



ADMISSION CRITERIA FOR MASTER'S DEGREE PROGRAMMES AT THE FACULTY OF SCIENCE OF THE UNIVERSITY OF HELSINKI 2012

13 September 2011

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1. LANGUAGE REQUIREMENTS FOR THE MASTER'S DEGREE PROGRAMMES

Applicants for the Master's programmes are required to have sufficient English language proficiency. Applicants' language skills will be deemed sufficient if their Finnish Bachelor's degree includes compulsory studies in English as a foreign language or if they have completed one of the following:

- Upper-secondary studies in English in the Nordic Countries (Finland, Sweden, Norway, Denmark and Iceland), Great Britain, Ireland, the US, Canada, Australia or New Zealand
- An International Baccalaureate with English as the A1 language with an approved grade (minimum grade of 2) or with English as the A2 language with a minimum grade of 5
- A European Baccalaureate with English as the LI language with an approved grade (minimum grade of 4) or with English as the LII language with a minimum grade of 7
- An English-language university degree in an EU or EEA country, the US, Canada, Australia or New Zealand

If the applicant has not completed his or her degree by the end of the application period, he or she must enclose with the application a certificate attesting that the language of the degree is English.

Furthermore, the following standardised language tests passed with the minimum grade or score specified below will be considered proof of sufficient English skills:

- Test of English as a Foreign Language (TOEFL):
580 on the paper-based test (PBT) or
92 on the internet-based test (iBT)
- Certificate of Proficiency in English (CPE): pass levels A, B or C
- Certificate in Advanced English (CAE): pass levels A, B or C
- International English Language Testing System (IELTS): score 6.5, with a minimum of 5.5 for each section
- The University of Helsinki Language Services test: an average score of 5
- The National Certificate of Language Proficiency test given by the Finnish National Board of Education: an average score of 5

In special cases, the admissions board may at its discretion apply the above language requirements in a flexible manner.

2. THE NUMBER OF STUDENTS TO BE ADMITTED

The Board of the University of Helsinki has decided separately on the number of students to be admitted. In 2012, the number of students to be admitted to pursue the Master's degree programmes will be as follows:

Advanced Spectroscopy in Chemistry	10
Atmosphere-Biosphere Studies	10
Space Sciences	10
Bayesian Statistics and Decision Analysis	8
Bioinformatics	15
CBU-ICT	5
European Studies	4
Modeling Molecules and Nanosystems	10

3. MASTER'S DEGREE PROGRAMME IN ADVANCED SPECTROSCOPY IN CHEMISTRY

Students admitted to the Master's Degree Programme in Advanced Spectroscopy in Chemistry (ASC) at the Faculty of Science, University of Helsinki, pursue a Master of Science degree with a major in advanced spectroscopy in chemistry consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years.

The University of Helsinki will organise the programme in collaboration with the following partner universities: Université Lille 1 (France), University of Bergen (Norway), Università degli Studi di Bologna (Italy), Jagiellonian University in Krakow (Poland), University of Leipzig (Germany) and Universidad Complutense de Madrid (Spain). At the University of Helsinki, the Master's degree programme is coordinated by the Laboratory of Organic Chemistry, Department of Chemistry, and the programme director is Professor Kristiina Wähälä.

The European Commission selected the ASC Master's Degree Programme as an Erasmus Mundus Programme in October 2007.

The Master's degree programme includes compulsory studies of at least one academic term completed at a partner university. Students may transfer to the partner universities during the second term of their studies at the earliest.

In addition to their diploma from the University of Helsinki, graduates of the Master's degree programme will receive an English-language Joint Master's Degree diploma signed by the international academic board of the ASC Master's Degree Programme.

3.1 Programme fees

Students in the ASC programme will pay an annual programme fee. This fee will be EUR 2,000 for students from EU and EEA countries, and EUR 4,000 for students from outside Europe. The total cost of the degree for students from EU and EEA countries will be EUR 4,000, and EUR 8,000 for students from outside Europe. Students will pay the fee to the account of the university coordinating the programme (Université Lille 1). Admitted students may be exempted from the fees on the basis of their study performance or economic situation (tuition waivers). Tuition will be free of charge for students from EU and EEA countries beginning their studies at the University of Helsinki.

