 60 credits in Business Administration.

#### SUSTAINABLE BUSINESS AND LEADERSHIP, 15 ECTS credits

**Application Code:** KAU-30471 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- demonstrate insight into economic, social and ecological sustainability based on business operations,
- demonstrate how ethical aspects are included as a critical component in an organisation's long-term potential to operate in a sustainable way,
- demonstrate enhanced understanding of an organisation's potential to operate in and for a sustainable society,
- demonstrate enhanced understanding of different views on corporate governance regarding value creation for shareholders and other stakeholders,
- analyse, identify and formulate problems relevant to theoretical perspectives on Corporate Social Responsibility, CSR, sustainable development and leadership,
- analyse and adopt a critical perspective to literature, and
- reflect on their own approach to sustainable business.

**Prerequisites:** Business administration 90 ECTS cr. Upper secondary level English 6 or B, or equivalent.

## COMPUTER SCIENCE

#### COMPUTER ENGINEERING PROJECT, 15 ECTS credits

**Application Code:** KAU-30376 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- plan, process, and solve engineering tasks in computer science,
- develop solutions (system, algorithms, protocol) for computer engineering purposes,
- demonstrate knowledge in the area by actively contributing to development projects in computer engineering,
- plan appropriate test and analysis methods for computer engineering products,
- demonstrate ability to work in a team and cooperate with different group constellations,
- provide a holistic perspectives on the human-computer interaction, and how this contribute to sustainable development,
- document the completed project and write technical reports.

**Prerequisites:** Computer Science 90 ECTS cr. Upper secondary school level Swedish 2 and English B or equivalent

#### COMPUTER NETWORKING II, 7.5 ECTS credits

**Application Code:** KAU-30301 Autumn 2017, week 35 - 44

The course is designed to give students the opportunity to follow current technological developments in the field and to specialize in a subarea of relevance to computer networking. Upon completion of the course students should be able to:

- give an account of the relevant principles and modes of operation in the subareas of current interest at the time of the course
- specify how subareas relate to the overriding functionality of computer networks, and, if applicable, implement simple solutions based on the techniques discussed in the course, and
- independently search for, collect, compile, and present information in an elective area of specialization.

**Prerequisites:** Computer Science 60 ECTS cr. including Computer networking I, 7.5 ECTS cr. or equivalent

#### COMPUTER SCIENCE - MASTER'S THESIS, 30 ECTS credits

**Application Code:** KAU-30377 Spring 2018, week 4 - 23

Upon completion of the course, students should be able to:

- orally and in writing describe independent projects and critically review

- and evaluate project reports,
- identify, formulate and delimit problems and apply methodology in a chosen area with a scientific approach,
- apply the knowledge and skills acquired in previous studies to problems in a chosen area,
- plan their own work so that subgoals are met,
- analyse the need of scientific information, perform information search, and assess the information yielded,
- present projects in written reports adhering to the academic and technical norms in terms of content, structure and language,
- perform oral presentations with clarity of language, delivery and illustrations and keeping given time limits,
- review and comment on technological/scientific projects in a chosen area and assess similar comments on their own projects,
- critically and systematically integrate knowledge and analyse, assess and handle complex phenomena, issues and situations even with limited information,
- critically, independently and creatively identify and formulate issues, plan and with adequate methods complete qualified tasks within given time limits, thus contributing to knowledge development and evaluating the work,
- demonstrate knowledge and understanding in the main field of study, including broad knowledge in the areas as well as considerably deepened knowledge in some parts of the areas and deeper insight into current research and development, and
- demonstrate deeper methodological knowledge in the main field of study.

**Prerequisites:** Upper secondary school level English B or equivalent. Computer Science 127.5 ECTS or including at least 30 ECTS or at G2F-level or higher and additional 37.5 ETS or at A1N-level or higher.

#### COMPUTER SECURITY I, 7.5 ECTS credits

**Application Code:** KAU-30303 Autumn 2017, week 35 - 44

Upon completion of the course students should be able to:

- explain basic security terminology and security aspects such as secrecy, privacy, authentication, threat and vulnerability,
- explain and describe a selection of security problems and protective measures such as access control, malicious software, encryption and operating system security,
- give an account of cryptographic systems based on symmetrical and asymmetrical methods and of the primary algorithms and protocols applied in such cases,
- reflect on security and integrity problems related to networking,
- give an account of security policies and protocols in network systems,

**Prerequisites:** Computer Science 60 ECTS cr. including Computer networking 7.5 ECTS cr. and Operating Systems 7.5 ECTS cr.

#### COMPUTER SECURITY II, 7.5 ECTS credits

**Application Code:** KAU-30304 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- describe a selection of methods for assessing security problems at different levels,
- give an account of and apply the principles of secure software development,
- decide on the best security mechanisms to implement for a given scenario,
- analyse points of vulnerability in linked computer systems and identify threats to network-based applications,
- give an account of security problems related to database applications,
- give an account of the most common authentication protocols and the security and integrity problems involved in identity management systems,
- use cryptographic methods to develop safe applications,
- give an account of and apply mechanisms to protect personal integrity in network-based services and applications,
- present orally and in writing the results of assignments and exercises.

**Prerequisites:** Computer Science 60 ECTS and Computer Security 7.5 ECTS cr

#### DISTRIBUTED SYSTEMS AND APPLICATIONS, 7.5 ECTS credits

**Application Code:** KAU-30302 Autumn 2017, week 45 - 3

The course aims to provide an orientation within the field of distributed systems, both in terms of theoretical aspects and how the theories are realized in different distributed systems such as peer-to-peer networks, distributed file systems, and grid computing. The course provides the

opportunity for intensive study of a sub-area connected to distributed systems.

Upon completion of the course, students should be able to:

- describe the principles of distributed systems and comprehend the different problem areas in distributed systems
- give a general account of different distributed systems and their potential advantages and disadvantages
- describe the most common theoretical approaches in distributed systems
- independently compile and present information of a smaller sub-area of distributed systems.

**Prerequisites:** Computer Science 60 ECTS Credits, including the course Programming Techniques, 7.5 ECTS Credits (DVGA01), Operating Systems, 7.5 ECTS Credits (DVGB01) and Computer Networking I, 7.5 ECTS Credits (DVGB02), or the equivalent.

#### MOBILE AND WIRELESS SYSTEMS, 7.5 ECTS credits

**Application Code:** KAU-30369 Spring 2018, week 4 - 13

Having successfully completed this course, a student will be able to

- explain the principles behind wireless transmission, and the limitations imposed by wireless systems,
- explain key technical issues of current wireless communications systems,
- compare and contrast one wireless communication system with another based on understanding of the commonalities (such as mobility management, etc.),
- explain the principles behind medium access control schemes and explain why they have been designed that way,
- summarize key features and principles behind different architectures of mobile and wireless communication systems,
- describe differences between different types of mobility and understand how each type of mobility can be supported by different wireless networks, and
- critically evaluate different characteristics of a mobile communications system, taking into account the design trade-offs, capacity and limitations of the technology adopted.
- read the current literature at the level of conference papers in this area, and
- demonstrate knowledge of this area both orally and in writing.

**Prerequisites:** Upper Secondary English course B or equivalent. The course DVGB02 Computer Networking I, 7.5 hp, or equivalent.

#### PERFORMANCE MODELLING AND SIMULATION, 7.5 ECTS credits

**Application Code:** KAU-30370 Spring 2018, week 4 - 13

Having successfully completed this course, a student will be able to

- use appropriate statistical techniques to compare systems, interpret and present data,
- appropriately design experiments,
- develop and apply appropriate measurement tools and techniques,
- use analytical modeling to evaluate computer system and network performance,
- develop and evaluate various types of network simulation experiments,
- use network emulation to evaluate application and transport layer performance,
- choose an appropriate performance evaluation technique,
- specify performance requirements, evaluate design alternatives, compare systems, tune systems, identify bottlenecks, characterize workloads, and
- use these methods in major projects and present the results orally and in writing.

**Prerequisites:** Upper Secondary English course B or equivalent. Computer Networking I, Operating Systems, and Mathematical Statistics A, or equivalent.

#### PERSPECTIVES IN COMPUTER SCIENCE, 7.5 ECTS credits

**Application Code:** KAU-30372 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- demonstrate broad knowledge of computer technology as well as considerably specialized knowledge of certain parts of the field,
- make assessment with consideration given to relevant scientific, societal and ethical aspects, and
- give a holistic perspective on the human-computer interaction and how this can be a part of sustainable development.

**Prerequisites:** Computer Science 60 ECTS cr (completed courses) Upper Secondary English 6 or B, or equivalent

### PROGRAMMING LANGUAGES, 7.5 ECTS credits

**Application Code:** KAU-30300 Spring 2018, week 14 - 23

Upon completion of the course students should be able to:

- give an account of different programming paradigms,
- give an account of the basic control structures of programming languages, i.e. sequence, choice and repetition,
- give an account of the syntax and semantics of programming languages and their description,
- give an account of the Backus Naur form (BNF) as a syntax description model.
- describe the syntax of a programming language in BNF,
- implement a syntax analyser (a parser),
- identify the basic principles of and write simple programmes in a programming language unfamiliar to the students, and
- write laboratory reports.

**Prerequisites:** Computer Science 1-30 ECTS cr. including DVGB03 Data Structures and Algorithms 7.5 ECTS cr. or equivalent.

### RESEARCH PROJECT IN COMPUTER SCIENCE, 15 ECTS credits

**Application Code:** KAU-30373 Autumn 2017, week 35 - 44

Having successfully completed this course, a student should be able to

- develop solutions (mechanisms, algorithms, protocols) for real-world computer science problems,
- implement selected algorithms or protocols in a simulator or on a real platform,
- conduct performance evaluation of selected parts of the algorithms or protocols either through simulation or implementation,
- demonstrate knowledge of the area through active participation in (research) projects in computer science,
- read current literature at the level of conference and journal papers in computer science, and
- write technical reports with content suitable for submission to national/international conferences and journals in the area of computer science.

This course should prepare you for starting a thesis or dissertation in computer science.

**Prerequisites:** 30 ECTS credits advanced level courses in Computer Science and relevant background for the chosen research area. Upper Secondary English course B or equivalent.

### RESEARCH PROJECT IN COMPUTER SCIENCE, 30 ECTS credits

**Application Code:** KAU-30374 Autumn 2017, week 35 - 3

Having successfully completed this course, a student should be able to

- develop solutions (mechanisms, algorithms, protocols) for computer science related problems,
- implement selected algorithms or protocols in a simulator or on a real platform,
- conduct performance evaluation of selected parts of the algorithms or protocols either through simulation or implementation,
- demonstrate knowledge of the area through active participation in (research) projects in computer science,
- read current literature at the level of conference and journal papers in computer science, and
- write technical reports with content suitable for submission to national/international conferences and journals in the area of computer science.

This course should prepare you for starting a thesis or dissertation in computer science.

**Prerequisites:** 30 ECTS credits advanced level courses in Computer Science and relevant background for the chosen research area. Upper Secondary English course B or equivalent.

### RESEARCH PROJECT IN COMPUTER SCIENCE, 30 ECTS credits

**Application Code:** KAU-30375 Spring 2018, week 4 - 23

Having successfully completed this course, a student should be able to

- develop solutions (mechanisms, algorithms, protocols) for computer science related problems,
- implement selected algorithms or protocols in a simulator or on a real platform,
- conduct performance evaluation of selected parts of the algorithms or protocols either through simulation or implementation,
- demonstrate knowledge of the area through active participation in (research) projects in computer science,
- read current literature at the level of conference and journal papers in computer science, and
- write technical reports with content suitable for submission to national/international conferences and journals in the area of computer science.

This course should prepare you for starting a thesis or dissertation in computer science.

**Prerequisites:** 30 ECTS credits advanced level courses in Computer Science and relevant background for the chosen research area. Upper Secondary English course B or equivalent.

### SOFTWARE ENGINEERING, 7.5 ECTS credits

**Application Code:** KAU-30305 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- give an account of and apply basic concepts in development processes for software based on agile principles, such as Scrum and eXtreme Programming,
- give an account of and apply basic techniques and procedures in software designs based on agile principles, such as TDD (Test-driven development) programming and continuous integration,
- give an account of and apply basic patterns and principles in software designs based on agile principles, such as SOLID-principles and basic architect and design patterns,
- perform iteration-based project development with planning sessions, deliverable iteration results, customer demonstrations and retrospective self-evaluation, and
- apply engineering design and architecture principles professionally.

**Prerequisites:** Computer Science 60 ECTS cr

### TOPICS IN COMPUTER NETWORKING, 7.5 ECTS credits

**Application Code:** KAU-30367 Spring 2018, week 14 - 23

Having successfully completed this course, a student will be able to

- describe the key features and principles of a number of advanced topics in computer networking,
- critically evaluate the strengths and weaknesses of different solutions in the area of computer networking,
- profit from reading research related literature in the area of computer networking, and
- independently explore advanced topics in computer networking and be able to communicate his/her findings both orally and in writing.

**Prerequisites:** Upper Secondary English course B or equivalent. 90 ECTS in Computer Science of which at least 15 ECTS in the area of computer networking (this corresponds to DVGB02 Computer Networking I 7.5 ECTS and DVGC02 Computer Networking II 7.5 ECTS for local students)

### TOPICS IN COMPUTER SECURITY, 7.5 ECTS credits

**Application Code:** KAU-30368 Spring 2018, week 14 - 23

Having successfully completed this course, a student will be able to

- explain advanced technical concepts and key issues in the areas of network security, computer forensics, and/or privacy-enhancing technologies, and
- critically compare the strengths and weaknesses of different security solutions in the above mentioned areas.
- read the current literature at the level of journal papers in this area, and
- and communicate knowledge of this area both orally and in writing.

This course should prepare students for starting a thesis or dissertation in this area.

**Prerequisites:** Network Security or equivalent. Upper Secondary English B or equivalent

## CULTURAL STUDIES

### CULTURAL HERITAGE, 7.5 ECTS credits

**Application Code:** KAU-30046 Autumn 2017, week 45 - 49

Upon completion of the module, students should be able to:

- demonstrate knowledge of how a cultural heritage is constructed, conveyed and used in the cultural sector,
- problematise the concept of cultural heritage.

**Prerequisites:** General admission requirements

### CULTURAL HERITAGE AND CULTURAL POLITICS, 7.5 ECTS credits

**Application Code:** KAU-30042 Autumn 2017, week 45 - 49

Upon completion of the module, students should be able to:

- demonstrate knowledge of the actors involved in the production, distribution and consumption of the cultural heritage in the cultural sector,
- demonstrate knowledge of how a cultural heritage is constructed,



- conveyed and used in the cultural sector,
  - problematise the concept of cultural heritage.
- Prerequisites:** Completed 22.5 course credits in cultural studies or equivalent.

### CULTURE AND GLOBALIZATION, 7.5 ECTS credits

**Application Code:** KAU-30187 Autumn 2017, week 50 - 3

### NORDIC STUDIES, 15 ECTS credits

**Application Code:** KAU-30060 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- give an account of the main features of the cultural, political, sociological, religious and historical development in the Nordic region in a European context,
- critically compare similarities and differences between countries in the Nordic region,
- give an account of the Nordic region's European affiliation on the basis of a subject perspective treated in the course, and
- make short analyses of current debates in the field.

**Prerequisites:** General admission requirements

## ECONOMICS

### APPLIED ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28811 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to

- choose and apply statistical methods to economic areas,
- master estimation of non-linear models,
- analyse models with a dichotomous variable as dependent variable: The LPM, Logit and Probit model,
- use simultaneous equation models, identification, indirect and two-stage least squares method,
- use dynamic models with time delayed explanatory variables,
- use the Granger causality test and
- present the theory of stationary and non-stationary models such as the ARMA and ARIMA model.

**Prerequisites:** Economics 90 ECTS or including NEGB22 Econometrics 7.5 ECTS or or equivalent plus additional courses totalling at least 30 ECTS or at the G2F level or above. Statistics 15 ECTS or or equivalent. Upper Secondary English 6, English B, or equivalent.

Or

Economics 90 ECTS or, including at least 30 ECTS or at G2F-level or higher. Statistics 22.5 ECTS or including STGA02 Econometrics 7.5 ECTS or or equivalent. Upper Secondary English 6, English B, or equivalent.

### APPLIED ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28839 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to

- select and apply appropriate statistical models pertaining to various subject areas in economics,
- estimate non-linear models,
- analyse models with a dichotomy variable as dependent variable, specifically, the LPM, Logit, and Probit models,
- use simultaneous equation models, identification, and the indirect and two-step least squares methods,
- use dynamic models with time-delayed explanatory variables,
- use the Granger causality test and
- give an account of basic theories of stationary and non-stationary models such as the ARMA and the ARIMA models.

**Prerequisites:** Economics 60 ECTS Credits including the courses Econometrics 7,5 ECTS Credits and Statistics 15 ECTS Credits.

OR

Economics 60 ECTS Credits. Statistics 22,5 ECTS Credits including the course Econometrics 7,5 ECTS Credits.

### BEHAVIOURAL ECONOMICS, 7.5 ECTS credits

**Application Code:** KAU-28812 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to

- describe and explain how cognitive difficulties, moral stances, social circumstances and emotional reactions affect traditional economic models and theories,
- explain expected utility and prospect theory,

- give an account of and reflect on the problem with the rationality assumption,
- estimate how different assumptions of preference in intertemporal choice affect consumption choices, and
- explain and reflect on the relation between utility, happiness and welfare from an economic perspective and
- give an account of how to design and complete an economic experiment.

**Prerequisites:** Economics 90 ECTS cr, including at least 30 ECTS cr at G2F-level or higher. Upper Secondary English 6, English B, or equivalent.

### BEHAVIOURAL ECONOMICS, 7.5 ECTS credits

**Application Code:** KAU-28842 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to

- describe and explain how cognitive difficulties, moral stances, social circumstances and emotional reactions affect traditional economic models and theories,
- explain expected utility and prospect theory,
- give an account of the problem with the rationality assumption,
- estimate how different assumptions of preference in intertemporal choice affect consumption choices and
- explain the relation between utility, happiness and welfare from an economic perspective.

**Prerequisites:** Economics 60 ECTS Credits.

### ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28831 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to

- construct models for prognostication,
- understand and use the least squares method for estimating linear regression models,
- analyse regression models with dummy variables and
- evaluate the adapted models with respect to heteroskedacity, multi-collinearity, and auto-correlation.

**Prerequisites:** Economics 30 ECTS Credits. Statistics 15 ECTS Credits.

### ECONOMIC POLICY EVALUATION, 7.5 ECTS credits

**Application Code:** KAU-28814 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- carry out and discuss economic evaluations of measures and regulations at an advanced level,
- explain why a measure or regulation can be judged as a welfare improvement or not based on economic welfare theory,
- describe and discuss different econometric evaluation methods such as randomised experiment, natural experiment and instrumental variables regression,
- carry out and discuss economic evaluations based on econometric effect connections and associated monetary costs and benefits, particularly the application of the socio-economic evaluation methods cost benefit analysis and cost effect analysis,
- carry out and discuss analyses and valuations of goods lacking market pricing (non-market goods),
- suggest and discuss appropriate ways of handling uncertainty in economic evaluations, and
- give an account of how costs and/or benefits occurring in the future can be treated in the evaluation of measures and regulations.

