# Lund University, Faculty of Science Information Sheet, 2020

FOR EXCHANGE STUDENTS





# Lund University and the Faculty of Science

#### LUND UNIVERSITY

Lund University was founded in 1666 and is repeatedly ranked among the world's top 100 universities. The University has 40 000 students and 7 600 staff based in Lund, Helsingborg and Malmö. We are united in our efforts to understand, explain and improve our world and the human condition.

Lund is the most popular study location in Sweden. The University offers one of the broadest ranges of programmes and courses in Scandinavia, based on cross-disciplinary and cutting-edge research. The compact university campus encourages networking and creates the conditions for scientific breakthroughs and innovations. The University has a distinct international profile, with partner universities in 67 countries.

Lund University has an annual turnover of SEK 8.5 billion, of which two-thirds go to research. Our research is characterised by both breadth and strength and, according to independent evaluations, over 30 of our research fields are worldleading.

The establishment of the world-leading facilities MAX IV and ESS will have a major impact on future scientific and industrial development in both materials science and life science. MAX IV, which was inaugurated in June 2016, is the leading synchrotron radiation facility in the world, while the European research facility ESS will be the world's most powerful neutron source when it opens for research in 2023. Adjacent to these facilities, Science Village Scandinavia is also being developed into a meeting place and testing environment for research, education and entrepreneurship.

#### THE FACULTY OF SCIENCE

Science at Lund University is characterised by first-class research within a variety of areas, from molecular to ecological systems and from biosphere studies to astronomy and highenergy particle physics.

Our research and education are carried out within all major research areas: astronomy, biology, chemistry, earth sciences, environmental sciences, physics and mathematics. The wide spectrum of research, with several world-leading research groups, serves as a platform for outstanding higher education and much of the teaching is carried out in the laboratories connected to the research front line. Our teaching staff are all active researchers, making our students particularly well trained in research methods.

If you want to contribute to sound and sustainable future development, science education at Lund University could be the right choice for you. An education in science is also a gateway to a great number of R&D companies and science parks within the surrounding Öresund region – a hub for high-tech companies and research organisations especially within pharmaceuticals/biotechnology, IT/telecommunication, food, and environment. The Öresund region is at the forefront in Europe within these areas.

The Faculty of Science is highly ranked both in Sweden and internationally for its research and education quality. The faculty is organised into nine departments, gathered in the northern campus area in Lund. There are approximately 1 020 employees and 2 800 students at the Faculty of Science.

#### www.lunduniversity.lu.se

www.science.lu.se

# Pre-arrival information

## WELCOME TO LUND

The main Lund University campus is set in the charming cobblestoned city of Lund, which dates back to 990. Today students make up almost half of the population in the city. The University and its students give Lund a youthful and vibrant atmosphere, which has led to an active cultural life full of activities and entertainment. In Lund everything is close at hand and within reach on foot or by bicycle, which adds to its appeal.

When it comes to travel opportunities, Lund is in a great location. Perhaps most importantly, Copenhagen Airport is just a 35-minute train ride from Lund, meaning you are connected with the whole world from this major international airport.

Read more about Lund on: https://visitlund.se/en

#### HOUSING

You can apply for housing through LU Accommodation or use an accommodation agency. LU Accommodation is a part of Student Services at Lund University. Other accommodation agencies include the Student Unions' housing service Bo-Poolen and AF Bostäder. You can also find housing through the student nations. Student housing often consists of a corridor room or a studio flat.

Read more about housing on: www.lunduniversity.lu.se/housing

#### LIVING COSTS

The Swedish currency is the krona. It is abbreviated SEK. To compare, SEK 100 is roughly EUR 9 or USD 10. A typical Swedish student budget is SEK 8 000 per month covering food, housing, clothing, books/materials and leisure time. If you rent accommodation from LU Accommodation you can expect typical rents to range from SEK 3 200–4 800 per month, depending on the specific accommodation you are offered.

Read more about living costs on: www.lunduniversity.lu.se/living-costs

#### **HEALTH INSURANCE**

As an exchange student at Lund University you have free health insurance. The cover is restricted to the period of time you are in Sweden, as specified in your letter of acceptance. If you're from the EU/EEA you should bring your European Health Insurance Card. You may bring additional health insurance if you want to.

