Agenda

• General Information – Application Process, Programmes and Courses
• Courses in Mathematics
• Courses in Mathematical Statistics
• Courses in Numerical Analysis
• Courses in Physics
• Courses in Economics
Admission Round for Courses – Autumn 2018

• Application round is open 15 March – 16 April on antagning.se

• Programme students
  – Apply within the programme! Some courses are only available within the programme
  – Study place guarantee within the programme for courses given by Faculty of Science
  – Check prerequisites!

• Stand-alone courses
  – Are available at other institutions, no study place guarantee
  – For courses at LTH – apply for special studies no later than 16 April
Bachelor’s Programme in Mathematics

- 3 years, 180 higher education credits
- 3 main disciplines: Mathematics, Mathematical Statistics, Numerical Analysis

- Structure:
  - compulsory courses – first year, 60 credits
  - alternative-compulsory courses, 45 credits in mathematics, statistics, numerical analysis - chosen from pre-defined list
  - elective courses, 60 credits – at least 30 credits in other subjects
  - Bachelor´s Degree Project, 15 credits – MATK11 (new code), MASK01, NUMK01
Bachelor’s Programme in Mathematics

COMPULSORY COURSES

- First semester
  - MATA21 Analysis in One Variable, 15 hp
  - MATA22 Linear Algebra 1, 7.5 hp
  - NUMA01 Computational Programming with Python, 7.5 hp

- Second semester
  - MATB21 Analysis in Several Variables 1, 7.5 hp - half pace, first half
  - MATB22 Linear Algebra 2, 7.5 hp - half pace, first half
  - MATB23 Analysis in Several Variables 2, 7.5 hp - half pace, second half
  - MATA23 Foundations of Algebra, 7.5 hp - half pace, second half
Bachelor’s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

Mathematics

- MATB13 Discrete Mathematics, 7.5 hp
- MATB24 Linear Analysis, 7.5 hp (old code MATB16)
- MATC12 Ordinary Differential Equations 1, 7.5 hp
- MATM11 Algebraic Structures, 7.5 hp
- MATM12 Analytic Functions, 15 hp
- MATM15 Number Theory, 7.5 hp
Bachelor’s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

Mathematics – given in Autumn 2018

• MATB13 Discrete Mathematics, 7.5 hp
• MATB24 Linear Analysis, 7.5 hp
• MATC12 Ordinary Differential Equations 1, 7.5 hp
• MATM11 Algebraic Structures, 7.5 hp
• MATM12 Analytic Functions, 15 hp
• MATM15 Number Theory, 7.5 hp
Bachelor’s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

- Mathematical Statistics
  - MASA01 Mathematical Statistics, Basic Course, 15 hp
  - MASC01 Probability Theory, 7.5 hp
  - MASC02 Inference Theory, 7.5 hp
  - MASC03 Markov Processes, 7.5 hp
  - MASC04 Stationary Stochastic Processes, 7.5 hp
  - MASC05 Design of Experiments, 7.5 hp
Bachelor´s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

- Mathematical Statistics – given in Autumn 2018
  - MASA01 Mathematical Statistics, Basic Course, 15 hp
  - MASC01 Probability Theory, 7.5 hp
  - MASC02 Inference Theory, 7.5 hp
  - MASC03 Markov Processes, 7.5 hp
  - MASC04 Stationary Stochastic Processes, 7.5 hp
  - MASC05 Design of Experiments, 7.5 hp
Bachelor’s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

- Numerical Analysis
  - NUMA41 Basic Course in Numerical Analysis, 7.5 hp
  - NUMA11 Numerical Linear Algebra, 7.5 hp
  - NUMN19 Numerical Approximation, 7.5 hp (old code NUMA12)
Bachelor’s Programme in Mathematics

ALTERNATIVELY COMPULSORY COURSES

- Numerical Analysis – given in Autumn 2018
  - NUMA41 Basic Course in Numerical Analysis, 7.5 hp
  - NUMA11 Numerical Linear Algebra, 7.5 hp
  - NUMN19 Numerical Approximation, 7.5 hp
Bachelor’s Programme in Mathematics

ELECTIVE COURSES – 60 CREDITS

• 30 credits must be outside the mathematical disciplines

• More courses in mathematics, statistics and numerical analysis are available

• The complete list of courses (choose academic year 18/19)
  http://www ctr.maths.lu.se/education/mathematics-bachelor-s-programme/courses/

• See recommended study path on
  http://www.maths.lu.se/english/education/mathematics-bachelors-programme/programme-structure/recommended-study-path/
Bachelor’s Programme in Mathematics

OTHER RELEVANT COURSES – given in the Autumn 2018

- MATC20 Image Analysis, 7.5 hp - half pace, first half
- MATC51 Optimization, 7.5 hp - half pace, second half
- MATC70 Matrix Theory, 7.5 hp - quarter pace, whole semester
Bachelor’s Programme in Mathematics

DEGREE PROJECT- 15 CREDITS

• Can be done in
  – Mathematics – course code MATK11 (old code MATK01)
  – Mathematical Statistics - course code MASK01
  – Numerical Analysis – course code NUMK01

• These are only available within the programme! Before you apply contact
  – Anna-Maria Persson for MATK11
  – Magnus Wiktorsson for MASK01
  – Claus Führer för NUMK01
Master’s Programme in Mathematics

- 2 years, 120 higher education credits

- Two specialisations: Mathematics and Numerical Analysis

- Structure:
  - alternative-compulsory courses, 45 credits in mathematics/numerical analysis (chosen from pre-defined list, according to your specialisation)
  - elective courses, 45 credits (at most 30 credits at basic level)
  - degree project – Master’s thesis, 30 credits
Master’s Programme in Mathematics

• Course selection

  – First semester: courses are selected at the introductory meeting

  – Upcoming semester: you apply for the courses within your programme on antagning.se (deadline 16 April for courses in Autumn 2018)

  – Follow your specialisation, check prerequisites, consult the student counsellor

  – Practical information: http://www.maths.lu.se/english/education/mathematics-masters-programme/
Courses in Mathematics, Autumn 2018

UPPER BASIC LEVEL

- MATB24 Linear Analysis, 7.5 credits - half pace, first half
- MATB13 Discrete Mathematics, 7.5 hp - half pace, second half
- MATC12 Ordinary Differential Equations 1, 7.5 hp - half pace, second half
- MATC20 Image Analysis, 7.5 hp - half pace, first half
- MATC51 Optimization, 7.5 hp - half pace, second half
- MATC70 Matrix Theory, 7.5 hp - quarter pace, whole semester
Courses in Mathematics, Autumn 2018

ADVANCED LEVEL

• MATM12 Analytic Functions, 15 hp – half pace, whole semester
• MATM13 Differential Geometry, 7.5 hp – half pace, first half
• MATM15 Number Theory, 7.5 hp – half pace, second half
• MATM30 Mathematical Foundations of Probability, 7.5 hp – half pace, second half
• MATP15 Linear Functional Analysis, 7.5 hp - quarter pace, whole semester
• MATM25 Specialised Course in Linear Functional Analysis, 7.5 hp - quarter pace