3.2 Eligible applicants

Eligible applicants for the Master's Degree Programme in Advanced Spectroscopy in Chemistry will have completed a Bachelor of Science degree in chemistry (Chemistry Eurobachelor Label) or an equivalent qualification in Finland or another country and must be proficient in English. The degree must be completed by the following dates: mid-April 2012 for applicants from outside EU and EEA countries as well as applicants from EU and EEA countries applying for an Erasmus Mundus grant; 30 June 2012 for applicants from EU and EEA countries who are not applying for an Erasmus Mundus grant.

3.3 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

3.4 How to apply

The universities participating in the Master's Degree Programme in Advanced Spectroscopy in Chemistry will arrange a joint international selection process for the programme. The selection criteria will be identical for all the universities in the programme. On their application form, applicants must rank the institutions in order of preference by indicating the university where they wish to begin their studies and then indicating those universities where they wish to complete studies during their second, third or fourth term.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. The right to complete a degree will be granted to students beginning their studies at the University of Helsinki as well as to students transferring to the University of Helsinki at a later stage of their studies.

Application instructions are available from the Master's Degree Programme in Advanced Spectroscopy in Chemistry website at <http://www.master-asc.org/>.

The completed application form must be accompanied by a copy of the applicant's diploma, an official transcript of completed studies, a CV and two letters of reference. In addition, applicants must enclose a motivation letter describing personal goals and reasons for wishing to pursue studies in this field. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 15 January 2012 for applicants from outside EU and EEA countries as well as applicants from EU and EEA countries applying for an Erasmus Mundus grant. The application period will close on 31 May 2012 for applicants from EU and EEA countries who are not applying for an Erasmus Mundus grant.

3.5 Selection criteria

Eligible applicants for the Master's Degree Programme in Advanced Spectroscopy in Chemistry must have sufficient proficiency in English and have completed an appropriate first-cycle degree (Bachelor's degree) or an equivalent qualification by the following dates: mid-April 2012 for applicants from outside EU and EEA countries as well as applicants from EU and EEA countries applying for an Erasmus Mundus grant, and 30 June 2012 for applicants from EU and EEA countries who are not applying for an Erasmus Mundus grant.

The selection will be based on the level of grades of the completed Bachelor's degree (or an equivalent qualification). Other studies related to spectroscopy will be considered an advantage.

3.6 Decision on admission

The results of student selection will be announced as follows: mid-April 2012 for applicants from outside EU and EEA countries as well as applicants from EU and EEA countries applying for an Erasmus Mundus grant; 30 June 2012 for applicants from EU and EEA countries who are not applying for an Erasmus Mundus grant. Applicants will be informed of the decision by email, in addition to which admitted students will be informed of the results of the selection process by post.

3.7 Advice and further information

Advice and further information can be obtained from the Student Affairs Office, Faculty of Science, address: P.O. Box 44, Jyrängöntie 2, 00014 University of Helsinki, tel. +358 9 191 50066 or +358 9 191 50065, open Mon-Fri 10.00-15.00, ml-neuvonta@helsinki.fi, <http://www.helsinki.fi/facultyofscience/index.html>.

University Instructor Leena Kaisalo, tel. +358 9 191 50395, leena.kaisalo@helsinki.fi

4. MASTER'S DEGREE PROGRAMME IN ATMOSPHERE-BIOSPHERE STUDIES

Students admitted to the Master's Degree Programme in Atmosphere-Biosphere Studies (ABS) at the Faculty of Science pursue a Master of Science degree with a major in physics or meteorology consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years. The programme will be offered in English.

The University of Helsinki will organise the programme in collaboration with the following partner universities: the University of Eastern Finland, the University of Lund, the University of Gothenburg, Stockholm University, the University of Copenhagen, Aarhus University, the Technical University of Denmark, the University of Tartu and the Estonian University of Life Sciences. At the University of Helsinki, instruction will take place at the Faculty of Science and the Faculty of Agriculture and Forestry.

