Master Programme in Mathematics 2017/2018

Do you enjoy mathematics and want to take your skills to the next level? As a student at the Master Programme in Mathematics you will gain deeper insights in most major and modern areas of mathematics. You will be able to keep yourself updated on recent research, since all teachers at the programme are active researchers. If you instead are interested in using mathematics in real life, you can choose to study mathematical modelling and obtain expertise necessary in many different areas of applications.

ABOUT THE PROGRAMME

The Master Programme in Mathematics at Uppsala University has three specialisations – Mathematics, Financial Mathematics, and Applied Mathematics and Statistics. In all three specialisations you have a great opportunity to select courses according to your interests and build a unique study profile.

Financial Mathematics

If you choose Financial Mathematics, you will begin your studies with economics and the mathematical theory of financial derivatives. Then you will study advanced courses in which you will deepen your knowledge of mathematical statistics and mathematical analysis with applications in finance. The programme includes training in performing extensive calculations and computer simulations of financial phenomena. This combination between mathematics, finance and simulations will give you with good prospects for a successful career in the financial sector.

If you are interested in mathematical aspects of finance will have the option to choose a more theoretical path. This focus will prepare you for further doctoral studies if you want to invest in a career in research.

Mathematics

Within the Mathematics specialisation, you can take a wide range of courses in algebra, analysis, geometry and probability theory. You will get a more thorough understanding of the logical and conceptual relationships between the mathematical concepts that you previously studied. On the one hand, you will see them in a more general and modern context, on the other hand you will study them in greater detail and with greater depth. In this way, your knowledge in mathematics will evolve to become both more general and more useful.

The specialisation’s focus on both breadth and depth will provide you with a strong theoretical foundation, which will be of great benefit if you choose to continue to graduate studies and pursue a career in research. You can also get additional perspectives on the mathematical theory by combining your theoretical studies with courses from other disciplines.
**Applied Mathematics and Statistics**

If you study Applied Mathematics and Statistics, you will learn how to use advanced methods for stochastic modelling of random phenomena, primarily in the natural sciences, medicine, technology and economics. You will also obtain sound knowledge in dynamical systems and see how they can be used to understand real life occurrences. After finishing your studies you will have the tools needed for describing the real world with mathematics.

Also within this specialisation, students who are interested in the mathematical aspects of the applications will have the opportunity to choose a more theoretical path. Uppsala University conducts successful research in applied mathematics and statistics, in areas like analysis of time series and computer-aided proofs in analysis. Some of our researchers develop mathematical models in science, in close collaboration with researchers in other fields. As a student of Applied Mathematics and Statistics, you will be provided with solid foundation for further doctoral studies if you want to pursue a career in research.

**DEGREE**

The programme leads to a Master of Science (120 credits) with Mathematics or Financial Mathematics as the main field of study. After one year of study it may also be possible to obtain a Master of Science (60 credits).

**INSTRUCTION**

Instruction is conducted mainly in the form of lectures, tutorials and seminars, and the language is English. The programme takes place in Uppsala.

The tutors belong to the various research groups at the Department of Mathematics. These groups are very active and hold regular seminars where master students are welcome to attend.

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**CAREER**

For a professional career outside the university, you should combine your advanced mathematical knowledge with an applied subject. You can give your programme a unique profile by choosing courses in other areas, such as scientific computing, systems engineering and computer science. This profile will enable you to successfully compete with graduate engineers and scientists on the labour market.

Studies in mathematics will give you important skills for many areas where mathematical modelling plays a central role. Mathematicians are found in many industries and often work with forecasting and planning. Qualified mathematical statisticians are needed in insurance companies, banks, pharmaceutical companies etc. The labour market for financial mathematicians has been good in recent years, and the future outlook is deemed by all forecasters to be bright. Complex financial instruments are used not only in the pure finance sector but also, for example, by the manufacturing industry to secure future deliveries of raw materials with the help of forward transactions and options rather than maintaining large inventories. Traditional knowledge of economics is not sufficient to manage such financial instruments, which means that advanced mathematical and computational techniques are also required.

All three specialisations will enable you to continue with doctoral studies in one or several of the mathematical fields: mathematics, applied mathematics, mathematical statistics and financial mathematics.
APPLICATION AND REQUIREMENTS

FINANCIAL MATHEMATICS
120 credits
Autumn 2017 100% Campus
Location: Uppsala
Application Deadline: 2016-01-15
Enrolment Code: UU-M1423
Language of Instruction: English
Requirements:
Academic requirements
A Bachelor’s degree, equivalent to a Swedish Kandidatexamen, from an internationally recognised university.
Also required is 90 credits in mathematics with 20 credits in probability theory, programming and/or numerical analysis.

Language requirements
All applicants need to verify English language proficiency. This is normally attested by an internationally recognised test such as TOEFL or IELTS with the following minimum scores:
- IELTS: an overall mark of 6.5 and no section below 5.5
- TOEFL: Paper-based: Score of 4.5 (scale 1–6) in written test and a total score of 575. Internet-based: Score of 20 (scale 0–30) in written test and a total score of 90
- Cambridge: CAE, CPE

Exemptions for students from certain countries.

Selection: Students are selected based on:
- a total appraisal of quantity and quality of previous university studies; and
- a statement of purpose (1 page).

Fees: If you are not a citizen of a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are required to pay application and tuition fees. Read more about fees.

Application Fee: SEK 900
Tuition fee, first semester: SEK 72500
Tuition fee, total: SEK 290000

MATHEMATICS
120 credits
Autumn 2017 100% Campus
Location: Uppsala
Application Deadline: 2016-01-15
Enrolment Code: UU-M1425
Language of Instruction: English
Requirements:
Academic requirements
A Bachelor’s degree, equivalent to a Swedish Kandidatexamen, from an internationally recognised university.
Also required is 90 credits in mathematics.

Language requirements
All applicants need to verify English language proficiency. This is normally attested by an internationally recognised test such as TOEFL or IELTS with the following minimum scores:
- IELTS: an overall mark of 6.5 and no section below 5.5
- TOEFL: Paper-based: Score of 4.5 (scale 1–6) in written test and a total score of 575. Internet-based: Score of 20 (scale 0–30) in written test and a total score of 90
- Cambridge: CAE, CPE

Exemptions for students from certain countries.

Selection: Students are selected based on:
- a total appraisal of quantity and quality of previous university studies; and
- a statement of purpose (1 page).

Fees: If you are not a citizen of a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are required to pay application and tuition fees. Read more about fees.

Application Fee: SEK 900
Tuition fee, first semester: SEK 72500
Tuition fee, total: SEK 290000
Applied Mathematics and Statistics

120 credits

Autumn 2017 100% Campus

Location: Uppsala

Application Deadline: 2016-01-15

Enrolment Code: UU-M1426

Language of Instruction: English

Requirements:

Academic requirements
A Bachelor’s degree, equivalent to a Swedish Kandidatexamen, from an internationally recognised university.
Also required is 90 credits in mathematics with 20 credits in probability theory, programming and/or numerical analysis.

Language requirements
All applicants need to verify English language proficiency. This is normally attested by an internationally recognised test such as TOEFL or IELTS with the following minimum scores:

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Tuition fee, total: SEK 290000

Contact & More Info

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For general information about Master’s studies at Uppsala University, please send an email to: masterprogrammes@uu.se