Read more about health insurance on:

www.lunduniversity.lu.se/student-life/preparing-to-come/ health-and-insurance

## **RESIDENCE PERMIT**

Most students from countries outside the EU/EEA need to have a residence permit to study in Sweden. If this is the case for you, we advised you to apply for residence permit as soon as you receive your letter of acceptance. The permit must be valid and you need to bring it with you when you travel to Sweden. Applications for residence permits are processed by the Swedish Migration Board and *not* the University.

Read more and apply for residence permit on: www.migrationsverket.se/info/studera\_en.html

**MORE PRE-ARRIVAL INFORMATION** 

www.lunduniversity.lu.se/pre-arrival



# Exchange studies at the Faculty of Science

## **APPLYING FOR COURSES/MODULES**

When the coordinator at your home university has nominated you for exchange studies, you will recieve a link to an online registration form. This is the application for the exchange, and also for the short introduction programme which is offered to all exchange students.

We encourage you to not apply for too many courses or credits, and to make sure you pick the correct course code. Also, please note that some courses are given simultaneously, and may lead to timetabling conflicts - this is important when prioritising your selected courses.

#### Documents to attach to your application

You need to scan and attach the following documents to your application:

- Official academic transcript
- List of ongoing courses
- Statement of Purpose, one page maximum
- Explanation of the home university's grading system

#### **Please note**

- We do not require any paper documents •
- Remember to submit the application before the deadline, as we cannot process any late applications
- We require that you take at least half of your credits within the Faculty of Science
- 30 credits correspond to one semester of full-time studies. You can take a maximum of 30 credits per semester, plus one extra course in Swedish language for exchange students.

#### **COURSES FOR EXCHANGE STUDENTS**

We advise you to carefully read the entry requirements for the courses you intend to take and make sure that you will receive credits at your home university for each course.

### Science courses

Many of our courses are offered in English. Currently, three of our Bachelor's programmes and all of our Master's programmes are held entirely in English. The Master's courses are available to undergraduate students as long as they fulfil the entry requirements.

Read more about our science courses on page 6.

## Courses at other faculties

As already mentioned, we require that you take at least half of your credits within the Faculty of Science. You may take courses offered at other faculties, but the possibilities to take courses given at the School of Economics and Management, the Faculty of Medicine, or the Faculty of Engineering (LTH) are limited.

#### Special Area Studies courses (SAS)

As an exchange student at Lund University you have the opportunity to take additional courses outside of your main field of study. You can choose from a wide range of subjects, including Swedish culture and society and also European and global issues. All courses are worth 7.5 credits.

Read more about the Special Area Studies courses on: www.lunduniversity.lu.se/SAS

# Important dates

## **APPLICATION PERIODS**

# Student exchange and course selection

Spring Autumn Academic year 1 October – 25 October 1 April – 25 April 1 April – 25 April

## Accommodation for exchange students

Spring	1 October – 25 October
Autumn	1 April – 25 April
Academic year	1 April – 25 April

## **SEMESTER PERIODS 2020**

Spring Arrival day

Autumn

Arrival day

13 January

## 31 August – 17 January TBA

20 January – 7 June

## NOMINATION PERIODS FOR PARTNERS

Spring Autumn Academic year

25 September – 23 October 25 March – 23 April 25 March – 23 April

More relevant dates are available on: www.lunduniversity.lu.se/academic-calendar

#### Swedish language courses

At Lund University you have the opportunity to take free preparatory Swedish courses, for example the Swedish Language Courses for Exchange Students (SVE) and the Introductory Swedish Language Course (SUSA). The latter is a short 3 credit introduction to the Swedish language and to the Swedish culture and society. The course is offered to all exchange students before ordinary courses start.

Read more about the language courses on: <u>www.sol.lu.se/en/subjects/sfs</u> <u>www.sol.lu.se/en/subjects/sfs/exchange-students/susa</u>

# STUDY STRUCTURE AND GRADING SYSTEM

## Study structure

Full-time study corresponds to 30 credits per semester. You are required to follow a full-time semester study plan of 30 credits per semester. Examination is usually conducted at the end of each course.

#### Grading system

As an exchange student at the Faculty of Science you will be graded according to one of our two scales, which vary between courses.

- U G VG (Fail Pass Pass with Distinction)
- U G (Fail Pass)

Read more about the grading system on: www.lunduniversity.lu.se/grading-system

#### LANGUAGE REQUIREMENTS

We require proficiency in English or Swedish, depending on the language of the course. It is of great importance, and in your interest, that your language skills are at a satisfactory level. We trust your home university to assess that the English proficiency of their students is of a satisfactory level for academic studies (B2).