The programme will provide students with a multifaceted education in atmospheric sciences, covering physical phenomena, air chemistry, meteorology and interactions between the atmosphere and biosphere. Students are offered two specialist options: general atmospheric science and biogeochemical cycles. Although students will specialise in one of these options, they will also become acquainted with the basic principles of the other field. The aim is to produce Master's degree holders able to compete successfully in a range of sectors and to provide a sound basis for working with environmental issues.

The admissions board of the Faculty of Science will be responsible for student selection for the Master's Degree Programme in Atmosphere-Biosphere Studies.

4.1 Eligible applicants

Eligible applicants for the Master's Degree Programme in Atmosphere-Biosphere Studies will have completed an appropriate first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012 and must be proficient in English.

4.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

4.3 How to apply

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions/>. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies in addition to a motivation letter describing personal goals and reasons for applying. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

4.4 Selection criteria

Eligible applicants for the Master's Degree Programme in Atmosphere-Biosphere Studies must have sufficient proficiency in English and will have completed

- a) an applicable first-cycle degree or an equivalent qualification by 31 July 2012, and
- b) a minimum of 60 credits of studies in the physical sciences, chemistry, biosciences or technology.

The selection will be based on the quality and grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope, applicability and level of credits completed in the physical sciences, chemistry, biosciences or technology as well as on the applicant's motivation letter.

4.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

4.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

Further information about the Master's Degree Programme in Atmosphere-Biosphere Studies is available at <http://www.atm.helsinki.fi/ABS/> and from Dr Antti Lauri, Coordinator, Department of Physics, Division of Atmospheric Sciences, P.O. Box 48, Erik Palménin aukio 1, 00014 University of Helsinki, Finland, tel. +358 9 191 50718, antti.lauri@helsinki.fi.

5. MASTER'S DEGREE PROGRAMME IN SPACE SCIENCES

Students admitted to the Master's Degree Programme in Space Sciences at the Faculty of Science pursue a Master of Science degree with a major in space sciences consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years.

Instruction will take place primarily at the Department of Physics of the University of Helsinki and the language of instruction will be English. Students may also, according to their personal study plan, take courses offered by the Master's Degree Programme in Space Science and Technology at the Aalto University School of Science and Technology. The Finnish Meteorological Institute participates in the supervision of theses and dissertations within the framework of the Kumpula Space Centre.

The programme aims to educate high-level experts for research, advisory and training positions in both Finnish and international organisations.

The admissions board of the Faculty of Science will be responsible for student selection for the Master's Degree Programme in Space Sciences.

5.1 Eligible applicants

Eligible applicants for the Master's Degree Programme in Space Sciences will have completed an appropriate first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012 and must be proficient in English. In particular, applicable Bachelor's degrees or equivalent qualifications include those in physics, geophysics, meteorology, theoretical physics and astronomy, or degrees or qualifications from a university of technology providing a sufficient basis in physics.

5.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

5.3 How to apply

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the

Faculty of Science must place these programmes in order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions/>. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies in addition to a motivation letter describing personal goals and reasons for applying. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

5.4 Selection criteria

Eligible applicants for the Master's Degree Programme in Space Sciences will have completed an appropriate first-cycle degree or an equivalent qualification by 31 July 2012 and must have sufficient proficiency in English.

The selection will be based on the quality and grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope and level of credits completed in the physical sciences as well as on the applicant's motivation letter.

Studies in the following areas will be given special emphasis: astronomy and/or physics.

5.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

5.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

Professor in charge of the programme:

Professor Hannu Koskinen (hannu.e.koskinen@helsinki.fi)

Contact persons:

University Lecturer Juhani Huovelin (juhani.huovelin@helsinki.fi)

University Lecturer Rami Vainio (rami.vainio@helsinki.fi)

6. MASTER'S DEGREE PROGRAMME IN BAYESIAN STATISTICS AND DECISION ANALYSIS

Students admitted to the Master's Degree Programme in Bayesian Statistics and Decision Analysis at the Faculty of Science pursue a Master of Science degree with a major in statistics consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years.