**Prerequisites:** Economics 90 ECTS cr including NEGB22 Econometrics 7.5 ECTS cr or equivalent plus additional courses totalling at least 30 ECTS cr at the G2F level or above. Upper Secondary English 6, English B, or equivalent.

### ECONOMICS, 30 ECTS credits

**Application Code:** KAU-28817 Autumn 2017, week 35 - 3

Module 1: Microeconomic Theory and International Trade, 15 ECTS credits

Upon completion of the module, students should be able to:

- explain the role of prices in a market economy,
- define and use the concepts of price and income elasticity,
- explain why resources in a perfectly functioning market economy are distributed effectively,
- explain why external effects and collective goods influence the market economy and resource allocation,
- explain the connection between the costs and supply of goods and services in a business,
- give an account of the following market forms: perfect competition, monopolistic competition, oligopoly, and monopoly,

- explain the basics of wage formation in a job market exposed to competition, and
- explain why division of labour/specialisation and commerce can benefit all who take part in this process,
- give an account of the basic principles of game theory,
- explain the advantages of international trade,
- explain the political reasons for introducing trade restrictions,
- give an account of the effects of trade restrictions on prices and wages, and
- give an account of the reasons for direct foreign investments.

#### Module 2: Macroeconomy, Globalisation and Growth, 15 ECTS credits

Upon completion of the module, students should be able to:

- demonstrate understanding of macroeconomic relations on the basis of the National Accounts,
- use macroeconomic models for short and long-term development, and use these models to analyse the effects of economic political measures,
- give an account of the main role and function of the money-markets,
- give an account of the means and ends of Swedish monetary policy,
- explain the concepts of unemployment and inflation, and relate them to other macroeconomic contexts
- give an account of factors affecting exchange rates and how the exchange rate can be used as a means to achieve the inflation goals of the Bank of Sweden,
- give an account of the causes and consequences of financial crises in a globalized economy,
- identify factors leading to economic growth and the causes of permanent poverty, and
- analyse the potential of economic growth in welfare in individual countries

**Prerequisites:** General admission requirements plus either

- field-specific eligibility A (upper secondary school level Mathematics 3b or 3c, Civics 1b or 1a+ 1a2), or
- field-specific eligibility (upper secondary school level English B, Mathematics C, Civics A), with the exception of English B.

#### ECONOMICS - BACHELOR'S THESIS, 15 ECTS credits

**Application Code:** KAU-28837 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to

- give an account for and assess various scientific research methods,
- conduct an independent and critical analysis of selected problems in the field,
- apply relevant scientific methodology on a selected topic/problem in an investigation of their own,
- give an account for and discuss information, problems and solutions within Economics in oral and written form and
- critically review and discuss others work.

**Prerequisites:** Economics 60 ECTS cr including Econometrics NEGB22 7,5 ECTS cr or equivalent plus additional courses totalling at least 22,5 ECTS cr at the G1F level.

#### ECONOMICS - CONTINUATION COURSE, 30 ECTS credits

**Application Code:** KAU-28823 Autumn 2017, week 35 - 3

Module 1 Quantitative Methods in Economics

Upon completion of the module, students should be able to:

- analyse the functions of one and two variables and differentiate the functions to derive extreme values,
- solve optimisation problems with and without subsidiary conditions for functions of one and two variables and
- perform statistical inference.

#### Module 2 Microeconomics

Upon completion of the module, students should be able to:

- apply basic neoclassical method to microeconomic problems,
- analyse and give an account of decision-making situations for consumers and companies,
- acquire basic concepts for analysing optimisation problems over time and in uncertainty, and
- give an account of the conditions under which pure market solutions are not socioeconomically optimal.

#### Module 3 Macroeconomics

Upon completion of the module, students should be able to:

- give an account of the relation between money supply, price level and inflation, and how the national bank can control these macroeconomic

variables,

- give an account of the causes of unemployment related to economic cycle fluctuation and how the government can influence the situation through fiscal policy,
- give an account of the short and long-term effects of permanent deficit in the public sector budget on private saving and investment incentive,
- give an account of the incentives for long-term economic growth.

#### Module 4 Econometrics

Upon completion of the module, students should be able to:

- give an account of the principles for and apply the least squares method to estimate linear regression models, and
- analyse regression models with dummy variables and evaluate the adapted models with respect to heteroskedasticity, multicollinearity, and autocorrelation.

#### Module 5 Essay

Upon completion of the module, students should be able to:

- independently plan and complete a study in a chosen area of the micro or macro economy and apply the mathematical knowledge acquired and the statistical/econometric method to analyse this problem.

**Prerequisites:** Economics 30 ECTS credits and Statistics 15 ECTS credits

#### ECONOMICS - DEGREE PROJECT MASTER OF SCIENCE IN BUSINESS AND ECONOMICS, 30 ECTS credits

**Application Code:** KAU-28808 Autumn 2017, week 35 - 23

Upon completion of the course, students should be able to:

- demonstrate indepth knowledge and understanding of the degree project area in economics,
- identify and formulate relevant research questions in economics,
- critically assess academic methods,
- acquire, compile and structure academic literature,
- carry out a research thesis in economics based on an appropriate method and knowledge acquired from master level courses,
- give an account of relevant societal aspects of the independent project and research in economics,
- identify their need for further knowledge in the research area based on previous research and their own thesis project, and
- communicate the results of their own thesis, and
- review the scholarly works of others.

**Prerequisites:** At least 150 ECTS cr for the programme Master of Science in Business and Economics (SACEK) with a specialisation in economics or financial economy or equivalent, alternatively at least 30 ECTS cr for the Master programme in economics (SANEC-CPNE)

#### ECONOMICS - MASTER'S THESIS (ONE YEAR), 15 ECTS credits

**Application Code:** KAU-28806 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to

- apply relevant scientific methodology on a selected topic/problem,
- compile the results of their investigation in a report and defend it in a seminar discussion and
- apply the acquired theoretical knowledge as they analyse and critically evaluate scientific reports in general and other students' reports in particular.

**Prerequisites:** Economics 90 ECTS Credits. At least 30 of these 90 ECTS credits must be earned in basic level courses that have at least 60 ECTS credits as prerequisites. The courses NEGB13 Microeconomics 7,5 ECTS Credits, NEGB14 Macroeconomics 7,5 ECTS Credits, NEGC16 Applied Econometrics 7,5 ECTS Credits and NEGC04 Economics - Bachelor's thesis 15 ECTS Credits or equivalent must be included. Upper Secondary English B, English 6 or equivalent.

#### ECONOMICS, PRACTICAL TRAINING, 7,5 ECTS credits

**Application Code:** KAU-28844 Autumn 2017, week 35 - 3

Upon completion of the course, students should be able to:

- apply economic methods of analysis to workplace tasks,
- perform work assignments with economic content,
- demonstrate ability to critically assess theories and relate these to practice, and
- compile and report results and conclusions in writing.

**Prerequisites:** Economics 60 ECTS cr

#### FINANCIAL MARKETS, RISK AND INSURANCE, 7,5 ECTS credits

**Application Code:** KAU-28827 Autumn 2017, week 35 - 44

Upon completion of the course, students should

- understand the principles affecting the demand for insurance against real and financial risks and the benefits of having an insurance contract,
- understand the similarity between real risk pooling and the diversification of financial risks,
- understand the reasons behind market failures in parts of the insurance market, and be able to assess various strategies to correct these failures,
- understand the role and structure of financial markets,
- understand what factors affect the pricing of basic financial instruments, such as bonds and shares, and be able to carry out an assessment of such instruments,
- understand what factors affect the assessment of a corporation listed on the stock market, and be able to carry out such an assessment,
- understand the motivation behind social insurance as well as the interaction of social and private insurance solutions,
- understand the principles behind fund-based pension systems and non-fund-based pension systems, including the problem of long-term financing which affects the latter,
- be able to assess the consequences of various solutions to the problem of financing pension systems and
- be able to apply their theoretical knowledge in practice as they work together in groups to analyse a selected problem in the field, and present their results in written form.

**Prerequisites:** Economics 30 ECTS Credits.

#### INTERNATIONAL MACROECONOMICS, 7.5 ECTS credits

**Application Code:** KAU-28809 Autumn 2017, week 45 - 3

Upon completion of the course students should be able to

- understand how and why the effectiveness of a nation's financial policy is dependent on the choice of exchange rate regime and degree of openness to capital movement,
- understand the restrictions which central banks and governments operate under when they decide on their monetary and currency policy,
- understand the relationship between exchange rates and the price on assets in terms of different currencies,
- understand the difference between nominal and real exchange rates and how the latter develop with time,
- understand the relationship between central banks' monetary policies, exchange rates and expectations of inflation,
- understand the central bank's balancing of welfare considerations and employment goals and
- analyse a country's possibilities to use fixed or flexible exchange rates and to be part of a monetary area with other countries.

**Prerequisites:** Economics 90 ECTS cr, including at least 30 ECTS cr at G2F-level or higher. Upper Secondary English 6, English B, or equivalent.

#### INTERNATIONAL MACROECONOMICS, 7.5 ECTS credits

**Application Code:** KAU-28841 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to understand

- how and why the efficacy of fiscal policy is dependent on the exchange rate regime of a country, as well as the degree of openness of capital movement,
- the restrictions that apply to central banks and governments in formulating their monetary and foreign exchange policies,
- the correlation between exchange rates and the price of assets expressed in different currencies,
- the difference between nominal and real exchange rate, as well as how the latter changes over time,
- the connections between the monetary policy of central banks and expectations on exchange rate and inflation,
- the welfare theoretical balancing considerations of the central bank between inflation targets and employment stabilization targets and
- and analyze the possibilities of individual countries to use either fixed or floating exchange rate as well as enter into monetary union with other countries.

**Prerequisites:** Economics 60 ECTS Credits.

#### INTERNATIONAL TRADE THEORY, 7.5 ECTS credits

**Application Code:** KAU-28826 Autumn 2017, week 45 - 3

Upon completion of the course, students should

- understand the driving forces behind the international division of labour and its consequences for national and international income distribution,
- understand the logic behind arguments in support of international trade profits, and assess proposals to restrict trade from the perspective of

welfare theory,

- understand the motives and driving forces, as well as the consequences, of foreign direct investment and labour migration,
- understand the motives behind the protectionism and resistance to increased international integration that is expressed by political interest groups and
- be able to apply their theoretical knowledge in practice in the analysis of a selected problem in the field of international trade theory, and present their results in both oral and written form.

**Prerequisites:** Economics 30 ECTS Credits.

#### MACROECONOMICS, 7.5 ECTS credits

**Application Code:** KAU-28825 Autumn 2017, week 45 - 3

Upon completion of the course, students should

- understand the connection between monetary quantity, price level, and inflation, and the ways in which the state bank can control these macroeconomic variables through its monetary policies,
- understand the causes of cyclic unemployment and the ways in which the government can influence cyclic unemployment through financial policies,
- understand the connection between interest rate, inflation, and exchange rate, as well as the conditions for monetary and financial policy in small-scale open economies such as Sweden,
- understand how permanent deficits in the budget of the public sector affect short-term and long-term private saving and investment,
- understand the driving forces behind long-term economic growth,
- be able to explain why there is a choice between low unemployment and low inflation in the short term but not in the long term,
- be able to analyse the effects of monetary and financial policies and how they are affected by the degree of economic integration with the rest of the world and
- be able to assess how various macroeconomic measures affect central macroeconomic variables, in the long term as well as in the short term.

**Prerequisites:** Economics 30 ECTS Credits.

#### MACROECONOMICS, GLOBALIZATION AND ECONOMIC GROWTH, 15 ECTS credits

**Application Code:** KAU-28820 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- demonstrate understanding of macroeconomic relations on the basis of the National Accounts,
- use macroeconomic models for short and long-term development, and use these models to analyse the effects of economic political measures,
- give an account of the main role and function of the money-markets,
- give an account of the means and ends of Swedish monetary policy,
- explain the concepts of unemployment and inflation, and relate them to other macroeconomic contexts
- give an account of factors affecting exchange rates and how the exchange rate can be used as a means to achieve the inflation goals of the Bank of Sweden,
- give an account of the causes and consequences of financial crises in a globalized economy,
- identify factors leading to economic growth and the causes of permanent poverty, and
- analyse the potential of economic growth in welfare in individual countries

**Prerequisites:** General admission requirements plus either

- field-specific eligibility A (upper secondary school level Mathematics 3b or 3c, Civics 1b or 1a+ 1a2), or
- field-specific eligibility (upper secondary school level English B, Mathematics C, Civics A), with the exception of English B.

#### MICROECONOMICS AND INTERNATIONAL TRADE, 15 ECTS credits

**Application Code:** KAU-28819 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- explain the role of prices in a market economy,
- define and use the concepts of price and income elasticity,
- explain why resources in a perfectly functioning market economy are distributed effectively,
- explain why external effects and collective goods influence the market economy and resource allocation,
- explain the connection between the costs and supply of goods and services in a business,
- give an account of the following market forms: perfect competition,



- monopolistic competition, oligopoly, and monopoly,
- explain the basics of wage formation in a job market exposed to competition, and
- explain why division of labour/specialisation and commerce can benefit all who take part in this process,
- give an account of the basic principles of game theory,
- explain the advantages of international trade,
- explain the political reasons for introducing trade restrictions,
- give an account of the effects of trade restrictions on prices and wages, and
- give an account of the reasons for direct foreign investments.

**Prerequisites:** General admission requirements and either

- field-specific eligibility A(Mathematics 3b or 3c, Civics 1b or 1a1+1a2) or
- field-specific eligibility (English B, Mathematics C, Civics A) with the exception of English B

#### **MICROECONOMICS AND QUANTITATIVE METHODS, 15 ECTS credits**

**Application Code:** KAU-28834 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- apply the basic neoclassical method to microeconomic problems,
- analyse and give an account of decision making situations for consumers and companies,
- solve optimisation problems mathematically with and without subsidiary conditions for functions of one and two variables,
- apply basic concepts to analyse optimisation problems over time and in uncertainty,
- give an account of the conditions under which pure market solutions are not socioeconomically optimal (market failure, e.g. external effects) and
- use and critically evaluate different statistical methods.

**Prerequisites:** Economics 30 ECTS cr, Statistics 15 ECTS cr

#### **SCIENTIFIC METHODS IN ECONOMICS, 15 ECTS credits**

**Application Code:** KAU-28845 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- give an account of basic philosophy of science,
- perform information searches in Swedish and international databased information systems,
- analyse and apply central terms, concepts and techniques in social science research,
- give an account of and use different methods of analysis for research and investigations in a basic way,
- formulate well-defined research questions and independently interpret, understand, and discuss research studies in relation to these,
- evaluate uncertainties in research results, and
- plan and conduct studies in the field of economics.

**Prerequisites:** Admission to the Business and Economics Programme (SACEK), Economics 60 ECTS cr including at least 30 ECTS cr at G1F-level or higher and Statistics 15 ECTS cr,

## **ENGLISH**

#### **AMERICAN LITERATURE, 1620-1919, 7.5 ECTS credits**

**Application Code:** KAU-30158 Spring 2018, week 04 - 13

Upon completion of the course, students should be able to:

- give an account of specialized knowledge of American literature from 1620 to 1919,
- demonstrate understanding of problems associated with literary historiography, especially genre issues,
- demonstrate advanced ability to analyze literary texts critically and to evaluate different types of literary theory and criticism critically.

**Prerequisites:** English 1-90 ECTS cr or Comparative Literature 1-90 ECTS cr and upper secondary school level English B or equivalent

#### **AMERICAN LITERATURE, 1919 TO THE PRESENT, 7.5 ECTS credits**

**Application Code:** KAU-30160 Spring 2018, week 14 - 23

Upon completion of the course, students should be able to:

- give an account of specialized knowledge of American literature from 1919 to the present time,
- demonstrate understanding of problems associated with literary historiography, especially genre issues,
- demonstrate advanced ability to analyze literary texts critically and to evaluate different types of literary theory and criticism critically.

**Prerequisites:** English 1-90 ECTS cr or Comparative Literature 1-90 ECTS cr and upper secondary school level English B or equivalent

#### **APPLIED BUSINESS COMMUNICATION, 7.5 ECTS credits**

**Application Code:** KAU-30314 Autumn 2017, week 35 - 44

#### **BUSINESS ENGLISH I, 15 ECTS credits**

**Application Code:** KAU-29751 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- use dictionaries, handbooks and Internet search tools to improve their ability to use English adequately in the area of economy and business,
- distinguish between formal and informal language in speech and writing,
- produce common types of business documents, electronic mails, PMs and applications according to conventions,
- give an account of the content of literature in the field,
- give an account of sub cultures and communication patterns in some parts of the world, and
- demonstrate understanding of how these affect global communication in English.

**Prerequisites:** General admission requirements and upper secondary level English 6 or B

#### **BUSINESS ENGLISH I, 15 ECTS credits**

**Application Code:** KAU-29752 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- use dictionaries, handbooks and Internet search tools to improve their ability to use English adequately in the area of economy and business,
- distinguish between formal and informal language in speech and writing,
- produce common types of business documents, electronic mails, PMs and applications according to conventions,
- give an account of the content of literature in the field,
- give an account of sub cultures and communication patterns in some parts of the world, and
- demonstrate understanding of how these affect global communication in English.

**Prerequisites:** General admission requirements and upper secondary level English 6 or B

#### **BUSINESS ENGLISH I, 15 ECTS credits**

**Application Code:** KAU-29753 Autumn 2017, week 45 - 03

Upon completion of the course, students should be able to:

- use dictionaries, handbooks and Internet search tools to improve their ability to use English adequately in the area of economy and business,
- distinguish between formal and informal language in speech and writing,
- produce common types of business documents, electronic mails, PMs and applications according to conventions,
- give an account of the content of literature in the field,
- give an account of sub cultures and communication patterns in some parts of the world, and
- demonstrate understanding of how these affect global communication in English.

**Prerequisites:** General admission requirements and upper secondary level English 6 or B

#### **BUSINESS ENGLISH I, 15 ECTS credits**

**Application Code:** KAU-29754 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- use dictionaries, handbooks and Internet search tools to improve their ability to use English adequately in the area of economy and business,
- distinguish between formal and informal language in speech and writing,
- produce common types of business documents, electronic mails, PMs and applications according to conventions,
- give an account of the content of literature in the field,
- give an account of sub cultures and communication patterns in some parts of the world, and
- demonstrate understanding of how these affect global communication in English.

**Prerequisites:** General admission requirements and upper secondary level English 6 or B

## **BUSINESS ENGLISH I, 15 ECTS credits**

**Application Code:** KAU-29755 *Spring 2018, week 04 - 23*

Upon completion of the course, students should be able to:

- use dictionaries, handbooks and Internet search tools to improve their ability to use English adequately in the area of economy and business,
- distinguish between formal and informal language in speech and writing,
- produce common types of business documents, electronic mails, PMS and applications according to conventions,
- give an account of the content of literature in the field,
- give an account of sub cultures and communication patterns in some parts of the world, and
- demonstrate understanding of how these affect global communication in English.

**Prerequisites:** General admission requirements and upper secondary level English 6 or B

## **BUSINESS ENGLISH II, 15 ECTS credits**

**Application Code:** KAU-29756 *Spring 2018, week 04 - 23*

The aim of the course is to help students develop basic language skills and the cultural and linguistic knowledge required to communicate in English in the fields of business and economy.

Upon completion of the course, students should be able to:

- interpret and create business documents written in English
- express themselves correctly in English in the fields of business and economy
- apply their knowledge of communicative patterns in various parts of the world and show comprehension of how these are affecting global communication using English as language of communication.