## APPLYING FOR ACCOMMODATION

You apply for accommodation separately. The accommodation application is open during the same period as the exchange application. It is up to you and your coordinator to remember to apply for accommodation in time. Unfortunately we cannot guarantee housing for all exchange students, but we will do what we can to help you find accommodation.

Read more about applying for accommodation on: www.lunduniversity.lu.se/housing

#### **QUESTIONS ABOUT COURSES?**

Questions concerning courses are kindly addressed to the subject's departmental coordinator. Contact information can be found on page 18.



## **SPECIAL AREA STUDIES (SAS)**

Website about the course: <u>http://home.thep.lu.se/~leif/SASF10/index.html</u>

Bachelor's le	ST = Spring term, AT = Aevel1 = First half of the term, 2 = Second hal			
Code	Course name	Credits	Start	End
SASF10	The Scientific Method	7,5	ST1	ST1

ST = Spring term, AT = Autumn term

# ASTROPHYSICS, PHYSICS AND SYNCHROTRON RADIATION BASED SCIENCE

Website about the courses: <u>http://www.fysik.lu.se/english/education/courses/</u>

CodeCourse nameASTA33Galaxies and Cosmology	<b>Credits</b> 7,5	Start	End
ASTA33 Galaxies and Cosmology	7,5		
		AT2	AT2
ASTA34 Radiation Processes and Stellar Atmospheres	7,5	ST1	ST1
ASTB01 Introduction to Astrophysics	7,5	AT1	AT1
ASTC01 Astrobiology	7,5	AT2	AT2
FYSB11 Basic Quantum Mechanics	7,5	AT2	AT2
		ST2	ST2
FYSB12Basic Statistical Physics and Quantum Statistics	7,5	AT2	AT2
		ST2	ST2
FYSC11 Atomic and Molecular Physics	7,5	AT1	AT1
		ST1	ST1
FYSC12Nuclear Physics and Reactors	7,5	AT1	AT1
		ST1	ST1
FYSC13 Solid State Physics	7,5	AT2	AT2
		ST2	ST2
FYSC14Particle Physics, Cosmology and Accelerators	7,5	AT2	AT2
		ST2	ST2
FYSD11 Fundamental Combustion	7,5	ST2	ST2
FYSD13Processing and Device Technology	7,5	AT1	AT1

FYSD21	Materials Analysis at the Nanoscale	7,5	AT2	AT2
FYTA14	Fluid Dynamics	7,5	ST2	ST2
FYTB13	Electromagnetism	7,5	ST2	ST2
			AT1	AT1
FYTB14	Classical Mechanics and Special Relativity	7,5	ST1	ST1
MAXC11	Photon and Neutron Production for Science	7,5	AT1	AT1
MNXB01	Introduction to Programming and Computing for Scientists	7,5	AT1	AT1

## Master's level

ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
ASTM13	Dynamical Astronomy	7,5	AT2	AT2
ASTM14	Stellar Structure and Evolution	7,5	AT1	AT1
ASTM18	Observational Techniques and Instruments	7,5	ST2	ST2
ASTM20	Planetary Systems	7,5	AT1	AT1
ASTM21	Statistical Tools in Astrophysics	7,5	AT2	AT2
ASTM22	Computational Astrophysics	7,5	ST1	ST1
FYSN11	Experiments in Research and Society	7,5	AT1	AT1
			ST2	ST2
FYSN14	Lasers	7,5	AT2	AT2
FYSN15	Experimental tools	7,5	AT2	AT2
FYSN17	Quantum Mechanics	7,5	AT1	AT1
FYSN23	Advanced Electromagnetism	7,5	ST1	ST1
FYST13	Chaos for Science and Technology	7,5	ST2	ST2
FYST14	Atomic and Molecular Spectroscopy	7,5	AT1	AT1
FYST15	Semiconductor Physics	7,5	AT1	AT1
FYST16	Modern Subatomic Physics	7,5	ST2	ST2
FYST17	Modern Experimental Particle Physics	7,5	ST1	ST1
FYST18	Applied Subatomic Physics	7,5	ST1	ST1
FYST19	Physics and Chemistry of Surfaces	7,5	ST2	ST2
FYST20	Spectroscopy and the Quantum Description of Matter	7,5	ST1	ST1
FYST21	Light-Matter Interaction	7,5	ST1	ST1