The objective of the programme is to educate experts in data analysis and decision theory, with special emphasis on modern Bayesian methods. Based on probability calculus, the Bayesian paradigm is used in statistics to examine learning founded on empirical knowledge and decision making based on such knowledge. In practice, the methods of Bayesian

deduction are applied in numerous areas both in research and in resolving daily problems. Over the past decade, the popularity of the Bayesian paradigm increased considerably and continues to increase. This may be attributed to the need to develop mathematical models to describe complex research data that are often structurally hierarchical and mutually dependent, and to the development of efficient Markov Chain Monte Carlo (MCMC) simulation methods which allow the results of data analysis to be reported in concrete numerical terms. The considerable methodological development that has occurred has also led to the need to train experts with the ability to apply and use the new methods.

The admissions board of the Faculty of Science will be responsible for student selection for the Master's Degree Programme in Bayesian Statistics and Decision Analysis.

6.1 Eligible applicants

Eligible applicants for the Master's Degree Programme in Bayesian Statistics and Decision Analysis will have completed an appropriate first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012 and must be proficient in English. Applicable Bachelor's degrees include, in particular, science and engineering degrees completed at universities and other institutions of higher education.

6.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

6.3 How to apply

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions/>. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies. In addition, applicants must enclose a motivation letter describing personal goals and reasons for applying. The motivation letter must contain a brief CV. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

6.4 Selection criteria

Eligible applicants for the Master's Degree Programme in Bayesian Statistics and Decision Analysis must have sufficient proficiency in English and will have completed

- a) an applicable first-cycle degree or equivalent qualification by 31 July 2012, and
- b) at least 80 credits in statistics, mathematics or computer science.

The selection will be based on the quality and grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope and level of credits completed in statistics, mathematics and computer science as well as on the applicant's motivation letter. Studies in the following areas will be given special emphasis: mathematical analysis, linear algebra and probability calculus.

6.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

6.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

Programme coordinator: University Lecturer Sirkka-Liisa Varvio
<http://wiki.helsinki.fi/display/mathstatHenkilokunta/Varvio,+Sirkka-Liisa>

7. MASTER'S DEGREE PROGRAMME IN BIOINFORMATICS

Students admitted to the Master's Degree Programme in Bioinformatics (MBI) pursue either a Master of Science degree with a major in bioinformatics at the Faculty of Science, University of Helsinki, or a Master of Science (Technology) degree with a major in bioinformatics in the Degree Programme of Computer Science and Engineering at the Aalto University School of Science. Both of the above second-cycle degrees consist of 120 (ECTS-compatible) credits and the target duration of both is two years. The programme will be arranged jointly by the University of Helsinki and the Aalto University School of Science. At the University of Helsinki, instruction will be provided by the Faculty of Science, the Faculty of Biological and Environmental Sciences, the Faculty of Medicine and the Faculty of Agriculture and Forestry and at the Aalto University School of Science, by the Department of Computer and Information Science.

In the academic year 2012-2013, all compulsory courses of the programme will be offered in English. Applications are invited from international applicants, and proficiency in English is a prerequisite for admission.

The programme aims to produce high-level experts in methodological bioinformatics for positions in bio-medical research and product development and to provide a strong basis for postgraduate studies in the development of methods and techniques in bioinformatics. Instruction is based on the research of world-class research groups working in close connection with the programme.

The admissions board of the Faculty of Science will be responsible for selecting students to the University of Helsinki.

7.1 Eligible applicants

Eligible applicants for the Master's Degree Programme in Bioinformatics will have completed an appropriate first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012 and must be proficient in English.

7.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

7.3 How to apply

Two separate application processes will be organised for the Master's Degree Programme in Bioinformatics, one for the University of Helsinki and one for the Aalto University School of Science. Both universities will be responsible for their own student selection, but they will apply selection criteria that are as uniform as possible. Below, the selection criteria for the University of Helsinki are discussed in closer detail.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted to the University of Helsinki. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions/>.

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies. In addition, applicants must enclose a motivation letter describing personal goals and reasons for applying. The motivation letter must contain a brief CV. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

7.4 Selection criteria

Eligible applicants for the Master's Degree Programme in Bioinformatics must have sufficient proficiency in English and will have completed

- a) an applicable first-cycle degree or an equivalent qualification by 31 July 2012, and
- b) at least 60 credits in the methodological sciences (mathematics, statistics, computer science or information technology), or studies associated with bioinformatics.