**Prerequisites:** Business English I, 15 ECTS Credits

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 30 ECTS credits**

**Application Code:** KAU-29834 *Autumn 2017, week 35 - 03*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS, or equivalent

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 30 ECTS credits**

**Application Code:** KAU-29835 *Autumn 2017, week 35 - 23*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS, or equivalent

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 15 ECTS credits**

**Application Code:** KAU-29836 *Autumn 2017, week 35 - 03*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS credits or equivalent.

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 30 ECTS credits**

**Application Code:** KAU-29822 *Spring 2018, week 04 - 23*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS, or equivalent

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 30 ECTS credits**

**Application Code:** KAU-29823 *Spring 2018, week 04 - 03*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS, or equivalent

## **DEGREE PROJECT IN ENGLISH LINGUISTICS (MASTER), 15 ECTS credits**

**Application Code:** KAU-29824 *Spring 2018, week 04 - 23*

Upon completion of the course, students should be able to:

- formulate and delimit a research problem of relevance for the intended subject area of the thesis
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- independently identify relevant secondary sources and use them critically in the theoretical background as well as in analyzing primary materials
- independently collect and analyse complex materials of relevance for the research question
- present the theory applied, analysis and results of the study in a well-structured and analytically cogent thesis
- demonstrate ability to critically review peer projects and be able to incorporate criticism and comments by others in their own text to improve the quality of the thesis

**Prerequisites:** English 1-120 ECTS credits or equivalent.

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 30 ECTS credits**

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**Application Code:** KAU-29829 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS credits or equivalent.

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 30 ECTS credits**

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**Application Code:** KAU-29831 Autumn 2017, week 35 - 23

Upon completion of the course, students should be able to:

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS credits or equivalent.

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 15 ECTS credits**

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**Application Code:** KAU-29833 Autumn 2017, week 35 - 03

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

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and be able to apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS, or equivalent

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 30 ECTS credits**

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**Application Code:** KAU-29819 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS credits or equivalent.

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 30 ECTS credits**

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**Application Code:** KAU-29820 Spring 2018, week 04 - 03

Upon completion of the course, students should be able to:

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,

- identify relevant secondary sources, and apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS credits or equivalent.

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**DEGREE PROJECT IN ENGLISH LITERATURE (MASTER), 15 ECTS credits**

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**Application Code:** KAU-29821 Spring 2018, week 04 - 23

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

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and be able to apply this material critically to the background and analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

**Prerequisites:** English 1-120 ECTS, or equivalent

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**DEGREE PROJECT, SECONDARY EDUCATION - ENGLISH AND ENGLISH TEACHING, 15 ECTS credits**

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**Application Code:** KAU-29772 Autumn 2017, week 45 - 03

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**DEGREE PROJECT, SECONDARY EDUCATION - ENGLISH AND ENGLISH TEACHING, 15 ECTS credits**

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**Application Code:** KAU-29773 Autumn 2017, week 45 - 03

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**DEGREE PROJECT, SECONDARY EDUCATION - ENGLISH AND ENGLISH TEACHING, 15 ECTS credits**

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**Application Code:** KAU-29774 Spring 2018, week 14 - 23

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**DEGREE PROJECT, SECONDARY EDUCATION - ENGLISH AND ENGLISH TEACHING, 15 ECTS credits**

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**Application Code:** KAU-29809 Spring 2018, week 14 - 23

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**DYSTOPIA AND APOCALYPSE, 7.5 ECTS credits**

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**Application Code:** KAU-30156 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- demonstrate an advanced knowledge of dystopia and apocalypse as literary themes,
- identify and analyze thematic problems and genre issues concerning dystopian and apocalyptic representations,
- demonstrate the ability to analyze dystopian and apocalyptic texts and critically evaluate theoretical literary and cultural studies approaches to these types of texts.

**Prerequisites:** English 1-90 ECTS or, or equivalent

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**ENGLISH FOR INTERNATIONAL STUDENTS, 15 ECTS credits**

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**Application Code:** KAU-29757 Autumn 2017, week 35 - 44

The aim of the course is to prepare students for university courses taught in English.

Upon completion of the course, students should be able to

- demonstrate understanding of and ability to use general formal vocabulary commonly used in both written and spoken academic English,
- communicate comprehensibly orally as well as in formal, written English,
- demonstrate the ability to understand different registers of spoken English,
- compose coherent texts in English,
- seek information and present it in a structured way orally and in writing with correct use of sources, quotations and references according to instruction.

**Prerequisites:** General admission requirements plus upper secondary English 6 or English B, or equivalent

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**ENGLISH FOR INTERNATIONAL STUDENTS, 15 ECTS credits**

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**Application Code:** KAU-29758 Spring 2018, week 14 - 23



The aim of the course is to prepare students for university courses taught in English.

Upon completion of the course, students should be able to

- demonstrate understanding of and ability to use general formal vocabulary commonly used in both written and spoken academic English,
- communicate comprehensibly orally as well as in formal, written English,
- demonstrate the ability to understand different registers of spoken English,
- compose coherent texts in English,
- seek information and present it in a structured way orally and in writing with correct use of sources, quotations and references according to instruction.

**Prerequisites:** General admission requirements plus upper secondary English 6 or English B, or equivalent

#### ENGLISH FOR PRACTICAL AND PROFESSIONAL PURPOSES, 15 ECTS credits

**Application Code:** KAU-29759 Autumn 2017, week 35 - 03

The aim of the course is that students, in the short and long term, develop their formal and informal communicative skills in English.

Upon completion of the course, students should be able to:

- communicate in English, orally and in writing, for different situations and purposes,
- demonstrate awareness of the important features of English-speaking communication,
- choose the appropriate words and expressions for different situations,
- use language tools and other relevant resources to develop proficiency in English.

**Prerequisites:** General admission requirements plus upper secondary English 6 or English B, or equivalent

#### ENGLISH FOR PRACTICAL AND PROFESSIONAL PURPOSES, 15 ECTS credits

**Application Code:** KAU-29760 Spring 2018, week 04 - 23

The aim of the course is that students, in the short and long term, develop their formal and informal communicative skills in English.

Upon completion of the course, students should be able to:

- communicate in English, orally and in writing, for different situations and purposes,
- demonstrate awareness of the important features of English-speaking communication,
- choose the appropriate words and expressions for different situations,
- use language tools and other relevant resources to develop proficiency in English.

**Prerequisites:** General admission requirements plus upper secondary English 6 or English B, or equivalent

#### ENGLISH FOR SCIENCE AND TECHNOLOGY I, 15 ECTS credits

**Application Code:** KAU-29761 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- use English functionally in speech and writing
- demonstrate a basic vocabulary in the fields of science and technology
- analyze what decides how well a text conveys its purpose
- describe what characterizes the most common types of text used in technical English
- give a brief oral presentation.

**Prerequisites:** General admission requirements plus upper secondary school level English B.

#### ENGLISH FOR SCIENCE AND TECHNOLOGY I, 15 ECTS credits

**Application Code:** KAU-29762 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- use English functionally in speech and writing
- demonstrate a basic vocabulary in the fields of science and technology
- analyze what decides how well a text conveys its purpose
- describe what characterizes the most common types of text used in technical English
- give a brief oral presentation.

**Prerequisites:** General admission requirements plus upper secondary school level English B.

#### ENGLISH FOR SCIENCE AND TECHNOLOGY I, 15 ECTS credits

**Application Code:** KAU-29763 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- use English functionally in speech and writing
- demonstrate a basic vocabulary in the fields of science and technology
- analyze what decides how well a text conveys its purpose
- describe what characterizes the most common types of text used in technical English
- give a brief oral presentation.

**Prerequisites:** General admission requirements plus upper secondary school level English B.

#### ENGLISH FOR SCIENCE AND TECHNOLOGY I, 15 ECTS credits

**Application Code:** KAU-29764 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- use English functionally in speech and writing
- demonstrate a basic vocabulary in the fields of science and technology
- analyze what decides how well a text conveys its purpose
- describe what characterizes the most common types of text used in technical English
- give a brief oral presentation.

**Prerequisites:** General admission requirements plus upper secondary school level English B.

#### ENGLISH FOR SCIENCE AND TECHNOLOGY II, 15 ECTS credits

**Application Code:** KAU-29765 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- use English in a nuanced manner in speech and writing in an international context
- comprehend and use a diverse vocabulary in the fields of science and technology
- demonstrate the ability to use text types in the field of technical English
- give an oral presentation in the field of technical English.

**Prerequisites:** English for Science and Technology I, 15 ECTS Credits

#### ENGLISH FOR TEACHING IN SECONDARY AND UPPER SECONDARY EDUCATION III, 30 ECTS credits

**Application Code:** KAU-29746 Autumn 2017, week 35 - 03

The aim of the course is that students further develop their analytical skills and linguistic, cultural and teaching methodological knowledge in a theoretical perspective as well as their command of academic discourse. Students are also expected to further develop abilities to reflect on and analyse the role and importance of language, literature and culture to school, individuals and society.

The course comprises four modules with the respective learning outcomes specified below.

##### 1. Linguistics, 6 ECTS cr

Upon completion of the module, students should be able to:

- summarise and evaluate secondary material in different linguistic areas and apply the knowledge to primary material,
- discuss and analyse how the acquired knowledge of subject and teaching methodology can be translated into different teaching situations.

##### 2. English-Speaking Literature, 6 ECTS cr

Upon completion of the module, students should be able to:

- give an account of different literary and cultural theories and methods, including issues of equal opportunities, gender, sexual orientation, class and ethnicity, and apply theoretical concepts and approaches in their own analyses of course literature,
- demonstrate further knowledge of methods for teaching literature by reflecting on how critical theory can be used in teaching or add new perspectives to it.

##### 3. Language Proficiency, 3 ECTS cr

Upon completion of the module, students should be able to:

- use English with linguistic and stylistic confidence in speech and writing, especially in informative and formal contexts.

##### 4. Degree Thesis, 15 ECTS cr

Upon completion of the module, students should be able to:

- formulate a defined research question and/or an overriding thesis statement in the area of linguistics or literature,
- identify and critically use relevant secondary material in the analysis of the primary material or empirical data,
- apply research procedures and methods of analysis to a theory-based independent specialisation project,
- follow current referencing guidelines,

- present the study and its result in the form of a well-written, clear and well-structured essay,
- discuss and defend the essay and review, evaluate and discuss fellow-students' essays.

Prerequisites: Completed ENGL01 and 15 ECTS credits of ENGL02

#### ENGLISH FOR TEACHING IN SECONDARY AND UPPER SECONDARY EDUCATION III, 30 ECTS credits

Application Code: KAU-29747 Autumn 2017, week 35 - 03

The aim of the course is that students further develop their analytical skills and linguistic, cultural and teaching methodological knowledge in a theoretical perspective as well as their command of academic discourse. Students are also expected to further develop abilities to reflect on and analyse the role and importance of language, literature and culture to school, individuals and society.

The course comprises four modules with the respective learning outcomes specified below.

##### 1. Linguistics, 6 ECTS cr

Upon completion of the module, students should be able to:

- summarise and evaluate secondary material in different linguistic areas and apply the knowledge to primary material,
- discuss and analyse how the acquired knowledge of subject and teaching methodology can be translated into different teaching situations.

##### 2. English-Speaking Literature, 6 ECTS cr

Upon completion of the module, students should be able to:

- give an account of different literary and cultural theories and methods, including issues of equal opportunities, gender, sexual orientation, class and ethnicity, and apply theoretical concepts and approaches in their own analyses of course literature,
- demonstrate further knowledge of methods for teaching literature by reflecting on how critical theory can be used in teaching or add new perspectives to it.

##### 3. Language Proficiency, 3 ECTS cr

Upon completion of the module, students should be able to:

- use English with linguistic and stylistic confidence in speech and writing, especially in informative and formal contexts.

##### 4. Degree Thesis, 15 ECTS cr

Upon completion of the module, students should be able to:

- formulate a defined research question and/or an overriding thesis statement in the area of linguistics or literature,
- identify and critically use relevant secondary material in the analysis of the primary material or empirical data,
- apply research procedures and methods of analysis to a theory-based independent specialisation project,
- follow current referencing guidelines,
- present the study and its result in the form of a well-written, clear and well-structured essay,
- discuss and defend the essay and review, evaluate and discuss fellow-students' essays.

Prerequisites: Completed ENGL01 and 15 ECTS credits of ENGL02

#### ENGLISH FOR TEACHING IN UPPER SECONDARY EDUCATION IV, 7.5 ECTS credits

Application Code: KAU-29748 Autumn 2017, week 35 - 39

The aim of the course is that students enhance their analytical skills and subject-specific teaching knowledge in a theoretical perspective.

Upon completion of the course, students should be able to:

- give an account of strategies for involving pupils in their language learning process
- bridge the gap between the classroom and the world
- translate language acquisition theories into practical activities
- develop strategies for the multicultural classroom
- deal with gender related issues in a language teaching perspective
- plan motivational activities for language use
- give an account of the historical background to the current view on language in school and society.

Prerequisites: The courses ENGL01, ENGL02 and ENGL03 or equivalent

#### ENGLISH FOR TEACHING IN UPPER SECONDARY EDUCATION IV, 7.5 ECTS credits

Application Code: KAU-29749 Autumn 2017, week 35 - 39

The aim of the course is that students enhance their analytical skills and subject-specific teaching knowledge in a theoretical perspective.

Upon completion of the course, students should be able to:

- give an account of strategies for involving pupils in their language learning process
- bridge the gap between the classroom and the world
- translate language acquisition theories into practical activities
- develop strategies for the multicultural classroom
- deal with gender related issues in a language teaching perspective
- plan motivational activities for language use
- give an account of the historical background to the current view on language in school and society.

Prerequisites: The courses ENGL01, ENGL02 and ENGL03 or equivalent

#### ENGLISH FOR TEACHING IN UPPER SECONDARY EDUCATION IV, 22.5 ECTS credits

Application Code: KAU-29750 Autumn 2017, week 40 - 03

The aim of the course is that students further develop their analytical skills and linguistic, cultural and teaching methodological knowledge in relation to theory, as well as their abilities to reflect on and analyse the role and importance of language, literature and culture to individuals, school and society.

The course comprises three modules:

Module 1 Literature and Literary Theory, 7.5 ECTS cr

Upon completion of the module, students should be able to:

- give an account of central theories and concepts in literary studies and independently analyse and evaluate them,
- interpret literature from different time periods and genres with the help of literary theories and secondary sources,
- give an account of relevant areas of literary studies by summarizing and evaluating secondary sources and applying these sources to primary texts,
- give an account of how theories and methods of the teaching of literature can be used or add new perspectives on literature and literary theory.
- Module Foundations of Linguistic Theory, 7. ECTS cr
- Upon completion of the module, students should be able to:
- give an account of central theories and concepts in linguistics, and independently analyse and assess these theories,
- critically approach the different conceptions of language underpinning the theories studied in course,
- apply linguistic methods to different types of linguistic data,
- compare and assess the methods used in different linguistic schools.
- Module Language Teaching and Learning, 7. ECTS cr
- Upon completion of the module, students should be able to:
- give an account of strategies to involve students in their language learning,
- bridge the distance between the classroom and the world,
- transform language learning theories into practical activities,
- develop strategies to promote the multicultural classroom,
- handle gender related issues in a language teaching perspective,
- plan motivation enhancing activities for using language,
- give an account of the historical background to contemporary views on language in education and society.

Prerequisites: ENGL01, ENGL02 and ENGL03

#### ENGLISH FOR TEACHING IN UPPER SECONDARY EDUCATION IV, 22.5 ECTS credits

Application Code: KAU-29806 Autumn 2017, week 40 - 03

The aim of the course is that students further develop their analytical skills and linguistic, cultural and teaching methodological knowledge in relation to theory, as well as their abilities to reflect on and analyse the role and importance of language, literature and culture to individuals, school and society.

The course comprises three modules:

Module 1 Literature and Literary Theory, 7.5 ECTS cr

Upon completion of the module, students should be able to:

- give an account of central theories and concepts in literary studies and independently analyse and evaluate them,
- interpret literature from different time periods and genres with the help of literary theories and secondary sources,
- give an account of relevant areas of literary studies by summarizing and evaluating secondary sources and applying these sources to primary texts,
- give an account of how theories and methods of the teaching of literature can be used or add new perspectives on literature and literary theory.

Module 2 Foundations of Linguistic Theory, 7.5 ECTS cr

Upon completion of the module, students should be able to:

- give an account of central theories and concepts in linguistics, and independently analyse and assess these theories,
- critically approach the different conceptions of language underpinning the theories studied in course,
- apply linguistic methods to different types of linguistic data,
- compare and assess the methods used in different linguistic schools.

Module 3 Language Teaching and Learning, 7.5 ECTS cr

Upon completion of the module, students should be able to:

- give an account of strategies to involve students in their language learning,
- bridge the distance between the classroom and the world,
- transform language learning theories into practical activities,
- develop strategies to promote the multicultural classroom,
- handle gender related issues in a language teaching perspective,
- plan motivation enhancing activities for using language,
- give an account of the historical background to contemporary views on language in education and society.

Prerequisites: ENGL01, ENGL02 and ENGL03

### **ENGLISH F÷R TEACHING IN SECONDARY AND UPPER SECONDARY EDUCATION II, 30 ECTS credits**

*Application Code: KAU-29741 Spring 2018, week 04 - 23*

### **ENGLISH F÷R TEACHING IN SECONDARY AND UPPER SECONDARY EDUCATION II, 30 ECTS credits**

*Application Code: KAU-29742 Spring 2018, week 04 - 23*

### **ENGLISH II, LANGUAGE AND LITERATURE, 30 ECTS credits**

**Application Code: KAU-29805 Autumn 2017, week 35 - 03**

**English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent**

The course comprises four modules:

**Module 1 Literature, 15 ECTS cr**

Upon completion of the module, students should be able to:

- give an account of the historical development of English literature in Great Britain and the United States from the Renaissance to the early 20th century,
- apply various literary concepts in the analysis, interpretation, and comparison of literary aspects of texts from various epochs, and
- write an academic essay with appropriate structure and use of language, as well as correct account, incorporation and referencing of secondary sources.

Module 2 Linguistic Theory and Method, 8 ECTS cr

Upon completion of the module, students should be able to:

- analyse linguistic phenomena in a theoretical and applied perspective,
- give an account of basic linguistic concepts and apply them to language materials,
- plan and carry out an account of linguistic theory and method on the basis of published research, and
- use and demonstrate awareness of language use and stylistic variations in standard English.

Module 3 History of the English Language, 4 ECTS cr

Upon completion of the module, students should be able to:

- describe the historical development of the English language and analyse linguistic phenomena from a historical perspective,
- give an account of central history of English concepts and apply these to language materials, and
- give an account of selected research in language history.

Module 4 Linguistic Specialisation, 3 ECTS cr

Upon completion of the module, students should be able to:

- independently explore a linguistic area and demonstrate critical understanding of it.

Instruction is in the form of lectures, seminars and group work.

Prerequisites: English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent

### **ENGLISH II, LANGUAGE AND LITERATURE, 30 ECTS credits**

*Application Code: KAU-29739 Spring 2018, week 04 - 23*

English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent

The course comprises four modules:

**Module 1 Literature, 15 ECTS cr**

Upon completion of the module, students should be able to:

- give an account of the historical development of English literature in Great Britain and the United States from the Renaissance to the early 20th century,
- apply various literary concepts in the analysis, interpretation, and

- comparison of literary aspects of texts from various epochs, and
- write an academic essay with appropriate structure and use of language, as well as correct account, incorporation and referencing of secondary sources.