FYST22	Medical Optics	7,5	AT2	AT2
FYST23	Experimental Biophysics	15,0	ST1	ST2
FYST24	The Physics of Low-dimensions	7,5	AT2	AT2
FYST25	Solid State Theory	7,5	ST2	ST2
FYST26	Complex Economy	7,5	ST1	ST1
FYST28	Laser-based Combustion Diagnostics	7,5	ST1	ST1
FYST31	Advanced Processing of Nanostructures *	7,5	AT1	AT1
			ST1	ST1
FYST32	Advanced Optics and Lasers	7,5	ST2	ST2
FYST34	High Speed Devices	7,5	AT1	AT1
FYST35	Chrystal Growth and Semiconductor Epitaxy	7,5	ST1	ST1
FYST37	Advanced Quantum Mechanics	7,5	ST2	ST2
FYST38	Environmental Monitoring	7,5	ST1	ST1
FYST39	Nanoelectronics	7,5	ST2	ST2
FYST40	Nanomaterials - thermodynamics and kinetics	7,5	AT2	AT2
FYST42	Scanning probe microscopy	7,5	ST2	ST2
FYST43	Optics and Optical Design	7,5	AT1	AT1
FYST50	Optoelectronics and Optical Communications	7,5	ST1	ST1
FYST51	Modern X-ray Physics - Diffraction and Imaging	7,5	ST1	ST1
FYTN01	Mathematical Methods of Physics	7,5	AT1	AT1
FYTN15	Statistical Mechanics	7,5	AT2	AT2
FYTN03	Computational Physics	7,5	AT1	AT1
FYTN04	Theoretical Particle Physics	7,5	AT2	AT2
FYTN05	Theoretical Biophysics	7,5	ST1	ST1
FYTN08	General Relativity	7,5	ST2	ST2
FYTN10	Introduction to Quantum Field Theory	7,5	ST1	ST1
FYTN11	Cosmology and Astroparticle Physics	7,5	AT2	AT2
FYTN12	Systems Biology - Models and Computations	7,5	AT2	AT2
FYTN14	Introduction to artificial neural networks and deep learning	7,5	AT2	AT2
MAXM05	Accelerators and Free Electron Lasers	7,5	ST1	ST1

\* A very limited number of places available

MAXM06	Introduction to Synchrotron Radiation Based Science	7,5	AT1	AT1
MAMX07	Introduction to Accelerators and Free Electron Lasers	7,5	AT1	AT1
MAXM16	Experimental Methods and Instrumentation for Synchrotron Radiation Research	7,5	AT2	AT2

# BIOLOGY AND MOLECULAR BIOLOGY

Website about the courses:

**Bachelor's level** 

https://www.biology.lu.se/education/undergraduate-graduate-studies/courses

ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term Summer = Summer course

Code	Course name	Credits	Start	End
MOBA03	Molecular Biology (taught in Swedish)	15	ST1	ST1
BIOA10	Cell- and Microbiology (taught in Swedish)	15	AT1	AT1
BIOA11	Genetics and Evolution (taught in Swedish)	15	AT2	AT2
BIOB05	Floristics (taught in Swedish)	4	Summer	Summer
BIOB10	Botany and Zoology (taught in Swedish)	15	ST1	ST1
BIOB11	Experimental Design and Analysis for Biologists (taught in Swedish)	7,5	ST2	ST2
BIOB12	Faunistics and Floristics (taught in Swedish)	8	ST2	ST2
BIOC01	Human Physiology (taught in Swedish)	15	AT1	AT1
BIOC05	Nature Conservation (taught in Swedish)	15	AT2	AT2
BIOC10	Ecology (taught in Swedish)	15	ST2	ST2
BIOC11	Human and Animal Physiology (taught in Swedish)	15	AT2	AT2
BIOC12	Ecology (taught in Swedish)	7.5	ST2	ST2
BIOF06	Human Biology and Evolution (taught in Swedish)	7,5	AT1	AT2
BIOF08	Animal Behaviour	15	ST2	ST2
BIOF05X	Applied Work	10	AT1	AT1
			ST1	ST1
BIOF05Y	Applied Work	10	AT2	AT2
			ST2	ST2