The selection will be based on the quantity, quality and level of grades of completed studies in the methodological sciences and bioinformatics as well as on the motivation letter. Applicable studies in biology and medicine will be considered an advantage.

7.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

7.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

Programme coordinator: University Lecturer Juho Rousu,
<http://www.cs.helsinki.fi/u/rousu/>,
bioinfo@cs.helsinki.fi.

8. MASTER'S DEGREE PROGRAMME IN EUROPEAN STUDIES

The Master's Degree Programme in European Studies is an international multidisciplinary programme offered by the University of Helsinki, involving five disciplines from three faculties, namely geography (Faculty of Science), general history (Faculty of Arts) as well as

political science, social science history and economic and social history (Faculty of Social Sciences). The University of Helsinki Network for European Studies (NES) is responsible for the practical coordination of the programme.

The programme provides students with insight into the study and understanding of Europe, especially from the perspectives of social sciences, history as well as area and cultural studies. Besides major subject studies, the programme includes a variety of elective studies, which provide students with excellent opportunities to familiarise themselves with multidisciplinary European studies and to specialise in issues of personal interest.

Students admitted to the Master's Degree Programme in European Studies at the Faculty of Science pursue a Master of Science degree with a major in geography. Studies focus on human geography, which at the University of Helsinki concentrates on political, cultural, historical and economic geography. The studies emphasise an international perspective, qualitative methodologies, smooth scientific communication and learning from the everyday living environment. Graduates of the Master's Degree Programme in European Studies proceed to work in expert assignments in the public and private sectors, as European specialists who are broadly competent in themes concerning regions, borders and identity.

The scope of the Master's degree is 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years. Instruction will primarily be offered in English. Major subject courses in geography will be offered by the Department of Geosciences and Geography (University of Helsinki), in some cases in cooperation with, for example, the Department of World Cultures (Renvall Institute for Area and Cultural Studies, Faculty of Arts) and its programme European Area and Cultural Studies. Students may consult the programme coordinator and course teachers about substituting some courses or parts of them with supervised independent study or a written project.

Each participating faculty is responsible for the selection of its own students into the programme. At the Faculty of Science, the Faculty's admissions board will be responsible for student selection to the programme.

8.1 Eligible applicants

Eligible applicants for the Master's Degree Programme in European Studies must be proficient in English and will have completed an appropriate first-cycle degree or an equivalent qualification by 31 July 2012. Applicable Bachelor's degrees include, in particular, geography or area studies degrees completed at universities and other institutions of higher education.

8.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

8.3 How to apply

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in an order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions/>. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies in addition to

an English-language motivation letter describing personal goals and reasons for applying. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

8.4 Selection criteria

Eligible applicants for the Master's Degree Programme in European Studies must have sufficient proficiency in English and will have completed by 31 July 2012

- a) an applicable first-cycle degree or equivalent qualification, and
- b) at least 60 credits in geography and/or area studies.

The selection will be based on the quality and grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope and level of credits completed in geography and area studies as well as on the applicant's motivation letter.

In the selection of students, previous studies in area studies may be considered an advantage.

8.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

8.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

At the Department of Geosciences and Geography, Professor Markku Löytönen (markku.loytonen@helsinki.fi) is in charge of the Master's Degree Programme in European Studies.

Programme coordinator: Leena Malkki, leena.malkki@helsinki.fi, tel. +358 9 191 28880.

9. INTERNATIONAL CBU MASTER'S DEGREE PROGRAMME IN INFORMATION AND COMMUNICATIONS TECHNOLOGY

Students admitted to the International Master's Degree Programme in Information and Communications Technology (CBU-ICT) at the Faculty of Science pursue a Master of Science degree with a major in computer science consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years.

The CBU-ICT Master's programme is one of six international Master's degree programmes in the Finnish-Russian Cross-Border University project. In this programme, instruction is provided in English jointly by the University of Helsinki, the University of Eastern Finland, the Lappeenranta University of Technology, Saint Petersburg State University, Saint Petersburg State Polytechnic University and Petrozavodsk State University. At the University of Helsinki, the programme is coordinated by the Department of Computer Science.