Module 2 Linguistic Theory and Method, 8 ECTS cr

Upon completion of the module, students should be able to:

- **analyse linguistic phenomena** in a theoretical and applied perspective,
- give an account of **basic linguistic concepts** and apply them to **language materials**,
- plan and carry out an account of linguistic theory and method on the basis of published research, and
- use and demonstrate awareness of language use and stylistic variations in standard English.

Module 3 History of the English Language, 4 ECTS cr

Upon completion of the module, students should be able to:

- describe the historical development of the English language and analyse linguistic phenomena from a historical perspective,
- give an account of central history of English concepts and apply these to language materials, and
- give an account of selected research in language history.

Module 4 Linguistic Specialisation, 3 ECTS cr

Upon completion of the module, students should be able to:

- independently explore a linguistic area and demonstrate critical understanding of it.

Instruction is in the form of lectures, seminars and group work.

Prerequisites: English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent

### **ENGLISH II, LANGUAGE AND LITERATURE, 30 ECTS credits**

*Application Code: KAU-29740 Spring 2018, week 04 - 23*

English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent

The course comprises four modules:

**Module 1 Literature, 15 ECTS cr**

Upon completion of the module, students should be able to:

- give an account of the historical development of English literature in Great Britain and the United States from the Renaissance to the early 20th century,
- apply various literary concepts in the analysis, interpretation, and comparison of literary aspects of texts from various epochs, and
- write an academic essay with appropriate structure and use of language, as well as correct account, incorporation and referencing of secondary sources.

Module 2 Linguistic Theory and Method, 8 ECTS cr

Upon completion of the module, students should be able to:

- analyse linguistic phenomena in a theoretical and applied perspective,
- give an account of basic linguistic concepts and apply them to language materials,
- plan and carry out an account of linguistic theory and method on the basis of published research, and
- use and demonstrate awareness of language use and stylistic variations in standard English.

Module 3 History of the English Language, 4 ECTS cr

Upon completion of the module, students should be able to:

- describe the historical development of the English language and analyse linguistic phenomena from a historical perspective,
- give an account of central history of English concepts and apply these to language materials, and
- give an account of selected research in language history.

Module 4 Linguistic Specialisation, 3 ECTS cr

Upon completion of the module, students should be able to:

- independently explore a linguistic area and demonstrate critical understanding of it.

Instruction is in the form of lectures, seminars and group work.

Prerequisites: English I, 30 ECTS cr with 15 ECTS credits completed, or equivalent

### **ENGLISH III: LINGUISTICS AND LITERATURE, 30 ECTS credits**

**Application Code: KAU-29743 Autumn 2017, week 35 - 03**

The course comprises four modules:

**Module 1 Linguistics, 6 ECTS cr**

Upon completion of the module, students should be able to:

- summarise and evaluate secondary sources in various linguistic areas and apply their knowledge to the analysis of the primary material.

Module 2 Literature, 6 ECTS cr

Upon completion of the module, students should be able to:

- give an account of various literary and cultural theories and methods, including issues of equality, gender, sexual orientation, class and



ethnicity, and

- apply theoretical concepts and ideas in their own analyses of the course literature.

Module 3 Language Proficiency, 3 ECTS cr

Upon completion of the module, students should be able to:

- use Standard English with a high degree of linguistic and stylistic command in speech and writing, especially in informative and formal situations.

Module 4 Degree Project, 15 ECTS cr

Upon completion of the module, students should be able to:

- formulate a well-defined question and/or thesis to be investigated,
- identify and critically use relevant secondary sources in the analysis of the primary sources or empirical data,
- apply scientific methods of investigation and analysis related to theory,
- observe proper academic conventions for referencing,
- present the research project and its results, using clear and concise language, in an academic paper,
- discuss and defend their papers, and
- review, evaluate and discuss the papers submitted by others.

Prerequisites: English 1-45 ECTS credits

### ENGLISH III: LINGUISTICS AND LITERATURE, 30 ECTS credits

Application Code: KAU-29744 Autumn 2017, week 35 - 03

The course comprises four modules:

Module 1 Linguistics, 6 ECTS cr

Upon completion of the module, students should be able to:

- summarise and evaluate secondary sources in various linguistic areas and apply their knowledge to the analysis of the primary material.

Module 2 Literature, 6 ECTS cr

Upon completion of the module, students should be able to:

- give an account of various literary and cultural theories and methods, including issues of equality, gender, sexual orientation, class and ethnicity, and
- apply theoretical concepts and ideas in their own analyses of the course literature.

Module 3 Language Proficiency, 3 ECTS cr

Upon completion of the module, students should be able to:

- use **Standard English** with a high degree of **linguistic and stylistic** command in speech and writing, **especially** in informative and formal situations.

Module 4 Degree Project, 15 ECTS cr

Upon completion of the module, students should be able to:

- **formulate a well-defined question and/or thesis to be investigated,**
- **identify and critically use relevant secondary sources in the analysis of the primary sources or empirical data,**
- **apply scientific methods of investigation and analysis related to theory,**
- **observe proper academic conventions for referencing,**
- **present the research project and its results, using clear and concise language, in an academic paper,**
- **discuss and defend their papers, and**
- **review, evaluate and discuss the papers submitted by others.**

Prerequisites: English 1-45 ECTS credits

### ENGLISH III: LINGUISTICS AND LITERATURE, 30 ECTS credits

Application Code: KAU-29745 Spring 2018, week 04 - 23

The course comprises four modules:

Module 1 Linguistics, 6 ECTS cr

Upon completion of the module, students should be able to:

- summarise and evaluate secondary sources in various linguistic areas and apply their knowledge to the analysis of the primary material.

Module 2 Literature, 6 ECTS cr

Upon completion of the module, students should be able to:

- give an account of various literary and cultural theories and methods, including issues of equality, gender, sexual orientation, class and ethnicity, and
- apply theoretical concepts and ideas in their own analyses of the course literature.

Module 3 Language Proficiency, 3 ECTS cr

Upon completion of the module, students should be able to:

- use **Standard English** with a high degree of **linguistic and stylistic** command in speech and writing, **especially** in informative and formal situations.

Module 4 Degree Project, 15 ECTS cr

Upon completion of the module, students should be able to:

- **formulate a well-defined question and/or thesis to be investigated,**
- **identify and critically use relevant secondary sources in the analysis**

**of the primary sources or empirical data,**

- **apply scientific methods of investigation and analysis related to theory,**
- **observe proper academic conventions for referencing,**
- **present the research project and its results, using clear and concise language, in an academic paper,**
- **discuss and defend their papers, and**
- **review, evaluate and discuss the papers submitted by others.**

Prerequisites: English 1-45 ECTS credits

### FOUNDATIONS OF LINGUISTIC THEORY I, 7.5 ECTS credits

Application Code: KAU-29828 Autumn 2017, week 40 - 44

Upon completion of the course, students should be able to:

- **give** an account of central theories and concepts in linguistic studies and analyse and evaluate these theories independently,
- critically approach the **different conceptions** of what language is in the different theoretical schools treated in the course,
- apply linguistic methods to different types of language data, and
- **compare and evaluate** the methods used in different linguistic schools of thought.

Prerequisites: English 1-90 ECTS cr

### INDEPENDENT RESEARCH PAPER IN ENGLISH LINGUISTICS, 15 ECTS credits

Application Code: KAU-29827 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- demonstrate competence and independence in applying theoretical concepts and scientific methods of analysis in their own research
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- identify and present relevant secondary sources and use them in analyzing primary materials
- present a study with analysis and results in a well-structured and analytically cogent essay
- discuss their own papers in depth and critically review papers written by their peers

Prerequisites: English 1-90 ECTS credits and at least 15 ECTS credits in English linguistics at the advanced level.

### INDEPENDENT RESEARCH PAPER IN ENGLISH LINGUISTICS, 15 ECTS credits

Application Code: KAU-29818 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- demonstrate competence and independence in applying theoretical concepts and scientific methods of analysis in their own research
- independently formulate a research question; choose an appropriate research method, and carry out a scientific study
- identify and present relevant secondary sources and use them in analyzing primary materials
- present a study with analysis and results in a well-structured and analytically cogent essay
- discuss their own papers in depth and critically review papers written by their peers

Prerequisites: English 1-90 ECTS credits and at least 15 ECTS credits in English linguistics at the advanced level.

### INDEPENDENT RESEARCH PAPER IN ENGLISH LITERATURE, 15 ECTS credits

Application Code: KAU-29825 Autumn 2017, week 35 - 03

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

- demonstrate competence and skill in the use of theoretical concepts and scientific research methods in an independent research project,
- demonstrate independence in formulating the research question, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and be able to apply this material critically to the analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

Prerequisites: English 1-90 ECTS credits and at least 7.5 ECTS credits in English literature at the advanced level.

### INDEPENDENT RESEARCH PAPER IN ENGLISH LITERATURE, 15 ECTS credits

Application Code: KAU-29816 Spring 2018, week 04 - 23

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

- **demonstrate competence** and skill in the use of theoretical concepts and scientific research methods in an independent **research project**,
- **demonstrate independence** in **formulating the research question**, choosing suitable methods for the project and in carrying out the investigation,
- identify relevant secondary sources, and be able to apply this material critically to the analysis of the primary sources,
- present the results of the investigation in a paper which shows awareness of style, a high level of linguistic proficiency and analytical drive.

Prerequisites: English 1-90 ECTS credits and at least 7.5 ECTS credits in English literature at the advanced level.

#### LANGUAGE TESTING AND ASSESSMENT, 7.5 ECTS credits

Application Code: KAU-28639 Autumn 2017, week 35 - 03

#### LITERATURE AND THEORY I (LITERATURE BEFORE 1900), 7.5 ECTS credits

Application Code: KAU-29826 Autumn 2017, week 45 - 49

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

- give an account of central theories and concepts within literary studies, and be able to analyse and evaluate them,
- interpret literature from different time periods and genres with the help of literary theories and secondary sources,
- demonstrate familiarity with relevant areas of literary studies by summarizing and evaluating secondary sources and applying these sources to primary texts,
- independently identify and formulate research questions.

Prerequisites: English 1-90 ECTS

#### PRAGMATICS, 7.5 ECTS credits

Application Code: KAU-30191 Spring 2018, week 04 - 23

Upon completion of the course, students should be able to:

- **outline** the different theories in **the field of pragmatics**
- demonstrate insight into various research areas in the field
- formulate research questions relevant to the field and apply suitable **theories, methods and data** to answer the research question.

Prerequisites: English 1-120 ECTS cr

## FILM STUDIES

#### CUT/UNCUT: THE THEORY AND PRACTICE OF EDITING, 15 ECTS credits

Application Code: KAU-30072 Spring 2018, week 04 - 13

Upon completion of the course, students should be able to:

- **cut and edit a moving picture with regard to various stylistic approaches**,
- **use traditional as well as digital technologies for cutting**,
- **give an account of analytical and theoretical cultural perspectives on montage and collage**, and
- **carry out their own editing projects**.

Prerequisites: General admission requirements and upper secondary level English 6 or English B (field-specific eligibility 2 excl. second language step 3)

#### DOC.MOB!: THEORY AND PRACTICE OF DOCUMENTARY FILM, 30 ECTS credits

Application Code: KAU-30075 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- **demonstrate basic understanding of the history of the documentary film as well as the central theoretical issues in the field**
- **perform qualified analysis of individual works of documentary films**
- **place the documentary film in a wider aesthetic, political, and rhetorical context**
- **demonstrate the basic practical skills required for making a documentary film, including planning, executing and editing**.

Prerequisites: General admission requirements and upper secondary school level English B or 6, or equivalent (field-specific eligibility A2 or 2, excluding second language step 3)

#### FILM STUDIES I, 30 ECTS credits

Application Code: KAU-30062 Autumn 2017, week 35 - 03

Upon completion of the course, students should be able to:

- **use basic film** terminology and concepts,
- **analyse moving** pictures in terms of form and **function**,
- **give an account** of the most prominent **philosophy of science** traditions in film studies,
- discuss the relationship between film and **audiovisual culture**,
- **give an account** of and explain the most significant events in the history of the moving picture,
- demonstrate knowledge of the basic techniques for producing and editing moving pictures and sound.

Prerequisites: General admission requirements

#### FILM STUDIES II, 30 ECTS credits

Application Code: KAU-30083 Spring 2018, week 04 - 23

Upon completion of the course students should be able to:

- give an account of the history of acting in the moving image media,
- give examples of the theories on which different film acting styles are based,
- give an account of the relation of the moving image to other media and the importance of film to new media,
- give an account of the history of the documentary film and its basic issues,
- demonstrate ability to apply theories and arguments,
- demonstrate basic skills in identifying a research problem in film studies and in carrying out an independent analysis and presenting it orally and in writing,
- demonstrate ability to assess, argue and compare the knowledge conveyed.

Prerequisites: Film Studies I, 1-30 ECTS cr.

#### FILM STUDIES III, 30 ECTS credits

Application Code: KAU-30084 Autumn 2017, week 35 - 03

Upon completion of the course students should be able to:

- give an account of the central theories and methods in film studies
- apply classic and contemporary film theory,
- perform independent analyses and evaluations of current film research,
- apply and explain theories and arguments in film studies independently,
- illustrate and explain research result in the communicative form of the academic essay.

Prerequisites: FVGA01 Film Studies I, 30 ECTS cr and FVGB01 Film Studies II, 30 ECTS cr.

#### FILM STUDIES IV, 30 ECTS credits

Application Code: KAU-30061 Spring 2018, week 04 - 23

Upon completion of the course students should be able to:

- identify theories and methods of relevance to research in film studies,
- discern and summarise the line of argument in an academic work,
- give an account of the current areas of research in film studies,
- give an account of and apply the results of contemporary film research,
- independently apply and explain theories and arguments in film studies,
- demonstrate skills in formulating and modifying research questions,
- independently carry out a research project: collecting material, surveying previous research of primary and secondary sources, and relating the survey to the present research situation,
- independently compare, formulate and explain, the knowledge conveyed in course literature.

Prerequisites: Film Studies 1-90 ECTS cr.

#### SOUNDING OUT: THE THEORY AND PRACTICE OF FILM SOUND, 15 ECTS credits

Application Code: KAU-30085 Autumn 2017, week 45 - 03

Upon completion of the course, students should be able to:

- demonstrate basic knowledge of the history of film sound,
- **demonstrate basic knowledge** of the main theoretical **issues related** to the concepts audiovisuality,
- perform advanced analysis of the film sound in individual films,
- place the film sound image in a political, aesthetic and rhetorical **context, and**
- **plan, prepare** and practically carry out a **film sound project** from idea to finished product.

Prerequisites: General admission requirements and upper secondary school level English 6 or B (field-specific eligibility A2 or 2 with the exception of the required language step 3)

### THE CULTURAL HISTORY OF THE TELEVISION SERIES: FROM SERIAL STORY TO HBO, 7.5 ECTS credits

Application Code: KAU-30086 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- use basic terms and concepts in the field of television studies to describe aspects of TV series,
  - analyse individual TV series in terms of key concepts in cultural studies,
  - give an account of the development of the contemporary TV series and its relation to film culture, technological innovations and societal changes, and
  - discuss the relation between TV series and the mobile image culture.
- Prerequisites: General admission requirements and upper secondary school level English 6 or B (field-specific eligibility A2 or 2 with the exception of the required language step 3)

### THE DANGEROUS FILM: SEX, VIOLENCE, AUDIENCE IMPACT AND CENSORSHIP, 7.5 ECTS credits

Application Code: KAU-30078 Spring 2018, week 14 - 18

Upon completion of the course, students should be able to:

- give an account of the central theories on film impact and their place in history and cultural contexts,
- perform film analyses informed by film impact theories,
- place the censorship concept in the wider cultural context where the political and ethical perspective conflicts with the aesthetic perspective and freedom of speech,
- compare the debate on film impact with debates on, for instance, jazz, Elvis Presley, hard rock, computer games, erotic art and the Muhammed caricatures.

Prerequisites: General admission requirements and upper secondary level English B or equivalent

### THEORY AND PRACTICE OF ANIMATION, 7.5 ECTS credits

Application Code: KAU-30064 Spring 2018, week 45 - 03

Upon completion of the course students should be able to:

- create and control basic animation techniques,
- contribute to a production of one short animation,
- outline the process of animation from idea to post-production, and
- give relevant examples of how animation has influenced the culture and history of cinema

Prerequisites: General admission requirements plus upper secondary English 6 or English B (field-specific eligibility A2 or 2 excl. second language step 3)

## HISTORY

### DISCIPLINARY PERSPECTIVES ON REGION BUILDING, 7.5 ECTS credits

Application Code: KAU-30045 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- give an account of and analyse the differences in definitions of the region concept,
- describe and compare different disciplinary perspectives on regional development,
- give an account of and problematize continuity and change over time in the construction and organisation of regions, and
- identify and assess factors and situations in society that affect regional building, its objectives and potentials.

Prerequisites: General requirements for admission to Master-level studies.

Special requirements:

- Upper secondary level English or B, or equivalent
- Programme students: Either a general Bachelor's degree 18 ECTS or totalling at least 18 ECTS or with a Major in History, Human Geography, Tourism Studies, Environmental Science, Political Science, Sociology, Social Work, Social Care, or equivalent, or a professional degree in GIS engineering or social care/work degree of at least 18 ECTS or, including a degree project 1 ECTS or.

The Majors in Tourism Studies, Environmental Science and GIS-engineering must have a social science emphasis.

Non-programme students: First-cycle courses in social and political science totalling at least 120 ECTS, of which 90 ECTS or, including a degree thesis of 15 ECTS or, must be in one of the following subjects: History, Human Geography, Social Work, Social Care, Sociology, Political Science, Tourism

Studies or Environmental Science with an emphasis on social science, or a degree in engineering in GIS with an emphasis on social science.

### REGIONAL ORGANIZATION IN SPACE AND TIME, 7.5 ECTS credits

Application Code: KAU-30049 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

Knowledge and understanding

- describe the differences and similarities between the concepts regionalism and regionalisation,
- give an account of and explain the historical roots of regional organising in a comparative and primarily a European perspective,
- Competence and skills
- identify general structures and main types of actors in the game of influence and forms of governance,
- give an account of communalistic and feudal features respectively in the historical evolution of current regions,
- identify and evaluate regional actors' arguments in internal and external conflicts of interest, in the past and the present,

Judgement and approach

- analyse the economic, social, political and symbolic roles of regions in a national and suprastate context,
- analyse changing regional forms of organisation from a processual power perspective.

Prerequisites: General requirements for admission to Master-level studies.

Special requirements:

- Upper secondary level English or B, or equivalent

Programme students: Bachelor's degree 180 ECTS or with a Major in History, Human Geography, Political Science, or equivalent. An alternative to Human Geography can be Tourism Studies, Environmental Science or GIS Engineering degree, provided that the studies have an emphasis on social science.

Non-programme students: First-cycle courses in Social and Political Science totalling at least 120 ECTS, of which 90 ECTS or are in one of the following subjects and include a degree project 15 ECTS or: History, Human Geography, Political Science, Tourism, or a degree in GIS engineering with an emphasis on social science.