BIOF20X	Applied Work	7,5	AT1	AT1
			ST1	ST1
BIOF20Y	Applied Work	7,5	AT2	AT2
			ST2	ST2
BIOF21X	Applied Work	15	AT1	AT1
			ST1	ST1
BIOF21Y	Applied Work	15	AT2	AT2
			ST2	ST2
BIOF30	Applied Work	30	AT1	AT1
			ST1	ST1

## Master's level

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Code	Course name	Credits	Start	End
BIOR11	Mosses, Lichen, Fungi - Biodiversity and Conservation	15	AT1	AT1
BIOR14	Pharmacology *	15	AT2	AT2
BIOR17	Limnology	15	AT1	AT1
BIOR18	Microbiology*	15	AT2	AT2
BIOR20	Sensory Biology *	15	AT2	AT2
BIOR21	Toxicology *	15	ST1	ST1
BIOR25	Molecular Ecology and Evolution *	15	ST1	ST1
BIOR31	Molecular Biotechnology *	15	ST2	ST2
BIOR39	Biological Monitoring	15	ST2	ST2
BIOR41	Ecotoxicology	15	AT2	AT2
BIOR49	Eukaryotic molecular genetics	15	AT2	AT2
BIOR51	Ornithology	15	ST2	ST2
BIOR52	Applied Ecotoxicology	15	ST1	ST1
BIOR56	Antibiotics - Biology and Chemistry *	7,5	ST2	ST2
BIOR58	Neurobiology *	15	AT1	AT1
BIOR59	Genetic Analysis I *	7,5	ST1	ST1

\* A very limited number of places available

BIOR60	Genetic Analysis II *	7,5	ST1	ST1
BIOR61	Molecular Genetics *	15	ST2	ST2
BIOR63	Molecular Microbiology *	15	ST1	ST1
BIOR65	Marine Ecology	15	AT1	AT1
BIOR66	Water Management	15	ST2	ST2
BIOR67	Fisheries Ecology	15	AT2	AT2
BIOR69	Population and Community Ecology	15	AT1	AT1
			ST2	ST2
BIOR72	Plant Systematics and Diversity	10	ST2	ST2
BIOR73	Bryophyte Morphology and Identification	5	AT1	AT1
BIOR75	Cellular and Molecular Immunology *	15	ST2	ST2
BIOR76	Plant Function	15	AT2	AT2
BIOR77	Plant Evolution and Adaptation	15	ST2	ST2
BIOR78	Soil and Plant Ecology	15	AT1	AT1
BIOR79	Methods in Molecular Biology *	15	AT1	AT1
BIOR81	Evolutionary Animal Ecology	15	AT2	AT2
BIOR82	Aquatic Ecology	15	ST1	ST1
BIOR83	Conservation Biology	15	ST1	ST1
BIOR84	Cellular and Molecular Neurobiology	15	ST2	ST2
BIOR85	Immunologi *	15	AT1	AT1
			ST1	ST1
BIOS08	Microscopy - Bio-Imaging *	7,5	ST2	ST2
BIOS13	Modelling Biological Systems	7,5	AT2	AT2
BIOS14	Processing and Analysis of Biological Data	7,5	AT2	AT2
BIOT07	Research Project for International Students	7,5	AT1	AT1
			ST1	ST1
BIOT07	Research Project for International Students	7,5	AT2	AT2
			ST2	ST2
BIOT15X	Research Project for International Students	15	AT1	AT1
			ST1	ST1

\* A very limited number of places available

BIOT15Y	Research Project for International Students	15	AT2	AT2
			ST2	ST2
BIOT30	Research Project for International Students	30	AT1	AT2
			ST1	ST2
BIOT45X	Research Project for International Students	45	AT1	ST1
BIOT45Y	Research Project for International Students	45	AT2	ST2
BIOT60	Research Project for International Students	60	AT1	ST2

## GEOLOGY

Website about the courses: <u>https://www.geology.lu.se/education/programme-structure</u>