The studies will comprise compulsory core studies provided by the home university, a compulsory CBU module, elective expertise modules, a project or a practical training period, and a Master's thesis. With the exception of the compulsory courses offered by the home university, studies can and should be completed in one or several partner universities outside Finland.

The purpose of the programme is to educate top-level experts for the needs of business. Besides their Master's degree, graduates will possess special competence in cross-border cooperation, which will facilitate their recruitment in the international job market.

Students will be selected for the programme within the framework of the Finnish joint application system. The admissions board of the Faculty of Science will be responsible for selecting students to the University of Helsinki.

9.1 Eligible applicants

Eligible applicants for the CBU Master's Degree Programme will have completed an appropriate first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012, and must be proficient in English. Applicable Bachelor's degrees include, in particular, science and engineering degrees completed at universities and other institutions of higher education.

9.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

9.3 How to apply

The University of Helsinki, the University of Eastern Finland and the Lappeenranta University of Technology will arrange a joint selection process for the CBU Master's Degree Programme. The selection criteria will be identical for all the universities in the programme.

In the joint application system, students may apply for admission to all the above-listed universities. Applicants must rank the institutions in order of preference on their application form. This order is binding and cannot be changed after the closing of the application period. An applicant can be selected to only one of the institutions participating in the joint application system. Once an applicant has been admitted to one of the institutions, he or she may not queue for a place at his or her preferred institution.

Applicants shall submit their applications to the institution marked as their first choice.

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in an order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Applicants who have followed the application instructions and fulfil the admission requirements of the Faculty of Science will be admitted. Application instructions are available at the How to apply webpage of the University of Helsinki at <http://www.helsinki.fi/admissions>. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies in addition to a motivation letter describing personal goals and reasons for applying. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

The application period will close on 31 January 2012 at 16.15 local Helsinki time. Late applications will not be considered.

9.4 Selection criteria

Eligible applicants for the CBU-ICT Master's Degree Programme will have completed an applicable first-cycle degree or an equivalent qualification by 31 July 2012 and must have sufficient proficiency in English.

The selection will be based on the quality and grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope and level of credits completed in computer science or ICT as well as on the applicant's motivation letter. The completed Bachelor's degree (or an equivalent qualification) must have a minimum score of 4/5 (GPA 80%).

9.5 Decision on admission

The results of student selection will be announced on 16 April 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

9.6 Advice and further information

Advice and further information can be obtained from University of Helsinki Admission Services, address: Fabianinkatu 33, 2nd floor, 00014 University of Helsinki, Finland, admissions@helsinki.fi, tel. +358 9 191 22604.

Programme coordinator: Professor Jussi Kangasharju, jussi.kangasharju@cs.helsinki.fi, tel. +358 9 191 51379.

Further information can also be obtained from University Lecturer Tiina Niklander, tiina.niklander@cs.helsinki.fi, tel +358 9 191 51370.

10. MASTER'S DEGREE PROGRAMME IN MODELING MOLECULES AND NANOSYSTEMS

The MoMoNano programme is part of the Nordic consortium of Master's degree programmes in computational chemistry and physics (NOCCAP). The other universities in the consortium include the University of Tromsø (Norway); the Royal Institute of Technology, Stockholm (Sweden); the University of Gothenburg (Sweden); and the University of Iceland, Reykjavik.

Students admitted to the Master's Degree Programme in Modeling Molecules and Nanosystems (MoMoNano) at the Faculty of Science pursue a Master of Science degree with a major in physics or chemistry consisting of 120 (ECTS-compatible) credits. The target duration for the completion of this second-cycle degree is two years. The programme will be offered in English.

The programme provides graduates with a versatile education in computational chemistry and physics. The programme offers two specialist options: chemistry and physics. Although students will specialise in one of these options, they will also become acquainted with the basic principles of the other field. The aim is to provide those earning the Master's degree with a solid grounding for careers in computational science.

A student participating in this Nordic Master's degree programme must complete studies in one or several partner universities outside Finland.

The admissions board of the Faculty of Science will be responsible for student selection for the Master's Degree Programme in Modeling Molecules and Nanosystems.