## HUMAN GEOGRAPHY

### LOCAL AND REGIONAL DEVELOPMENT, 7.5 ECTS credits

Application Code: KAU-29973 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- identify and discuss what local and regional development entails,
- critically review central concepts in the field of local and regional development,
- explain and relate different theories on societal processes linked to an empirical example of local and regional development,
- identify, give an account of and critically analyse different regional development processes and policy measures,
- evaluate ethical issues and problematise different issues relating to regional development processes, and
- describe, apply and critically assess comparative studies and case studies in relation to regional development processes.

Prerequisites: Special requirements: Eligibility for courses at Master's level. Upper secondary level Swedish B/Swedish 2 B. General Bachelor's degree of 180 ECTS or with a Major in Human Geography, Tourism Studies, Environmental Science, History, Social Care Science, Social Work, Sociology, Political Science, or equivalent.

Alternatively, Professional Bachelor's degree in GIS-engineering or social work/care of at least 180 ECTS or including a degree project 15 ECTS or.

Non-programme students

First-cycle courses in social and political science totalling at least 120 ECTS, of which 90 ECTS or including a degree thesis of 15 ECTS or in one of the following subjects: History, Human Geography, Social Work, Social Care, Sociology, Political Science, Tourism or Environmental Science with an emphasis on social science, or a degree in engineering in GIS with an emphasis on social science.



# INFORMATION SYSTEMS

## ADVANCES IN INFORMATION SYSTEMS MODELLING, 15 ECTS credits

*Application Code: KAU-30528 Spring 2018, week 14 - 23*

The overall aim of the course is to provide insight into various information system modeling approaches. Having successfully completed this course, a student will be able to:

- describe and explain the major dimensions and views within enterprise architecture,
- characterize major modeling traditions, qualities of requirement specifications and qualities of models,
- specify static and dynamic aspects of information systems,
- analyze integrity of various dimensions of enterprise models,
- detect semantic inconsistency among various information system diagram types, and
- identify incoherence between internal and external views of service architectures.

**Prerequisites:** Upper Secondary English course B or equivalent. Degree of Bachelor of Science with a Major in either Information Systems or Computer Science including successfully completed courses in the following subjects: System Analysis and Design, Object Oriented Modeling, Software Engineering, Database Design.

## BUSINESS BY WEB AND WEB ANALYTICS, 7.5 ECTS credits

*Application Code: KAU-30458 Autumn 2017, week 45 - 03*

Upon completion of the course, students should be able to:

- discuss the concept of Business by Web; in relation to systems development and business administration,
- apply basic web analytics methods,
- discuss marketing and business communication in relation to digital media, and
- explain the influence and business value of web-based enterprise solutions.

**Prerequisites:** General admission requirements.

## BUSINESS BY WEB AND WEB ANALYTICS, 7.5 ECTS credits

*Application Code: KAU-30459 Autumn 2017, week 35 - 44*

Upon completion of the course, students should be able to:

- discuss the concept of Business by Web; in relation to systems development and business administration,
- apply basic web analytics methods,
- discuss marketing and business communication in relation to digital media, and
- explain the influence and business value of web-based enterprise solutions.

**Prerequisites:** General admission requirements.

## BUSINESS BY WEB AND WEB ANALYTICS, 7.5 ECTS credits

*Application Code: KAU-30515 Spring 2018, week 14 - 23*

Upon completion of the course, students should be able to:

- discuss the concept of Business by Web; in relation to systems development and business administration,
- apply basic web analytics methods,
- discuss marketing and business communication in relation to digital media, and
- explain the influence and business value of web-based enterprise solutions.

**Prerequisites:** General admission requirements.

## CURRENT RESEARCH ON INFORMATION SYSTEMS, 7.5 ECTS credits

*Application Code: KAU-30445 Autumn 2017, week 35 - 44*

Upon completion of the course students are required to demonstrate ability to understand, explain, assess and communicate knowledge from different research areas of Information Systems, such as current problems and challenges, extent of knowledge progress, research methods and results. Students are also expected to be able to give an account of the range of knowledge in the field and the disciplinary normative tradition in science publication.

**Prerequisites:** Upper Secondary English course B or equivalent. Bachelor's Degree including Information Systems 90 ECTS cr. or equivalent.

## ELECTRONIC BUSINESS AND ENTERPRISE SYSTEMS, 15 ECTS credits

*Application Code: KAU-30530 Spring 2018, week 14 - 23*

Upon completion of the course, students should be able to:

- discuss the concepts electronic commerce and enterprise systems from different perspectives,
- discuss the business and internal benefits of the use of electronic commerce and enterprise systems,
- discuss the critical implementation conditions for successful use of electronic commerce,
- discuss the significant conditions and critical success factors for the use of enterprise systems in organizations,
- discuss concepts related to organizational change inertia and overarching issues regarding the digitalization of enterprise systems and organizational change,
- discuss usability issues in electronic commerce, and
- compare modelling method which from a service-oriented (SOA) perspective.

**Prerequisites:** Upper secondary level English B. Information Systems 60 ECTS cr. or Business Administration 60 ECTS cr. or equivalent

## INFORMATION SYSTEMS - BACHELOR'S THESIS, 15 ECTS credits

*Application Code: KAU-30525 Spring 2018, week 04 - 23*

The aim of the course is that students acquire further knowledge of how information systems methods are applied and related to theory.

Upon completion of the course students should be able to:

- independently analyse and assess computer-based information systems and their relation to business processes/business development processes,
- plan and carry out an academically organised study,
- analyse empirically collected data in relation to the relevant theory for the chosen research problem,
- write coherent reports.

**Prerequisites:** Information Systems 60 ECTS cr. or equivalent, of which at least 30 ECTS cr have been earned for continuation courses.

## INFORMATION SYSTEMS - MASTER'S THESIS, 30 ECTS credits

*Application Code: KAU-30531 Spring 2018, week 04 - 23*

Upon completion of the course, students should be able to:

- plan and carry out a scientifically designed study with a detailed discussion of the choice of theory and method and a clear account of the research front in the problem area studied,
- analyse collected empirical data with the help of relevant theory, and
- produce logical and coherent reports that contribute to knowledge development nationally and internationally.

**Prerequisites:** Upper secondary level English B or equivalent. Bachelor's degree including Information Systems 90 ECTS cr or equivalent. Information Systems at Master's level 60 ECTS cr, including the courses ISAD11 Current Information Systems Research 7.5 ECTS cr and ISAD12 Theory of Science and Methodology 7.5 ECTS cr.

## INFORMATION SYSTEMS - ONE-YEAR MASTER'S THESIS, 15 ECTS credits

*Application Code: KAU-30447 Autumn 2017, week 45 - 03*

The aim of the course is that students develop high skills in carrying out a project in Information Systems, with more advanced theoretical and methodological frame and application compared with the Bachelor's degree project.

Upon completion of the course students should be able to:

- plan and carry out an academic study with a detailed theory and methodological discussion and clear account of its relation to current research in the chosen area
- analyse collected data in relation to relevant theory for the chosen problem
- structure reports to achieve internal coherence between different parts of the report and to clarify its contribution to at least national research.

**Prerequisites:** Upper Secondary English course B or equivalent. Bachelor's Degree including Information Systems 90 ECTS cr. or equivalent. At least 30 of these 90 ECTS cr. must be earned in basic level courses that have at least 60 ECTS cr. as prerequisites.

### INFORMATION SYSTEMS - ONE-YEAR MASTER'S THESIS, 15 ECTS credits

**Application Code:** KAU-30527 Spring 2018, week 14 - 23

The aim of the course is that students develop high skills in carrying out a project in Information Systems, with more advanced theoretical and methodological frame and application compared with the Bachelor's degree project.

Upon completion of the course students should be able to:

- plan and carry out an academic study with a detailed theory and methodological discussion and clear account of its relation to current research in the chosen area
- analyse collected data in relation to relevant theory for the chosen problem
- structure reports to achieve internal coherence between different parts of the report and to clarify its contribution to at least national research.

Prerequisites: Upper Secondary English course B or equivalent. Bachelor's Degree including Information Systems 90 ECTS cr. or equivalent. At least 30 of these 90 ECTS cr. must be earned in basic level courses that have at least 60 ECTS cr. as prerequisites.

### MODELS AND EXPERIMENTAL METHODS IN MULTIMEDIA DEVELOPMENT, 15 ECTS credits

**Application Code:** KAU-30529 Spring 2018, week 04 - 13

After completing the course, students should be able to:

- identify factors that are significant for human-machine interaction, especially with regard to the formulation of requirement specifications for multimedia systems,
- present and apply different experimental methods for development and evaluation of user interfaces,
- relate experimental cases to theories of user-focused system development,
- decide which methods and experiments can be used in practical situations,
- present, compare and evaluate design proposals (requirement specifications) based on experimental results.

Prerequisites: Upper Secondary English course B or equivalent. Bachelor's Degree including Information Systems 90 ECTS cr. or equivalent.

### RESEARCH PROJECT IN INFORMATION SYSTEMS, 15 ECTS credits

**Application Code:** KAU-30448 Autumn 2017, week 35 - 03

This course prepares the student for starting a master thesis or dissertation in Information Systems.

After completing the course the student should be able to

- develop solutions (processes, architectures, user interfaces) for research-related Information Systems problems,
- making testable selected parts of the suggested solutions in a simulator or on a real platform,
- conduct evaluation of the selected parts of the suggested solutions based on either simulation or implementation,
- demonstrate knowledge in a given area of Information Systems,
- actively participate in (research) projects in Information Systems,
- read current literature at the level of conference and journal papers in Information Systems, and
- write technical reports with content suitable for submission to national/international conferences and journals in the area of Information Systems.

Prerequisites: 30 ECTS credits advanced level courses in Information Systems and relevant background for the chosen research area. Upper Secondary English course B or equivalent.

### RESEARCH PROJECT IN INFORMATION SYSTEMS, 30 ECTS credits

**Application Code:** KAU-30449 Autumn 2017, week 35 - 03

This course prepares the student for starting a master thesis or dissertation in Information Systems.

After completing the course the student should be able to

- develop solutions (processes, architectures, user interfaces) for research-related Information Systems problems,
- making testable selected parts of the suggested solutions in a simulator or on a real platform,

- conduct evaluation of the selected parts of the suggested solutions based on either simulation or implementation,
- demonstrate knowledge in a given area of Information Systems,
- actively participate in (research) projects in Information Systems,
- read current literature at the level of conference and journal papers in Information Systems, and
- write technical reports with content suitable for submission to national/international conferences and journals in the area of Information Systems.

Prerequisites: 30 ECTS credits advanced level courses in Information Systems and relevant background for the chosen research area. Upper Secondary English course B or equivalent.

### SCIENTIFIC THEORY AND METHODOLOGY, 7.5 ECTS credits

**Application Code:** KAU-30446 Autumn 2017, week 35 - 44

The aim of the course is that students master the basics of research theories and methods. They should demonstrate understanding of the role of science in society and be prepared for further studies of knowledge formation in Information Systems.

Upon completion of the course students should be able to:

- give an account of and discuss basic theoretical assumptions in terms of ontology and epistemology
- use basic theoretical concepts such as empiricism, phenomenology, hermeneutics, paradigm, systems theory and positivism
- describe the relation between scientific knowledge and commonsense knowledge
- carry out and motivate a research project in terms of qualitative as well as quantitative methods
- design, carry out and report the result of a questionnaire investigation,
- design, carry out and report the result of an interview investigation.

Prerequisites: Upper Secondary English course B or equivalent. Bachelor's Degree including Information Systems 90 ECTS cr. or equivalent.

## INTERCULTURE

### INTERCULTURAL BUSINESS COMMUNICATION, 15 ECTS credits

**Application Code:** KAU-30195 Autumn 2017, week 45 - 03

### INTERCULTURAL BUSINESS COMMUNICATION, 15 ECTS credits

**Application Code:** KAU-30196 Spring 2018, week 14 - 23

### INTERCULTURAL COMMUNICATION, 15 ECTS credits

**Application Code:** KAU-29857 Autumn 2017, week 35 - 44

Upon completion of the course the student should be able to:

- give an account of some theories on how values and norms are formed in different cultures
- apply the fundamental concepts and theories of intercultural studies to different cultures
- analyse the relationship between culture, communication, identity and values

Prerequisites: General admission requirements

### INTERCULTURAL COMMUNICATION, 15 ECTS credits

**Application Code:** KAU-29858 Spring 2018, week 14 - 23

Upon completion of the course the student should be able to:

- give an account of some theories on how values and norms are formed in different cultures
- apply the fundamental concepts and theories of intercultural studies to different cultures
- analyse the relationship between culture, communication, identity and values

Prerequisites: General admission requirements

### INTERCULTURAL STUDIES I: FILM AND AUDIOVISUAL MEDIA, 7.5 ECTS credits

**Application Code:** KAU-30198 Spring 2018, week 14 - 23

# MATERIALS ENGINEERING

## MATERIALS CHARACTERISATION, 7.5 ECTS credits

**Application Code:** KAU-30412 Autumn 2017, week 35 - 44

The aim of the course is that students acquire the basic theoretical and practical knowledge of the modern methods of materials characterisation that is used in industrial and academic research and development work. The course also prepares students for further studies and for master-level degree projects in materials science.

Upon completion of the course students should be able to:

- describe how changes in the microstructure can affect the properties of engineering materials, suggest appropriate methods for analysing the changes and explain why,
- explain the physical principles of the methods studied, how the methods work, what result each method yields, and describe briefly how the equipment is used and what demands are placed on specimens and specimen preparation,
- identify for each method the form the result can take (diagram, diffraction pattern, micrograph) and how to interpret it,
- for each problem posed, suggest a plan for research methods to be used, motivate the choices, and explain what results they will yield.

Prerequisites: Mechanical Engineering 90 ECTS cr., and/or Physics including 15 ECTS cr in Materials Science, or equivalent.

## MATERIALS IN INDUSTRIAL APPLICATIONS, 7.5 ECTS credits

**Application Code:** KAU-30413 Autumn 2017, week 35 - 44

In this course, students should develop and broaden their knowledge obtained in basic courses in materials engineering. The focus of the course is on materials properties required for industrial applications and it covers main types of engineering materials such as steels, cast irons, light alloys, high-temperature materials, copper-based alloys and metal and ceramic based composites. The main attention is paid on understanding of the relation between microstructure, treatment, properties and potential applications of the mentioned materials.

Upon completion of the course, for each studied group of materials, students should be able to

- give an account of the main classes of engineering materials, describe standard classifications, main properties and the most important areas of applications,
- give an account of methods to achieve the specific properties required for a certain application through alloying, heat treatment, cold working and hot working,
- describe and explain how changes in microstructure can impact on the properties of each type of material,
- identify the basic requirements for a given application and specify the type of material that would meet the requirements and explain why,
- explain the advantages and disadvantages of each materials type in relation to a given application,
- search, evaluate and compile information on materials.

Prerequisites: Thermodynamics and energy technology 7,5 ECTS, Solid Mechanics 7,5 ECTS and Materials Engineering 7,5 ECTS or the equivalent.

## POLYMERS AND POLYMER BASED COMPOSITES, 7.5 ECTS credits

**Application Code:** KAU-30410 Autumn 2017, week 35 - 44

Upon completion of the course, students should be able to:

- give an account of the concepts monomers, polymers and plastics,
- describe the two main classes of polymer induced reactions (stage or chain reactions),
- give an account of the concept copolymerisation and its variants,
- give an account of the concept molecular weight and molecular weight distribution,
- explain what the concept part-crystallinity entails and describe the hierarchical structure of part crystalline polymeres and how these can be studied experimentally,
- explain the concept glass transition and estimate glass temperature based on a known construction,
- give an account of kinetic, free volume and thermodynamic theories on glass transition,
- explain the relation between chemical structure and the properties of materials,
- give an account of the concept viscoelasticity, linear and non-linear, and the consequences caused by viscoelasticity in calculating the

mechanical properties of polymer materials,

- give an account of the testing methods tensile testing and creep testing and of how external factors such as temperature affect the mechanical properties,
- give an account of the difference in the effect of static and dynamic load,
- give an account of different processing methods,
- explain the basic condition for the elasticity of rubber,
- identify and describe the different classes of polymer materials and for each class give examples of commercial materials and their applications,
- explain the relation between the structure of composites and their macroscopic properties,
- give an account of the main mechanisms controlling the behaviour of composites and how they affect elastic properties and break properties,
- use and formulate simulation tools for laminate analysis,
- choose a suitable polymer material for a given simple application with regard to structure, properties and commercial availability.

Prerequisites: Mechanical Engineering 75 ECTS cr, including materials engineering courses 15 ECTS cr and solid mechanics with basic FEM 15 ECTS cr, or equivalent

## PROJECT WORK ON FUTURE ENGINEERING MATERIALS, 7.5 ECTS credits

**Application Code:** KAU-30409 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- demonstrate specialised knowledge and understanding of new materials, their production, properties, structure and use,
- collect and assimilate information on engineering materials at a high technological or scientific level,
- process the information from the perspective of technical application,
- write and present a report at a high technological or scientific level.

Prerequisites: Mechanical Engineering 75 ECTS cr, including courses in materials engineering 20 ECTS cr and solid mechanics 7.5 ECTS cr, or equivalent

## SURFACE TECHNOLOGY AND TRIBOLOGY, 7.5 ECTS credits

**Application Code:** KAU-30411 Autumn 2017, week 45 - 3

The aim of the course is that students shall obtain the basic knowledge of surface technology and tribology needed to analyze tribological problems in industrial applications and be able to propose solutions based on design changes, improved selection of materials, or use of tribological surfaces.

Upon completion of the course, students should be able to:

- explain and apply central concepts of the field of tribology, including friction, wear, and lubrication
- give an account of the mechanisms controlling friction and wear in a tribological contact
- give an account of the basic tribological properties of the material classes metals, ceramics, and polymers
- give an account of procedures and use basic tribological knowledge to analyze tribological problems
- compare surface treatment methods to each other with reference to their applicability in a given tribosystem.

Prerequisites: Mechanical Engineering, 75 ECTS Credits, including 15 ECTS Credits in courses in materials engineering or the equivalent.

# MECHANICAL ENGINEERING

## ENGINEERING PROCESS PROJECT, 7.5 ECTS credits

**Application Code:** KAU-30091 Autumn 2017, week 35 - 3

The aim of the course is that students develop skills in industrial product development with a reflective and holistic approach to the product development process.

The course includes industrial design, which aims to give an overview of the role of industrial design in the product development process and the role and responsibility of the designer and engineer regarding ethical and sustainability aspects.

Upon completion of the course, students should be able to:

- use methods to plan, organise and carry out a product development or engineering project with a holistic perspective,
- give an account of the product development process in a systems perspective with a holistic approach from demand to phase-out,
- apply critical thinking to generate, evaluate and choose appropriate



solutions based on demands, the environment, health and safety, function, business and technical conditions, and the interplay between technology and society,

- give an account of and reflect on the different functions in a project group,
- give an account of and reflect on the concept of sustainable development in a product perspective,
- present their results clearly to a commissioner, orally and in writing and argue for their choice of solutions,
- describe basic concepts in the area of industrial design,
- give an account of and apply the methodology of the design process to a minor project, so called speedcase,
- give an account different methods to visualise ideas and concepts.