#### Master's level

ST = Spring term, AT = Autumn term1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
GEOM08	Metamorphic Petrology and Structural Geology	15	ST1	ST1
GEOM09	Evolution of the Biosphere, Palaeoecology and Palaeontology	15	ST2	ST2
GEOM10	Sedimentary Geology and Basin Analysis	15	AT1	AT1
GEOM11	Magmatic Petrology, Geochemistry and Geochronology	15	AT2	AT2
GEON04	Global and Regional Marine Geology	15	ST1	ST1
GEON05	Glacial Sedimentology - Processes, Sediments and Landform Systems	15	AT1	AT1
GEON06	Palaeoecological Methods and Environmental Analysis	15	AT2	AT2
GEON07	Quarternary Climate and Glaciation History	15	ST2	ST2

## CHEMISTRY

Master's level

Website about the courses: http://www.kemi.lu.se/english/education/

Bachelor's level	ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
MOBA02	Chemistry of the Cell	15	AT2	AT2
KEMB21	Organic Chemistry	15	AT2	AT2
KEMC03	Experimental Protein Chemistry	15	AT1	AT1

ST = Spring term, AT = Autumn term1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
KEMM20	Medicinal Chemistry	7,5	AT1	AT1
KEMM21	Advanced Organic Chemistry	15	ST1	ST1
KEMM23	Advanced Biochemistry	15	ST2	ST2
KEMM25	Structural Biochemistry	15	AT2	AT2
KEMM29	Molecular Spectroscopy - Methods and Applications	15	ST2	ST2
KEMM30	Molecular Driving Forces and Chemical Bonding	15	AT1	AT1
KEMM48	Statistical Thermodynamics and Molecular Simulation	7,5	ST1	ST1
KEMM52	Coordination Chemistry and Organometallic Chemistry	15	ST2	ST2
KEMM57	Magnetic Resonance - Spectroscopy and Imaging	7,5	ST1	ST1
KEMM58	Molecular Quantum Mechanics	7,5	ST1	ST1
KEMM67	Scattering Methods	7,5	ST1	ST1
KEMM76	Advanced Analytical Chemistry	15	AT2	AT2
KEMM77	Advanced Surface and Colloid Chemistry	15	AT2	AT2
KEMP20	Project Work, Period 1	15	AT1	AT1
			ST1	ST1
KEMP30	Project Work	30	AT1	AT2
			ST1	ST2
KEMP60	Project Work, Period 2	15	AT2	AT2
			ST2	ST2

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# **PURE MATHEMATICS**

Website about the courses:

http://www.maths.lth.se/education/free-standing-courses/mathematics-science-faculty/

Bachelor's level		ST = 5 1 = First half of the ter	Spring term, AT rm, 2 = Second I	
Code	Course name	Credits	Start	End
MATB13	Discrete Mathematics	7,5	ST2	ST2
			AT2	AT2
MATB21	Analysis in Several Variables 1	7,5	ST1	ST1
			AT1	AT1
MATB22	Linear Algebra 2	7,5	ST1	ST1
			AT1	AT1
MATB23	Analysis in Several Variables 2	7,5	ST2	ST2
			AT2	AT2
MATB24	Linear Analysis	7,5	ST1	ST1
			AT1	AT1
MATC12	Ordinary Differential Equations 1	7,5	AT2	AT2

#### Master's level

ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

ST = Spring term, AT = Autumn term

Code	Course name	Credits	Start	End
MATM11	Algebraic Structures	7,5	ST1	ST1
MATM12	Analytic Functions	15	AT1	AT2
MATM13	Differential Geometry	7,5	AT1	AT1
MATM15	Number Theory	7,5	AT2	AT2
MATM16	Topology	7,5	ST2	ST2
MATM18	Fourier Analysis	7,5	ST1	ST1
MATM19	Integration Theory	7,5	ST1	ST1
MATM23	Specialised Course in Differential Geometry	7,5	ST1	ST2
MATM27	Ordinary Differential Equations 2	7,5	ST1	ST1
MATM30	Mathematical Foundations of Probability	7,5	AT2	AT2
MATP13	Group- and Ring Theory	7,5	ST2	ST2
MATP15	Linear Functional Analysis	7,5	AT1	AT2

MATP16	Partial Differential Equations	7,5	AT1	AT1
MATP25	Specialised Course in Linear Functional Analysis	7,5	AT1	AT2
MATP29	Specialised Course in Integration Theory	7,5	ST2	ST2

# MATHEMATICAL STATISTICS

Website about the courses:

Master's level

http://www.maths.lth.se/education/free-standing-courses/mathematical-statistics-science-faculty/