9.1 Eligible applicants

Eligible applicants for the MoMoNano Master's Degree Programme will have completed an applicable first-cycle degree or an equivalent qualification in Finland or another country by 31 July 2012, and must be proficient in English. Applicable Bachelor's degrees include, in particular, degrees in physics, chemistry and nanoscience as well as engineering degrees providing an adequate basis in chemistry and physics, and degrees in applied mathematics and biosciences.

9.2 Language requirements

Applicants are required to have sufficient proficiency in English (see page 1).

9.3 How to apply

The Faculty of Science admissions board may grant the right to pursue studies in the MoMoNano Master's Degree Programme to a student admitted into the Nordic Master's Programme in Computational Chemistry and Physics (NOCCAP). Applications for the joint Nordic Master's programme must be submitted to the University of Tromsø admission office. For further information about application periods, admission requirements and the application process, see <http://www.noccap.org/application/>.

Applicants who have followed the application instructions and fulfil the admission requirements will be admitted. The completed application form must be accompanied by a copy of the applicant's diploma and an official transcript of completed studies in addition to a motivation letter describing the applicant's personal goals and reasons for applying. All documents accompanying the application must be either originals or officially certified copies. A copy can be officially certified by the issuing educational institution or a notary public.

Application for the Faculty of Science Master's degree programmes is part of the international admission process of the University of Helsinki. Applicants to the University of Helsinki may apply for a maximum of three academic programmes, and applicants to the Faculty of Science must place these programmes in order of preference. This order cannot be changed or amended after the closing of the application period. Applicants who have applied for several programmes in the Faculty of Science, provided that they fulfil the admission requirements, will be admitted to a degree programme or a Master's degree programme according to their indicated order of preference.

Information about the application period and instructions for the application process will be posted on the NOCCAP website at <http://www.noccap.org/application/>. Late applications will not be considered.

9.4 Selection criteria

Eligible applicants for the MoMoNano Master's Degree Programme will have completed an applicable first-cycle degree or equivalent qualification by 31 July 2012 and must have sufficient proficiency in English. The completed Master's degree (or equivalent qualification) must include studies in the natural sciences (chemistry, physics, nanoscience).

The selection will be based on the level of grades of the completed Bachelor's degree (or an equivalent qualification) and on the scope and level of credits completed in the natural sciences (chemistry, physics, nanoscience) as well as on the applicant's motivation letter.

9.5 Decision on admission

The results of student selection will be announced by 31 May 2012. Applicants will be informed of the decision by email. In addition, admitted students will be informed of the results of the selection process by post.

9.6 Advice and further information

Advice and further information can be obtained from the Department of Academic Affairs, International Office, University of Tromsø, NO-9037 Tromsø Norway, fax: +47 77 62 32 10, international@uit.no.

Nordic consortium of Master's degree programmes in computational chemistry and physics (NOCCAP) website: <http://www.noccap.org/>.

MoMoNano programme website: <http://www.helsinki.fi/momonano/>. Coordinator: Dr Janne Pesonen, Department of Chemistry, Laboratory for Instruction in Swedish, P. O. Box 55, A. I.

10. APPEALS

Applicants dissatisfied with the admissions decision may appeal in writing within 14 days of the announcement of the decision. In their appeal, applicants must specify the decision they are appealing and state the grounds for the appeal.

11. ACCEPTANCE OF A PLACE IN A DEGREE PROGRAMME

Details on enrolment and the procedure for accepting a study place will be provided separately to successful applicants by post. Admitted students who fail to notify the University of their acceptance of a study place and who fail to submit the relevant documents by the date determined by the University will lose their right to pursue studies.

11.1 Deferring the commencement of studies

As a rule, students admitted into the Faculty who have accepted their study place must enrol as attending students for the first term. The admissions board may, on the basis of a reasoned application, grant a student the right to postpone the commencement of his or her studies by a year at the most. The application for deferment must be submitted in writing and be enclosed with the documents concerning the acceptance of the study place. The application must be submitted by the date set for the acceptance of the study place at the latest.

The right to postpone the commencement of studies may be granted on the basis of voluntary military service or conscription, maternity, paternity or parental leave, a serious illness or disability (doctor's certificate required), or other compelling reasons. Studies elsewhere, employment or a stay abroad will not entitle an admitted student to postpone the commencement of studies.