**Prerequisites:** Mechanical Engineering, 45 ECTS Credits, including Mechanics, Solid Mechanics, Materials Engineering, and Manufacturing, or the equivalent. Upper secondary school level: Swedish 3 or B, or Swedish as a second language 3 or B, or equivalent. English 6 or B, or equivalent.

## MEDIA AND COMMUNICATION STUDIES

### ADVANCED PROFESSIONAL SKILLS, 15 ECTS credits

**Application Code:** KAU-30021 Autumn 2017, week 45 - 03

Module 1 The Craft of Research, 5 ECTS cr

Upon completion of the module, students should be able to:

- formulate delimited research questions based on previous research,
- evaluate the validity and reliability of social science research results,
- develop an argument logically and inductively on social science issues and critically evaluate and analyse social science argumentation, and
- describe and explain the foundations of the social sciences in the theory of science and philosophy.

Module 2 The Methods and Process of Research, 5 ECTS cr

Upon completion of the module, students should be able to:

- choose the relevant research methods to answer research questions in social science fields, especially media and communication studies and information systems,
- plan and carry out empirical research in a group,
- use project management methodology to carry out research in a group,
- critically review research in terms of the established social science peer review systems,
- use advanced techniques to analyse qualitative and quantitative data, and
- describe, apply and evaluate strategies for cooperating in multicultural environments.

Module 3 Communicating Science, 5 ECTS cr

Upon completion of the module, students should be able to:

- present the results of social science investigations orally, visually and in writing,
- explain the factors affecting the reception of research projects and research results in different cultural contexts,
- explain how the choice of media and media type (online and offline) affect the communication of research and research results,
- critically evaluate the relevance and value of social science research to different cultural contexts, and
- design a plan for communicating research projects and research results.

**Prerequisites:** Upper secondary school level English 6 or B, or equivalent. Bachelor's Degree with a Major in Media and Communication Studies, Information Systems, or equivalent.

### CONTEMPORARY MEDIA THEORY AND RESEARCH METHODS, 15 ECTS credits

**Application Code:** KAU-30022 Spring 2018, week 04 - 13

**After completing** the course the student shall be able to

- demonstrate extensive knowledge and understanding of theoretical **perspectives and paradigms** in media and communication studies, especially regarding the epistemological and methodological foundations of **current research** and development in the field,
- demonstrate broad knowledge of relevant methods, **as well as current methodological challenges within the realm of media and communication studies**,
- **demonstrate the ability to evaluate and problematise the validity of certain methodological approaches (qualitative as well as quantitative)**

in studies of media uses (production and reception) and texts in global contexts,

- **demonstrate basic skills in using computer software (e.g. SPSS) for statistical analysis,**
- **demonstrate in-depth knowledge of selected methodological tools (e.g. qualitative and quantitative interview techniques, ethnographic observations, or content analysis) and their applications in a given research area,**
- **demonstrate the ability to identify and formulate advanced research problems critically, independently and creatively,**
- **demonstrate the ability to implement a theoretically grounded methodological design, in order to solve a research problem within the field of media and communication studies,**
- **demonstrate the ability to communicate, orally and in the written form, theoretical and methodological matters in dialogue with an international audience, and**
- **demonstrate an awareness of the possibilities and limitations of science, as well as its role in society.**

**Prerequisites:** BA degree or equivalent with 90 ECTS credits in Media and Communication Studies or equivalent subject.

### CRISIS COMMUNICATION, 7.5 ECTS credits

**Application Code:** KAU-30055 Spring 2018, week 04 - 23

Upon completion of the course students should be able to

- **identify and describe important steps in an organization's handling of crisis communication,**
- **assess the vulnerability of an organization from the perspective of crisis communication,**
- **prepare a communication plan for dealing with crisis, and**
- **explain and critically discuss the cooperation between media, society and organizations during a crisis situation.**

**Prerequisites:** 60 ECTS Credits in the field of Media and Communication Studies.

### DATA VISUALISATION AND COMMUNICATION, 7.5 ECTS credits

**Application Code:** KAU-30008 Spring 2018, week 14 - 18

### DATA, POWER AND (DIGITAL) ETHICS, 15 ECTS credits

**Application Code:** KAU-30007 Spring 2018, week 04 - 13

### DIGITAL ANALYSIS METHODS, 15 ECTS credits

**Application Code:** KAU-30006 Autumn 2017, week 45 - 03

### DIGITAL MEDIA, CULTURE AND POLITICS, 15 ECTS credits

**Application Code:** KAU-30020 Autumn 2017, week 35 - 44

**Having successfully** completed this course, a student will be able to

- demonstrate extensive knowledge and understanding of theoretical perspectives in media and communication studies, notably regarding the historical and contemporary interplay between cultural, technological, political and economic processes in society,
- **demonstrate extensive knowledge and understanding of the consequences and issues raised by the expansion of digital media networks in terms of, for instance, cultural circulation, community formation, media policy making, and global power geometries,**
- demonstrate the ability to identify and formulate a research problem critically, independently and creatively,
- demonstrate the ability to explore and integrate relevant theories critically and systematically in order to generate a composite theoretical framework for analyzing a social scientific research problem,
- demonstrate the ability to communicate, orally and in the written form, theoretical matters, in dialogue with an international audience,
- demonstrate a deepened awareness of the possibilities and limitations of science, as well as its role in society, and
- demonstrate an awareness of how theoretical perspectives in Media and Communication Studies can be applied within professional contexts.

**Prerequisites:** The course is open for all students with a BA degree and at least 90 ECTS credits in Media and Communication Studies. It is part of the Master's Programme with a profile in Global Media Studies, where it is compulsory for students majoring in Media and Communication Studies. Upper Secondary English course B or equivalent is required.

### INTERCULTURAL COMMUNICATION AND MEDIA, 15 ECTS credits

**Application Code:** KAU-30023 Spring 2018, week 14 - 23

At the end of the course the students should

- demonstrate in-depth knowledge and understanding of the interdisciplinary field of intercultural communication analysis, and its relationship to overarching processes of globalization and media transition,
- demonstrate in-depth knowledge and understanding regarding current research and development in the field of intercultural communication,
- demonstrate the ability to identify and formulate advanced research problems critically, independently and creatively,
- demonstrate the ability to integrate advanced interdisciplinary theory critically and systematically, in order to solve a concrete communication task within an intercultural organizational and/or societal setting,
- demonstrate the ability to translate theoretical and analytical conclusions into creative formulas in order to innovate existing forms of organized communicative practices in intercultural settings,
- demonstrate the ability to communicate, orally and in the written form, theoretical matters in dialogue with an international audience, and
- demonstrate an awareness of the possibilities and limitations of science, as well as its role in society.

**Prerequisites:** BA degree or equivalent with 90 ECTS credits in Media and Communication Studies or equivalent subject.

#### MASTER'S THESIS, 30 ECTS credits

*Application Code: KAU-30026 Spring 2018, week 04 - 23*

Upon completion of the course, the students should be able to

- **formulate a relevant and coherent research problem in media and communication studies**, applying the theories, perspectives and methods discussed in the Global Media Studies programme,
- develop an integrated **analytical framework based** on theoretical and empirical knowledge within the chosen area of research,
- design and carry out a theoretically and methodologically based study in a systematic, reflexive and responsible way within a given time frame,
- synthesize empirical and theoretical conclusions, based on the study, in order to formulate valid scientific arguments within the chosen area of research,
- produce an academic thesis that meets the adequate scientific standards in terms of structure, clarity and reflexivity,
- critically evaluate and discuss their own, as well as others' scientific works, and
- demonstrate applied insights into the potential and limitations of science, its role in society, and people's ethical responsibility for how it is used.

**Prerequisites:** At least 60 ECTS credits within the master programme in Global Media Studies.

#### MEDIA AUDIENCES IN THE DIGITAL AGE, 7.5 ECTS credits

*Application Code: KAU-29998 Spring 2018, week 09 - 13*

Upon completion of the course, students should be able to:

- outline the historical transitions from analogue to networked digital media and the underlying processes of digitization and datafication,
- discuss the impact of networked digital media on society in terms of culture, politics, economics and social relations,
- compare different definitions and conceptualisations of audiences, publics and users,
- identify central aspects of audience measurement regarding its historical and technical development and discuss them drawing on current theoretical approaches dealing with engagement, participation, produsage and prosumption, and
- discuss the need for digital media analysis in order to understand dynamic patterns of usage.

**Prerequisites:** MKGA02 Introduction to Media and Communication Studies 15 ECTS cr, MKGA03 Text, Communication and Organisation 15 ECTS cr, or equivalent.

#### PROJECT IN MEDIA ANALYSIS, 7.5 ECTS credits

*Application Code: KAU-30009 Spring 2018, week 19 - 23*

#### SOCIAL MEDIA & SOCIAL THEORY, 7.5 ECTS credits

*Application Code: KAU-29999 Spring 2018, week 14 - 18*

Upon completion of the course, students should be able to:

- summarise the evolution of social networking platforms since the late 1990s in terms of **functionalities and business models** under different cultural **circumstances**,
- compare major social theory concepts and approaches explaining the impact of social media in terms of **economics, politics, and social**

relations,

- reflect on their **own media practices** with regard to different social theory perspectives,
- discuss how features of social media platforms frame and affect social relations, **and**
- **explain how social relations can be explored by means of digital media analyses and discuss their potentials and limitations.**

**Prerequisites:** MKGA02 Introduction to Media and Communication Studies 15 ECTS cr, MKGA03 Text, Communication and Organisation 15 ECTS cr, or equivalent.

#### SPECIALIZATION IN GLOBAL MEDIA STUDIES, 30 ECTS credits

*Application Code: KAU-30024 Autumn 2017, week 35 - 03*

After completing the course the student shall be able to

- **demonstrate extensive knowledge and understanding of the interplay between contemporary cultural, technological, political and economic processes within the scope of global media studies,**
- **demonstrate in-depth knowledge and understanding of current research trends and development in the field of global media studies,**
- **analyse, assess and handle complex problems and situations that are relevant within global media studies, especially those related to cultural circulation, technological transition, public relations/affairs and social change,**
- **discuss and explain the globalising role of cultural industries and networks in different sectors of society,**
- **discuss and explain development theory and its influences, from the perspectives of different social sciences, in relation to the process of globalisation,**
- **compare and evaluate different ways of measuring the developmental impact of Information and Communication Technology (ICT),**
- **discuss and explain the relationship between the political economy of global media systems and the potential for local empowerment, and social change through various communication initiatives,**
- **critically assess and implement theories of public affairs and public relations within the context of global media studies and social change,**
- **design and conduct a case study, focusing on a concrete social communication initiative, set in a global context, within the area of public affairs or public relations, and**
- **summarize and elaborate key research findings from the case study in the shape of an evaluation report.**

**Prerequisites:** The student must have achieved at least 30 ECTS credits within the master programme in Global Media Studies.

#### STRATEGIC COMMUNICATION AND THE ANALYTICAL ORGANISATION, 7.5 ECTS credits

*Application Code: KAU-30000 Spring 2018, week 19 - 23*

Upon completion of the course, students should be able to:

- **explain the role of strategic communication and communication planning in relation to a changing media landscape,**
- **plan and evaluate strategic communication initiatives based on data analyses in organisational and corporate contexts,**
- **identify and describe the role of digital analysis and planning tools in supporting strategic communication initiatives,**
- **carry out theoretically and methodologically appropriate analyses for the purpose of facilitating targeted efforts, and**
- **explain how organisations can link analysis to the strategic goals and processes of organisational learning.**

**Prerequisites:** MKGA02 Introduction to Media and Communication Studies 15 ECTS cr, MKGA03 Text, Communication and Organisation 15 ECTS cr, or equivalent.

#### TECHNICAL FOUNDATIONS OF DIGITAL MEDIA AND DIGITAL DESIGN, 15 ECTS credits

*Application Code: KAU-29250 Autumn 2017, week 35 - 03*

#### WEB DESIGN AND DIGITAL IMAGING, 15 ECTS credits

*Application Code: KAU-30035 Autumn 2017, week 35 - 44*

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

- **plan, design, and realize web sites,**
- **create and edit html-documents,**
- **apply different techniques for realizing layouts for web pages,**
- **apply principles for web usability,**
- **produce dynamic web sites with JavaScript, CSS and HTML,**
- **apply principles for creating communicative and aesthetic web sites,**
- **apply different techniques to create and edit digital images suitable**

for web publishing, and

- analyze and evaluate web sites based on different perspectives, such as web usability, target audience, form, and the technical solution.

Prerequisites: General admission requirements

#### WEB DESIGN AND DIGITAL IMAGING, 15 ECTS credits

**Application Code:** KAU-30037 Spring 2018, week 04 - 23

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

- plan, design, and realize web sites,
- create and edit html-documents,
- apply different techniques for realizing layouts for web pages,
- apply principles for web usability,
- produce dynamic web sites with JavaScript, CSS and HTML,
- apply principles for creating communicative and aesthetic web sites,
- apply different techniques to create and edit digital images suitable for web publishing, and
- analyze and evaluate web sites based on different perspectives, such as web usability, target audience, form, and the technical solution.

Prerequisites: General admission requirements

## MUSIC

#### COMPOSITION AND ARRANGING I, 7.5 ECTS credits

**Application Code:** KAU-29698 Autumn 2017, week 35 - 03

#### COMPOSITION AND ARRANGING I, 7.5 ECTS credits

**Application Code:** KAU-29699 Spring 2018, week 04 - 23

#### COMPOSITION AND ARRANGING II, 7.5 ECTS credits

**Application Code:** KAU-29700 Autumn 2017, week 35 - 03

#### ENSEMBLE I, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29619 Autumn 2017, week 35 - 03

Knowledge and understanding

Upon completion of the course, students should be able to:

- reflect on the form, style and performance praxis of the chosen repertoire, and
- describe the function of the musician's role in different forms of ensembles.

Competence and skills

- Upon completion of the course, students should be able to:
- apply basic ensemble rehearsal techniques in studying and rendering various forms of ensemble music,
- discern and choose interpretation and rendition with regard to the style and performance praxis of the chosen repertoire,
- interact musically with other musicians, and
- perform and communicate ensemble repertoire to an audience.

Judgement and approach

- Upon completion of the course, students should be able to:
- reflect on their own approach to musical interaction, and
- reflect on their own performance in an ensemble.

Prerequisites: Admission to the Bachelor Programme in Music HGMSK)

#### ENSEMBLE II, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29624 Spring 2018, week 04 - 23

Knowledge and understanding

Upon completion of the course, students should be able to:

- discuss form, style and performance praxis of the repertoire concerned.

Competence and skills

- Upon completion of the course, students should be able to:
- within given time frames, rehearse, interpret and perform repertoires from different epochs in various forms of ensembles,
- discern and test different rendition solutions in the repertoire concerned based on fundamental knowledge of style and performance praxis,
- interact musically with other musicians and ensemble leaders, and
- present, perform and communicate the repertoire to an audience.

Judgement and approach

- Upon completion of the course, students should be able to:
- reflect on their own and others' approach to musical interaction, and
- reflect on their own performance skills and development potential as a member of an ensemble.

**Prerequisites:** KOGV01 Main Instrument I, Western Classical Music, 22.5 ECTS cr

KOGV02 Ensemble I, Western Classical Music, 7.5 ECTS cr

#### ENSEMBLE III, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29668 Autumn 2017, week 35 - 03

Knowledge and understanding

Upon completion of the course, students should be able to:

- identify rendition problems and interpretation potentials in the repertoire concerned.

Competence and skills

- Upon completion of the course, students should be able to:
- within given time frames and independently rehearse, render and perform repertoire in different styles from different epochs in various ensemble constellations.
- discern and solve technique and rendition difficulties in the repertoire on the basis of good knowledge of style and performance praxis, and
- interact musically and cooperate and discuss artistic issues with other musicians and ensemble leaders.

Judgement and approach

- Upon completion of the course, students should be able to:
- critically reflect on their own and others' artistic approach to musical interplay, and
- identify their need of developing their own performance in an ensemble.

**Prerequisites:** KOGV03 Main Instrument II, Western Classical Music, 15 ECTS cr

KOGV04 Ensemble II, Western Classical Music, 7.5 ECTS cr

KOGV05 Musical Knowledge I, Western Classical Music, 7.5 ECTS cr

#### MAIN INSTRUMENT I, WESTERN CLASSICAL MUSIC, 22.5 ECTS credits

**Application Code:** KAU-29616 Autumn 2017, week 35 - 03

Knowledge and understanding

Upon completion of the course, students should be able to:

- give examples of the form, style and performance praxis of the chosen repertoire,
- describe the history and development of their instrument, and
- describe simple techniques and methods for rehearsing and performing.

Competence and skills

Upon completion of the course, students should be able to:

- demonstrate basic technical instrument skills,
- use simple techniques and methods when rehearsing and performing the chosen repertoire,
- discern technical problems and rendition difficulties in the repertoire in question,
- play simple and intermediate level musical pieces prima vista,
- rehearse and perform a solo and chamber music repertoire with regard to its style and performance praxis,
- present the repertoire to other musicians.

Judgement and approach

Upon completion of the course, students should be able to:

- reflect on their approach to music-making, and
- reflect on their own learning process.

Prerequisites: Admission to the Bachelor Programme in Music (HGMSK)

#### MAIN INSTRUMENT II, WESTERN CLASSICAL MUSIC, 15 ECTS credits

**Application Code:** KAU-29622 Spring 2018, week 04 - 23

Knowledge and understanding

Upon completion of the course, students should be able to:

- give an account of the form, style and performance praxis of the basic repertoire of music from different epochs, and
- give an account of different techniques and methods for rehearsing and performing.

Competence and skills

Upon completion of the course, students should be able to:

- demonstrate enhanced technical instrument skills,
- discern and test different technique and rendition solutions in the repertoire concerned,
- play intermediate level music notation prima vista,
- rehearse and perform a solo and chamber music repertoire according to basic knowledge of its style and performance praxis, and
- give an account of their music performance to other musicians.

Judgement and approach

Upon completion of the course, students should be able to:



- reflect on their own and others' approach to performing music, and
- reflect on and describe their own learning process.

**Prerequisites:** KOGV01 Main Instrument I, Western Classical Music, 22.5 ECTS cr

KOGV02 Ensemble I, Western Classical Music, 7.5 ECTS cr

### MAIN INSTRUMENT III, WESTERN CLASSICAL MUSIC, 15 ECTS credits

**Application Code:** KAU-29629 Autumn 2017, week 35 - 03

Knowledge and understanding

Upon completion of the course, students should be able to:

- identify form, style and potential interpretations in the basic repertoire of music from different epochs, and
- give an account of various methods for rehearsing and performing.

Competence and skills

Upon completion of the course, students should be able to:

- demonstrate enhanced technical instrument skills,
- discern and test different technique and rendition solutions in the repertoire concerned,
- play advanced level music notation prima vista,
- rehearse and perform independently a solo and chamber music repertoire within a given time frame and in accordance with good knowledge of its style and performance praxis, and
- discuss their musical activities with other musicians

Judgement and approach

Upon completion of the course, students should be able to:

- critically reflect on their own and other musicians' artistic approach to performing music, and
- give an account of their own learning process and progress in relation to the professional demands on a musician.