Bachelor´s le	evel	ST = Spring term, AT = Autumn te 1 = First half of the term, 2 = Second half of the te		
Code	Course name	Credits	Start	End
MASA01	Mathematical Statistics Basic Course	15.0	ΔΤ1	ΔΤ2

MASA01	Mathematical Statistics - Basic Course	15,0	AT1	AT2
MASC01	Probability Theory	7,5	ST1	ST1
MASC03	Markov Processes	7,5	AT1	AT1
MASC04	Stationary Stochastic Processes	7,5	AT1	AT1
MASC05	Design of Experiments	7,5	ST2	ST2

## ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
MASM11	Monte Carlo Methods for Statistical Inference	7,5	ST1	ST1
MASM12	Non-linear Time Series Analysis **	7,5	AT1	AT2
MASM15	Statistical Modelling of Extreme Values	7,5	ST2	ST2
MASM17	Time Series Analysis	7,5	AT2	AT2
MASM18	Financial Statistics	7,5	AT2	AT2
MASM22	Linear and Logistic Regression	7,5	ST2	ST2
MASM24	Valuation of Derivative Assets	7,5	AT1	AT1
MASM25	Spatial Statistics with Image Analysis	7,5	AT2	AT2
MASM27	Nonparametric Inference	7,5	ST1	ST1

\*\* Taught partially in Denmark

# NUMERICAL ANALYSIS

Bachelor's level

Website about the courses:

http://www.maths.lth.se/education/free-standing-courses/numerical-analysis-science-faculty/

ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

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Code	Course name	Credits	Start	End
NUMA01	Computational Programming with Python	7,5	ST2	ST2
			AT2	AT2
NUMA11	Numerical Linear Algebra	7,5	AT1	AT1
NUMA41	Numerical Analysis - Basic Course	7,5	ST2	ST2
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## Master's level

*ST* = *Spring term, AT* = *Autumn term* 1 = *First half of the term,* 2 = *Second half of the term* 

Code	Course name	Credits	Start	End
NUMN05	Numerical Analysis - Basic Course	7,5	ST1	ST1
NUMN12	Simulation Tools	7,5	AT2	AT2
NUMN14	Finite Volume Methods	7,5	ST2	ST2
NUMN17	Numerical Analysis - Seminar	7,5	ST1	ST2
NUMN19	Numerical Approximation	7,5	ST1	ST1
NUMN25	Advanced Course in Numerical Algorithms with Python/SciPy	7,5	AT1	AT1
NUMN30	Iterative Solution of Large Scale Systems in Scientific Computing	7,5	ST2	ST2

## PHYSICAL GEOGRAPHY AND ECOSYSTEM SCIENCE

Website about the courses: https://www.nateko.lu.se/education

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ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
NGEA01	Introduction to the Global Environment	15	AT1	AT1
NGEA03	Remote Sensing for Landscape Studies	15	ST2	ST2
NGEA04	Physical Geopgraphy: Ecosystems Analysis	15	ST2	ST2
NGEA05	Remote Sensing and GIS with Focus on the Environment	15	ST1	ST1
NGEA07	Theory and Methods of Physical Geography	15	AT2	AT2
NGEA17	Synoptic/Mesoscale Meteorology	7,5	AT2	AT2
NGEA20	Hydrology	15	ST1	ST1
NGEA21	The Climate System	15	ST1	ST1
NGEA24	Dynamic Meteorology 1	7,5	ST2	ST2
NGEA25	Dynamic Meteorology 2	7,5	AT1	AT1

#### Master's level

ST = Spring term, AT = Autumn term 1 = First half of the term, 2 = Second half of the term

Code	Course name	Credits	Start	End
NGEN01	Climate Change and its Impacts on the Environment	15	AT2	AT2
NGEN02	Ecosystem Modeling	15	ST1	ST1
NGEN06	Algorithms in Geographical Information Systems	7,5	AT2	AT2
NGEN07	Web GIS	7,5	AT2	AT2
NGEN08	Satellite Remote Sensing	15	ST2	ST2
NGEN11	Spatial Analysis	7,5	ST1	ST1
NGEN12	Geographical Databases	7,5	ST1	ST1
NGEN13	Programming for Applications in Geomatics, Physical Geography and Ecosystem Science	15	AT1	AT1
NGEN16	Biosphere-Atmosphere Interactions	15	AT1	AT1
NGEN17	Global Ecosystem Dynamics	15	AT2	AT2

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