**Prerequisites:** KOGV03 Main Instrument II, Western Classical Music, 15 ECTS cr,

KOGV04 Ensemble II, Western Classical Music, 7.5 ECTS cr and

KOGV05 Musical Knowledge I, Western Classical Music, 7.5 ECTS cr

### MUSIC THEORY I, 7.5 ECTS credits

**Application Code:** KAU-29701 Autumn 2017, week 35 - 03

### MUSIC THEORY I, 7.5 ECTS credits

**Application Code:** KAU-29702 Spring 2018, week 04 - 23

### MUSIC THEORY II, 7.5 ECTS credits

**Application Code:** KAU-29704 Spring 2018, week 04 - 23

### MUSICAL KNOWLEDGE I, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29626 Spring 2018, week 04 - 23

Knowledge and understanding

Upon completion of the course, students should be able to:

- give an account of and discuss the tradition of Western classical music from Antiquity to the Baroque from sociological, cultural and idea historical perspectives,
- give an account of the harmonics, phrase techniques, style and form in Western music from Antiquity to the Baroque,
- give an account of the music repertoire and its performance praxis in Western music from Antiquity to the Baroque,
- describe the relation between ear, music theory and practical music playing, and
- give an account of the different functions and application areas of notation and sequencer programs.

Competence and skills

Upon completion of the course, students should be able to:

- at a basic level, write parts for a family of instruments and apply the basic principles of harmonic progression in the Western tradition,
- at a basic level, identify, write down, analyse and play the rhythm, melodics and harmonics of Western tonal music,
- perform piano-based reduction and harmonic analysis, and
- apply the basics of notation and sequencer programs.

Judgement and approach

Upon completion of the course, students should be able to:

- reflect on their own and others' approach to musical conventions and music notations in relation to the sound of music,
- reflect on the praxis, aesthetics and function of music in a social perspective, and
- reflect on the importance of linking ear and theory exercises to their

own performance in different musical contexts.

**Prerequisites:** Admission to the Bachelor Programme in Music (HGMSK)

### MUSICAL KNOWLEDGE II, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29669 Autumn 2017, week 35 - 03

Knowledge and understanding

Upon completion of the course, students should be able to:

- give an account of and discuss the tradition of Western classical music from Classicism to Modernism from sociological, cultural and idea historical perspectives,
- give an account of the harmonics, phrase techniques, style and form in Western music from Classicism to Modernism,
- give an account of the music repertoire and its performance praxis in Western music from Classicism to Modernism,
- give an account of how a practically functioning ear can be used in different musical contexts.

Competence and skills

Upon completion of the course, students should be able to:

- arrange music for different instruments and instrument combinations on the basis of the principles of harmonic progression in the Western tradition,
- identify, write down, analyse and play fairly complicated examples of rhythm, melodics and harmonics of Western tonal music,
- perform piano-based reduction and harmonic analysis of music from different repertoire areas, and
- play simple solo pieces for piano and scales and cadences.

Judgement and approach

Upon completion of the course, students should be able to:

- reflect on their own and others' approach to musical conventions and music notations in relation to the sound of music,
- reflect on the praxis, aesthetics and function of music in a social perspective, and
- give arguments for and assess the importance of linking ear and theory exercises to their own performance in different musical contexts.

**Prerequisites:** KOGV03 Main Instrument II, Western Classical Music 15 ECTS cr, KOGV04 Ensemble II, Western Classical Music 7.5 ECTS cr and KOGV05 Western Classical Music 7.5 ECTS cr

### MUSICAL KNOWLEDGE III, WESTERN CLASSICAL MUSIC, 7.5 ECTS credits

**Application Code:** KAU-29672 Spring 2018, week 04 - 23

Knowledge and understanding

Upon completion of the course, students should be able to:

- give an account of and discuss the Western music tradition from the beginning of the 1900s to the early 2000s from sociological, cultural and idea historical perspectives,
- give an account of the harmonics, phrase techniques, style and form in Western music from the beginning of the 1900s to the early 2000s,
- give an account of the music repertoire and its performance praxis in Western music from the beginning of the 1900s to the early 2000s,
- describe the basic conditions of the music industry in terms of marketing, market law, actors, income sources and copyright.

Competence and skills

Upon completion of the course, students should be able to:

- analyse 20th-century phrase techniques in different forms of music scores,
- analyse and translate their knowledge of 20th-century rhythms, melodics and harmonics into musical play, and
- design a marketing plan for a music project and draw up legally binding artist contracts.

Judgement and approach

Upon completion of the course, students should be able to:

- discuss and problematise the role of music in society, and
- discuss and assess how repertoire-based ear training and theory instruction can develop their own musical understanding and skills.

**Prerequisites:** KOGV06 Main Instrument III, Western Classical Music 15 ECTS cr, KOGV07 Ensemble III, Western Classical Music 7.5 ECTS cr, and KOGV08 Musical Knowledge II, Western Classical Music, 7.5 ECTS cr.

# PHYSICS

## ADVANCED QUANTUM MECHANICS, 7.5 ECTS credits

**Application Code:** KAU-30386 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- give an in-depth account of the bra-ket-formalism, the time development of quantum mechanical systems, the measuring process, the Schrödinger and Heisenberg pictures, the propagator and gauge transformations,
- solve the Schrödinger equation and compute the expectation values of various operators for the harmonic oscillator with the help of step operators,
- describe density matrices and use them in performing basic quantum mechanical calculations for the most relevant types of statistical ensembles,
- present and reflect on some central questions concerning the interpretation of quantum mechanics, and give an account of Bell's inequalities and their role in this interpretation,
- give an in-depth account of various issues concerning angular momentum, like the addition of angular momenta, the oscillator model and tensor operators,
- apply permutation symmetry in the analysis of quantum systems with identical particles,
- give a detailed description of parity and of space and time inversion, as well as of continuous symmetries and their connection with conservation laws,
- give an account of and analyse the interaction of quantum systems with electromagnetic radiation and with external electric and magnetic fields,
- apply the most important approximation methods to both time-independent and time-dependent quantum mechanical problems and give an account of their respective areas of applicability,
- give an account of the quantum mechanical description of scattering processes, including the Born approximation and the eikonal approximation,
- give an outline of the Dirac equation and its solutions for systems with a central potential.

**Prerequisites:** Completed courses in physics totalling 52.5 ECTS credits and 37.5 ECTS credits in mathematics plus the course Quantum Physics I attended, or equivalent. Upper secondary school level Swedish 3 or B/ Swedish as a second language 3 or B, and English 6 or A, or equivalent.

## COMPUTATIONAL PHYSICS, 7.5 ECTS credits

**Application Code:** KAU-30385 Spring 2018, week 4 - 13

Upon completion of the course, students should be able to:

- use numerical methods to model physical systems on different length and time scales
- critically select different numerical methods to solve different types of physical and technical problems
- implement numerical algorithms into MATLAB and visualize the results of the computations
- describe the basis of FEM and use it to solve partial differential equations
- describe the basis of stochastic simulation methods such as the Monte Carlo method and use them
- describe and use molecular dynamic simulation
- use the variation method to solve quantum mechanical problems
- describe different methods to compute the electron structure of solid materials.

**Prerequisites:** To be accepted to the course, approval on the following courses (or the equivalent) is required: Quantum Physics I and II, Physics: Solid State Physics, and Basic Mathematical Physics.

## ELECTROMAGNETIC FIELD THEORY FOR ENGINEERS, 7.5 ECTS credits

**Application Code:** KAU-30331 Spring 2018, week 4 - 13

The aim of the course is that students will learn about the properties of electric and magnetic fields and to train the students' ability to apply the relevant mathematical methods.

Upon completion of the course, students should be able to:

- describe electric and magnetic fields in simple systems of point, linear, and surface charges, and linear and surface currents in terms of field lines and equipotential surfaces, as well as specify the asymptotic behavior of the fields

- give an account of the correlation between electric field intensity, electric flux density, and polarization, as well as between magnetic field intensity, magnetic flux density, and magnetization
- give an account of the concepts test charge, charge density, bound and free charges, conductivity, eddy currents
- apply the method of images to solve electrostatic problems for basic geometries and boundary conditions
- describe the behavior of electric and magnetic fields and current density at interfaces between different media
- describe the similarities and differences between an electric dipole and a magnetic dipole
- distinguish between different types of material with regard to electric and magnetic properties
- explain the meaning of the physical quantities of capacitance, resistance, mutual inductance, and self-inductance
- give an account of the concept, permittivity, permeability, electromotive force, and displacement current
- explain the function of an ideal transformer and give an account of the differences between ideal and non-ideal transformers
- give an account of Maxwell's equations, Coulomb's law, Ohm's law in point form, the Biot-Savart law, and Faraday's law of induction, as well as the formulas for the Lorentz force and the electrical field of an arbitrary charge distribution
- describe the physical significance of the different Maxwell equations
- describe the relation between electric and magnetic fields and potential functions
- derive the wave equation from Maxwell's equations and describe it's solution in the form of plane waves
- calculate the Poynting vector for plane electromagnetic waves.

**Prerequisites:** Courses in Physics and Engineering Physics totalling 22.5 ECTS or and Mathematics 22.5 ECTS or including attended course in linear algebra and vector analysis 7.5 ECTS or equivalent

## FUNCTIONAL MATERIALS, 7.5 ECTS credits

**Application Code:** KAU-30384 Spring 2018, week 14 - 23

The purpose of this course is to give participants in-depth knowledge of some functional materials that were developed for specific purposes, their properties and their function in technical applications. Practical projects give the student the opportunity to become familiar with preparation of materials and structures, along with evaluation of their properties and function. Special attention is paid to materials and structures in the nanometer or micrometer scale in at least one dimension. Students are trained in poster presentation techniques.

A student who completes the course with a passing grade should be able to:

- account for various types of functional materials, their preparation methods, their properties and applications
- independently gather supporting materials around functional materials and their applications and present these findings
- guided by instructions and scientific articles, perform individual, experimental projects, and present a report for each of them
- make and present a poster on a chosen project on functional materials.

**Prerequisites:** Physics, 60 ECTS credits, with passing grades in quantum physics and solid-state physics, or equivalent courses. Mathematics, 40 ECTS credits.

## NANOSCIENCE I, 7.5 ECTS credits

**Application Code:** KAU-29391 Autumn 2017, week 35 - 44

Upon completion of the course students should be able to:

- present an overview of the various areas of nanoscience,
- explain some basic phenomena appearing on the nanoscale in physics and chemistry,
- describe the most important methods for characterizing nanostructures, and choose an appropriate method for a certain investigation,
- describe the most important methods for the synthesis of nanostructures, and choose method depending on the need for a certain structure,
- -give examples of and analyze applications of nanotechnology in the areas of materials science, electronics and computer science, energy and environmental technology, and medicine,
- present and assess how nanoscience affects the development of society and how the use of nanotechnology can affect life and environment,
- seek and critically find literature about research on nanoscience,
- plan, collect and present, both orally and in writing, the results of a minor investigation to a group of colleagues with similar basic knowledge.

**Prerequisites:** Mathematics 30 ECTS credits, including courses in calculus and linear algebra, and Physics 30 ECTS credits, including courses in electricity, wave physics, quantum physics and thermodynamics.

#### **NANOSCIENCE II, 7.5 ECTS credits**

**Application Code:** KAU-30383 *Spring 2018, week 4 - 13*

Upon completion of the course, students should be able to:

- give an account of basic physical concepts of low-dimensional physics and physical systems on the nanometer scale, including nanowires and quantum dots
- describe the realization of two-dimensional electron gases in MOSFET-transistors and in semiconductor heterostructures, as well as in components on a nanoscale, based on two-dimensional electron gases
- critically decide on which length and time scales that semiclassical theory and quantization effects are relevant to different physical phenomena and processes
- account for, quantitatively and in depth, for charge transport on the nanometer scale, including the following concepts: semiclassical and ballistic charge transport, the transport properties of a magnetic field, the quantized Hall effect, quantized conductance, the Landauer-Büttiker theory, coherent transport, single electron tunneling
- give a general description of the use of spin polarization in new types of electronic components
- use AFM and/or STM for imaging and basic manipulation of nanostructures.

**Prerequisites:** To be accepted to the course, approval on the following courses (or the equivalent) is required: Nanoscience I, Quantum Physics I and II, and Solid State Physics.

#### **QUANTUM PHYSICS II, 7.5 ECTS credits**

**Application Code:** KAU-30402 *Autumn 2017, week 45 - 3*

The aim of the course is that the students acquire advanced knowledge and comprehension of quantum mechanics and its methods, and develop their skills in mathematically analyzing quantum mechanical systems.

Upon completion of the course, students should be able to:

- give an account of the most important approximation methods for time-dependent problems in quantum mechanics and their respective areas of validity, as well as demonstrate proficiency in their application,
- give an account of dipole approximation and dipole active transitions,
- give an account of the quantum mechanical description of several many-particle systems and demonstrate proficiency in the computation of multi-electron atoms and simpler molecules,
- give an account of atomic and molecular orbitals and chemical bonds.
- give an account of and analyze the interaction of quantum physical systems with electromagnetic radiation and with external electric and magnetic fields,
- give an account of the central concepts of statistical quantum mechanics and be able to perform basic quantum mechanical computations of the most important statistical ensembles,
- name and reflect on some central problems concerning the interpretation of quantum mechanics
- conduct basic spectroscopic experiments and analyze and interpret the obtained results.

**Prerequisites:** Physics 45 ECTS cr and Mathematics 30 ECTS cr, including Quantum Physics I, Linear Algebra and Mathematical Physics I, or equivalent.

#### **SCANNING PROBE MICROSCOPY, 7.5 ECTS credits**

**Application Code:** KAU-30387 *Autumn 2017, week 45 - 3*

Having completed this course, the student should be able to:

- give an account of the basic technical conditions for scanning probe microscopy
- give an account of the quantum mechanical theory for tunneling in scanning tunneling microscopy (STM)
- describe in depth different measurement methods in STM, including tunneling spectroscopy, as well as data analysis and artifacts in STM experiments
- give an account of the physical basis for scanning force microscopy (SFM, also commonly denoted AFM), including the different forces that are relevant in a SFM measurement.
- describe in depth different SFM measurement methods, and their relation to the different forces that affect the measurements, in particular the three most common methods: contact mode, so-called "tapping" mode and non-contact mode, as well as advanced analysis

and artifacts in SFM measurements

- give an account of different types of atom and nanostructure manipulation on surfaces with STM and SFM
- give a summary account of other SPM techniques and their use.
- independently perform measurements with a SFM instrument

**Prerequisites:** Mathematics 45 ECTS cr., Physics 90 ECTS cr., including the courses Quantum Physics I and Solid State Physics, or similar courses.

#### **SOLID STATE PHYSICS, 7.5 ECTS credits**

**Application Code:** KAU-30389 *Autumn 2017, week 35 - 44*

Upon completion of the course, students should be able to:

- explain and describe the structure of crystals, reciprocal space, and atomic bonds,
- give an account of and perform calculations on diffraction and its link to reciprocal space,
- explain and give an account of dynamics of crystals, phonons and thermal properties,
- give an account of and perform calculations on the electron structure of crystals, electric conductivity, dielectric function and plasmons,
- describe and explain different magnetic properties and their origins.

**Prerequisites:** Physics courses 45 ECTS cr., including Materia 7.5 ECTS cr (alternatively introduction to modern physics 7.5 ECTS cr), and Quantum Physics I, 7.5 ECTS cr and mathematics 30 ECTS cr., including the courses Linear Algebra 7.5 ECTS cr and Multivariable Analysis 7.5 ECTS cr., or equivalent.

#### **SOLID STATE THEORY, 7.5 ECTS credits**

**Application Code:** KAU-30395 *Autumn 2017, week 35 - 44*

Upon completion of the course, students should be able to:

- describe the most common lattice and crystal structures and their reciprocal lattices, symmetry operations, symmetry classification,
- describe and use the theory of scattering in crystals, describe common x-ray diffraction methods,
- demonstrate in-depth understanding of the basic theory of the electronic structure of crystals: the free electron model, electrons in a periodic potential, Bloch's theorem, electronic band structure and Fermi surfaces,
- give an account of the basic theory of multiparticle phenomena in the form of electron-electron interaction: Hartree-Fock theory, density functional theory,
- outline different methods for calculating electronic band structure, describe different types of crystal binding and crystal cohesion,
- demonstrate in-depth understanding of the classical theory of lattice vibration and the quantum mechanical theory of phonons,
- give an account of and use the semi-classical model of the motion of electrons in crystals influenced by electric and magnetic fields,
- demonstrate in-depth understanding of the properties of semiconductors, band structure, doping, optical properties, describe applications in electronics: diodes, transistors,
- describe the theory of diamagnetism and paramagnetism, demonstrate good understanding of the quantum mechanical theory of ferromagnetism,
- describe type I and type II superconductors, the microscopic theory of superconductivity.

**Prerequisites:** Physics 90 ECTS cr, including the courses Advanced quantum mechanics FYAD04, Solid state physics FYGC03 and Mathematical physics II FYGC02, or equivalent

#### **SURFACE PHYSICS, 7.5 ECTS credits**

**Application Code:** KAU-30394 *Spring 2018, week 14 - 23*

The aim of the course is that students acquire advanced knowledge of the composition of the surfaces of solid materials, the physical and chemical processes on the surfaces and how these can be studied and applied. The course also aims to inspire students to adopt a scientific approach to research and to prepare them for doctoral studies.

Upon completion of the course, students should be able to:

- demonstrate basic knowledge of ultra-high vacuum technologies and its application in preparing and characterizing pure crystalline surfaces, as well as physical processes in the growth of ultra-thin films and technologies of the thin-film growth
- give an account of the various types of surface morphologies, the atomic structure of surfaces, relaxation and surface reconstruction as well as the physical basis of these phenomena
- give an account of the most important experimental technologies to characterize the structure of surfaces, such as scanning probe



technologies, Auger electron spectroscopy, and electron diffraction technologies,

- describe surface scattering theory
- give a detailed account of the LEED-technology and to analyze LEED-images
- demonstrate advanced knowledge of the electronic structure of surfaces and the use of photoemission for experimental research on surface electronic state and surface band structure
- demonstrate advanced knowledge of the physical basis of band bending with semiconductor surfaces and interfaces, metal-semiconductor interfaces, and the Schottky barrier
- give an account of collective phenomena as well as adsorption and chemical reactions on surfaces.

**Prerequisites:** Mathematics, 35 ECTS cr, and Physics, 60 ECTS cr, plus the courses Solid State Physics, 7.5 ECTS cr, and Quantum Physics II, 7.5 ECTS cr, or the equivalent.

## POLITICAL SCIENCE

### ASPECTS OF SWEDEN, 7.5 ECTS credits

**Application Code:** KAU-30231 Autumn 2017, week 35 - 39

Upon completion of the course, the student should be able to demonstrate the following:

#### SPECIFIC KNOWLEDGE SKILLS:

- Describe and explain the origin and development of Swedish history;
- Describe and explain the origin, development and operation of Swedish political history;
- Describe and explain the origin, development and operation of the Swedish political system
- Describe and explain the origin, development and operation of Swedish culture.

The below transferable skills are related to and integrated in the specific knowledge skills.

#### INFORMATION-GATHERING, COMMUNICATION AND RESEARCH SKILLS:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and Bibliographic skills.

#### THINKING, PLANNING AND ORGANISATIONAL SKILLS:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one year of undergraduate studies.

### ASPECTS OF SWEDEN, 7.5 ECTS credits

**Application Code:** KAU-30232 Spring 2018, week 04 - 08

Upon completion of the course, the student should be able to demonstrate the following:

#### SPECIFIC KNOWLEDGE SKILLS:

- Describe and explain the origin and development of Swedish history;
- Describe and explain the origin, development and operation of Swedish political history;
- Describe and explain the origin, development and operation of the Swedish political system
- Describe and explain the origin, development and operation of Swedish culture.

The below transferable skills are related to and integrated in the specific knowledge skills.

#### INFORMATION-GATHERING, COMMUNICATION AND RESEARCH SKILLS:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.

#### THINKING, PLANNING AND ORGANISATIONAL SKILLS:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one year of undergraduate studies.

### ESSAY WRITING IN POLITICS, 7.5 ECTS credits

**Application Code:** KAU-30238 Spring 2018, week 19 - 23

Upon completion of the course, the student should be able to demonstrate the following:

#### SPECIFIC KNOWLEDGE SKILLS:

- Describe and explain the origin, development and operation of chosen subject areas within political science.
- Demonstrate the ability to formulate a research question;
- Choose relevant research methods in order to answer the research question formulated; and
- link the research question to relevant theoretical perspectives or concepts.

The below transferable skills are related to and integrated in the specific knowledge skills.

#### INFORMATION-GATHERING COMMUNICATION AND RESEARCH SKILLS:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.

#### THINKING, PLANNING AND ORGANISATIONAL SKILLS:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources;
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one of the courses SVGAE2, SVGAE3, SVGAE5 or SVGAE6, SVGE20, SVGE30, SVGE50, SVGE60

### FORMS OF POWER AND GOVERNANCE, 7.5 ECTS credits

**Application Code:** KAU-30199 Autumn 2017, week 45 - 3

Upon completion of the course, students should be able to:

- explain power and governance in the context of regional building from different theoretical perspectives,
- identify and problematise the different modes of power and governance enacted in the regional arena,
- identify and problematise various forms of governance and evaluate their consequences from a democracy perspective,
- apply and combine different theoretical perspectives on power and governance and explain how a political change can be achieved in the regional arena, and
- analyse how academic argumentation on power and governance is built on different scholarly texts, and evaluate how the arguments contribute to an enhanced understanding of the forms of power and governance in region building.

**Prerequisites:** General admission requirements for education at

Master's level.

Upper secondary school level English 6 or B or equivalent.

Bachelor's Degree 180 ECTS cr with a Major in History, Human Geography, Tourism Studies, Environmental Science, or Political Science, or equivalent, or a professional degree in GIS Engineering 180 ECTS cr, including a degree project 15 ECTS cr.

Students with a Major in Tourism Studies, Environmental Science or GIS Engineering must have a social science profile.

#### **FURTHER STUDIES IN POLITICS, 7.5 ECTS credits**

**Application Code:** KAU-30234 Autumn 2017, week 50 - 03

Upon completion of the course, the student should be able to demonstrate the following:

Specific Knowledge Skills:

- Understanding of the origin, development and operation of chosen subject areas within political science.

The below transferable skills are related to and integrated in the specific knowledge skills.

Information-gathering, Communication and Research Skills:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.
- Thinking, Planning and Organisational Skills:
- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources;
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one of the courses SVGAE2, SVGAE3, SVGAE5 or SVGAE6 or SVGE20, SVGE30, SVGE50 or SVGE60.

#### **INTERNATIONAL POLITICS, 7.5 ECTS credits**

**Application Code:** KAU-30237 Spring 2018, week 14 - 18

Upon completion of the course, the student should be able to demonstrate the following:

Specific Knowledge Skills:

- Describe and explain the origin, development and operation of the international political system;
- Describe and explain the international system, and some international organisations;
- Describe, explain and analyse international relations theories;
- Describe and explain the origin and development of globalisation; and
- Describe and explain the origin, development and operation of different possible causes for conflict and conflict resolution within the international political arena.

The below transferable skills are related to and integrated in the specific knowledge skills.

Information-gathering, Communication and Research Skills:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.

Thinking, Planning and Organisational Skills:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed

at least one year of undergraduate studies.

#### **INTRODUCTION TO EU STUDIES, 7.5 ECTS credits**

**Application Code:** KAU-30235 Autumn 2017, week 45 - 49

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

Specific Knowledge Skills:

- Understanding of the origin, development and operation of EU integration;
- Understanding of the origin, development and operation of actors involved in the EU integration process; and
- Understanding of the origin, development and possible solutions to current issues within EU integration.

Information-gathering, Communication and Research Skills:

- The skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which target diverse audiences;
- The ability to develop effective reports and presentations; and
- Bibliographic skills.

Thinking, Planning and Organisational Skills:

- The ability to learn, understand and interpret information and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider all sides of an issue; and
- The ability to gather, organise and deploy evidence and information.
- Management Skills:
- An understanding of how to successfully identify, plan and contribute to the goals of a project.

**Prerequisites:** In order to be admitted the student must have completed at least one year of undergraduate studies

#### **POLITICAL SCIENCE - INDEPENDENT PROJEKT I IN REGIONAL BUILDING, 15 ECTS credits**

**Application Code:** KAU-30202 Spring 2018, week 14 - 23

Upon completion of the course, students should be able to:

- independently identify and formulate relevant and current research problems on issues of region building related to political science,
- initiate, plan and conduct an independent scholarly project,
- independently and critically, systematically analyse, assess and handle complex phenomena and issues on region building from a political science perspective,
- explain and discuss current theoretical, analytical and methodological issues, nationally and internationally in the field of political science,
- give an account of and discuss theoretical and methodological approaches in relation to current national and international research, orally and in writing,
- make assessments with regard to scientific, social and ethical considerations and demonstrate awareness of ethical aspects on research and development work in the field of political science.

**Prerequisites:** Bachelor's Degree 180 ECTS cr with a major in Political Science and completed course credits 15 ECTS cr for the Master Programme Region Building

#### **STUDYING REGION BUILDING: THEORIES AND METHODS, 15 ECTS credits**

**Application Code:** KAU-30207 Spring 2018, week 4 - 13

#### **SWEDISH AND COMPARATIVE POLITICS, 7.5 ECTS credits**

**Application Code:** KAU-30236 Spring 2018, week 9 - 13

Upon completion of the course, the student should be able to demonstrate the following:

Specific Knowledge Skills:

- Describe and explain the origin, development and operation of the Swedish political system;
- Describe and explain the development and operation of different political systems; and
- a comparative understanding of political systems.

The below transferable skills are related to and integrated in the specific knowledge skills.

Information-gathering, Communication and Research Skills:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.

Thinking, Planning and Organisational Skills:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one year of undergraduate studies.

#### THE SWEDISH WELFARE STATE MODEL, 7.5 ECTS credits

**Application Code:** KAU-30233 Autumn 2017, week 40 - 44

Upon completion of the course, the student should be able to demonstrate the following:

Specific Knowledge Skills:

- Describe and explain the development and operation of the Swedish welfare state;
- Describe and explain the origin, development and components of the Swedish welfare state policies.

The below transferable skills are related to and integrated in the specific knowledge skills.

Information-gathering, Communication and Research Skills:

- Skills required to identify and access a range of relevant information and resources;
- Skills in preparing interesting, creative and informative presentations which can target diverse audiences;
- Ability to develop effective reports and presentations; and
- Bibliographic skills.

Thinking, Planning and Organisational Skills:

- The ability to learn, understand and interpret information, and apply knowledge to new situations;
- The ability to set priorities, meet deadlines and effectively manage time, data and resources
- Problem-solving skills and the ability to make well-reasoned decisions, think creatively and search for, identify and consider different sides of an issue; and
- The ability to gather, organise and deploy evidence and information.

**Prerequisites:** In order to be admitted the student must have completed at least one year of undergraduate studies.

## PROJECT LEADERSHIP

#### GENERAL PROJECT MANAGEMENT METHODOLOGY, 7.5 ECTS credits

**Application Code:** KAU-28743 Spring 2018, week 14 - 23

Upon completion of the course students should be able to:

- explain the characteristic features of project work and analyse its usefulness in different professional contexts,
- identify and describe differences between various general leadership roles in projects,
- describe the basic features of general project models, and
- explain and apply the basic methods and models of project planning and management.

**Prerequisites:** General admission requirements

## RELIGIOUS STUDIES AND THEOLOGY

#### WORLD RELIGIONS, 15 ECTS credits

**Application Code:** KAU-29964 Spring 2018, week 14 - 23

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

- (Knowledge and Understanding) describe similarities and differences in the phenomenological aspects of non-Christian religions such as sacred beings, sacred power, sacred myth, sacred belief and value systems and cult/ritual.
- (Proficiencies and capabilities) give critical interpretations of religious/cultural documents and research.
- Identify similarities and differences in the religious thought and life of Mankind.
- Identify ethnocentric descriptions of non-Christian religious systems.
- (Value assessment and Attitudes) respectfully encounter and describe non-Christian sacred belief systems, spiritual needs and behaviour of Man.

**Prerequisites:** Basic university qualifications and a good grasp of English

## STATISTICS

#### ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28768 Autumn 2017, week 45 - 03

Upon completion of the course, students should be able to

- construct models for prognostication,
- understand and use the least squares method for estimating linear regression models,
- analyse regression models with dummy variables and
- evaluate the adapted models with respect to heteroskedacity, multi-collinearity, and auto-correlation.

**Prerequisites:** A minimum of 15 credits in Statistics.

#### ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28778 Spring 2018, week 14 - 23

Upon completion of the course, students should be able to

- construct models for prognostication,
- understand and use the least squares method for estimating linear regression models,
- analyse regression models with dummy variables and
- evaluate the adapted models with respect to heteroskedacity, multi-collinearity, and auto-correlation.

**Prerequisites:** A minimum of 15 credits in Statistics.

#### ECONOMETRICS, 7.5 ECTS credits

**Application Code:** KAU-28788 Spring 2018, week 04 - 13

The aim of the course is that students acquire knowledge of econometrics with an indepth focus on time series models. Upon completion of the course students should be able to:

- use and understand econometrics methods with a specialisation in time series models,
- demonstrate skills in ARIMA and VAR modelling of stationary and non-stationary time series data,
- analyse long memory processes and non-stationary time series data by means of wavelet methods,
- interpret the results of model adjustment, and
- present the result of an analysis orally and in writing.

**Prerequisites:** Statistics 60 ECTS cr. including Econometrics 15 Ects cr.

#### EXPERIMENTAL PLANNING, 7.5 ECTS credits

**Application Code:** KAU-28773 Autumn 2017, week 45 - 03

Upon completion of the course, students should be able to:

- relate previous knowledge of point estimates, interval estimates and hypothesis testing to more advanced situations by means of test plans,
- conduct completely randomised testing, either blocked or unblocked,
- conduct various forms of factorial testing,
- give an account of blocking and correlation in factorial testing,
- explain the connection between models of various types,
- perform a basic model control, and
- use simple response surfaces and hierarchical models.



**Prerequisites:** A minimum of 30 credits in Statistics.

#### INTRODUCTORY STATISTICS AND REGRESSION ANALYSIS, 15 ECTS credits

**Application Code:** KAU-28785 *Spring 2018, week 04 - 13*

Upon completion of the course, students should be able to:

- compile and graphically present different types of data consisting of multiple variables, and estimate and interpret summary measures,
- define point estimates and give an account of some of their properties,
- understand statistical models comprising one or several variables,
- perform statistical inference for statistical models and interpret the results,
- critically use and evaluate different statistical methods, and
- use a statistical software as an aid in statistical analysis.

**Prerequisites:** General admission requirements plus either

- field-specific eligibility A4 (mathematics 3b or 3c; civics 1b or 1a1+1a2) with the exception of civics, or
- field-specific eligibility 4 (English B, mathematics C, Civics A) with the exception of civics

or

admission to one of the Master programmes Service Management SASSM, Marketing SASMF or Accounting and Control SASRS

#### MULTIVARIATE METHODS, 7.5 ECTS credits

**Application Code:** KAU-28774 *Autumn 2017, week 45 - 03*

Upon completion of the course, students should be able to:

- understand and explain concepts such as vectors, matrices, determiners, eigenvectors and eigenvalues,
- give an account of basic theories of multivariate normal distribution, multivariate analysis of variance, and multivariate regression,
- apply various classification and discrimination methods such as cluster analysis and discriminant analysis, and
- conduct component analyses such as principal component analysis and factor analysis as well as canonical correlation.

**Prerequisites:** A minimum of 30 credits in Statistics.

#### STATISTICAL THEORY, 7.5 ECTS credits

**Application Code:** KAU-28772 *Autumn 2017, week 35 - 44*

Upon completion of the course, students should be able to:

- identify the probability distribution used in a given situation and give an account of the connections between different probability distributions,
- identify distributions by means of moment-generating functions,
- explain the principles of some common estimation methods and determine parameter estimations with the help of these methods, and
- infer interval estimation in various situations and assess the properties of different point estimates.

**Prerequisites:** Statistics 30 ECTS cr

#### STATISTICAL THEORY, 7.5 ECTS credits

**Application Code:** KAU-28787 *Spring 2018, week 04 - 13*

Upon completion of the course, students should be able to:

- explain the principles underlying the hypothesis test in different testing situations,
- perform probability quotation test and derive the maximum critical area in probability quotation tests, and
- explain and discuss in detail the lines of thought principles underlying statistical inference.

**Prerequisites:** Statistics 60 ECTS cr.

#### STATISTICS - BACHELOR'S THESIS, 15 ECTS credits

**Application Code:** KAU-28789 *Spring 2018, week 14 - 23*

Upon completion of the course, students should be able to:

- demonstrate advanced knowledge in a statistical sub-field,
- independently plan and carry out statistical investigations,
- independently identify, structure and delimit statistical problems,
- find relevant scientific methods to solve problems, and
- orally and in writing present and critically review problems, choice of method, result and conclusions.

**Prerequisites:** Statistics 60 ECTS credits or equivalent. At least 30 of these 60 ECTS credits must be earned in basic level courses that have other basic level courses as prerequisites. In addition to these 60 ECTS credits the course STGC01 Statistical Theory 7.5 ECTS credits or equivalent is required.

## SWEDISH AS A SECOND LANGUAGE

#### SWEDISH AS A FOREIGN LANGUAGE I, 7.5 ECTS credits

**Application Code:** KAU-29792 *Autumn 2017, week 35 - 44*

The aim of the course is to provide primarily international students the opportunity to acquire basic knowledge of Swedish.

Upon completion of the course, students should be able to:

- understand common words and simple phrases if the interlocutor is speaking slowly and clearly,
- understand and find specific information in very simple texts with common words occurring frequently,
- converse in a simple manner provided that the interlocutor is prepared to speak slowly and repeat what has been said,
- ask and answer simple questions on familiar topics,
- write short, simple texts and fill in personal details in a form and
- give an account of basic parts of Swedish syntax and the Swedish sound system.

**Prerequisites:** General admission requirements with the exception of the prerequisite of upper secondary level Swedish.

#### SWEDISH AS A FOREIGN LANGUAGE I, 7.5 ECTS credits

**Application Code:** KAU-29800 *Spring 2018, week 04 - 13*

The aim of the course is to provide primarily international students the opportunity to acquire basic knowledge of Swedish.

Upon completion of the course, students should be able to:

- understand common words and simple phrases if the interlocutor is speaking slowly and clearly,
- understand and find specific information in very simple texts with common words occurring frequently,
- converse in a simple manner provided that the interlocutor is prepared to speak slowly and repeat what has been said,
- ask and answer simple questions on familiar topics,
- write short, simple texts and fill in personal details in a form and
- give an account of basic parts of Swedish syntax and the Swedish sound system.

**Prerequisites:** General admission requirements with the exception of the prerequisite of upper secondary level Swedish.

#### SWEDISH AS A FOREIGN LANGUAGE II, 7.5 ECTS credits

**Application Code:** KAU-29793 *Autumn 2017, week 45 - 03*

The aim of the course is to provide international students with the opportunity to develop their knowledge of Swedish further.

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

- understand phrases and common words relating to the personal sphere,
- grasp the gist of short, clear and simple messages and announcements,
- understand short and simple texts and find specific information in everyday material,
- participate in short informal conversations on familiar topics,
- write a simple text on familiar topics and own experiences,
- give an account of more complex parts of Swedish syntax and
- give an account of and demonstrate Swedish prosody.

**Prerequisites:** General admission requirements with the exception of the prerequisite of upper secondary level Swedish and English, and the course SFBX01 Swedish as a Foreign Language I, 7.5 ECTS cr, or equivalent.

#### SWEDISH AS A FOREIGN LANGUAGE II, 7.5 ECTS credits

**Application Code:** KAU-29801 *Spring 2018, week 14 - 23*

The aim of the course is to provide international students with the opportunity to develop their knowledge of Swedish further.

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

- understand phrases and common words relating to the personal sphere,
- grasp the gist of short, clear and simple messages and announcements,
- understand short and simple texts and find specific information in everyday material,
- participate in short informal conversations on familiar topics,
- write a simple text on familiar topics and own experiences,

- give an account of more complex parts of Swedish syntax and
- give an account of and demonstrate Swedish prosody.

**Prerequisites:** General admission requirements with the exception of the prerequisite of upper secondary level Swedish and English, and the course SFBX01 Swedish as a Foreign language I, 7.5 ECTS cr, or equivalent.

#### **SWEDISH AS A FOREIGN LANGUAGE III, 7.5 ECTS credits**

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**Application Code:** KAU-29802 *Spring 2018, week 04 - 13*

The aim of the course is to provide international students with the opportunity to develop their knowledge of Swedish further.

Upon completion of the course students should be able to:

- 1. understand the gist of slow and deliberate speech in Swedish regarding everyday phenomena and current topics,
- understand and comment on the content of everyday text describing events, phenomena, and feelings,
- participate in conversation on familiar topics without preparation.
- argue a point briefly,
- write simple, coherent texts on familiar topics and their own experiences,
- recount the course of events in a book or film and describe their reactions orally and with good Swedish pronunciation, and
- demonstrate further command of Swedish syntax.

**Prerequisites:** General admission requirements with the exception of the prerequisite of upper secondary level Swedish, and the courses SFBX01 Swedish as a Foreign language I, 7.5 ECTS cr, and SFBX02 Swedish as a Foreign language II, 7.5 ECTS cr, or equivalent.

#### **SWEDISH AS A FOREIGN LANGUAGE IV, 7.5 ECTS credits**

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**Application Code:** KAU-29803 *Spring 2018, week 14 - 23*

The aim of the course is that exchange students develop their knowledge of the Swedish language.

Upon completion of the course, students should be able to:

- understand the content of fairly long oral presentations and follow fairly complex arguments on familiar topics,
- understand and comment on current texts such as newspaper articles and fiction,
- participate actively and confidently in discussions,
- present, defend, and discuss different standpoints and conceptions in a clear and developed way in speech and writing,
- demonstrate further skills in Swedish grammar, and
- be familiar with and use common idiomatic expressions.

**Prerequisites:** General admission requirements (except for Swedish) and the 7.5 credit courses SFBX01, SFBX02 and SFBX03 (Swedish as a Foreign Language I-III)

# INTERNATIONAL OFFICE

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The International Office at Karlstad University is responsible for the University's international exchange agreements, partners, networks, staff mobilities and supporting incoming and outgoing exchange students. Exchange students are supported in all matters concerning their studies, learning agreements, accommodation, host families and student hosts. All international students (both exchange and direct entry) are invited to an orientation programme before each semester commences, this programme will introduce students to the University, their studies and life in Karlstad.

## CONTACT INFORMATION

### **International Office**

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