



FIRST YEAR UNITRENTO (60 ECTS)
SECOND YEAR TÜBINGEN (60 ECTS)

FIRST YEAR: UniTrento (60 ECTS)	SECOND YEAR: Tübingen (60 ECTS)
Choose among: • Advanced Analysis (9 ECTS) • Advanced Geometry (9 ECTS) • Advanced Calculus of Variations (6 ECTS) • Algebraic Topology (6 ECTS) • Computational Algebra (6 ECTS) • Stochastic Processes (9 ECTS) • Mathematical Logic (6 ECTS) • Model Theory (6 ECTS) • Type Theory (6 ECTS) • Tensor Decomposition for Big Data Analysis (6 ECTS) • Homological Algebra (6 ECTS) • Algebraic Geometry I (6 ECTS) • Algebraic Geometry II (6 ECTS) • Coding Theory and Applications (6 ECTS) • Finite Fields and Symmetric Cryptography (6 ECTS) • Discrete Fourier Analysis (6 ECTS) • Partial Differential Equations (6 ECTS) • Numerical Methods for PDE (6 ECTS) • Mathematical Physics – Quantum Relativistic Theories (9 ECTS) • Mathematical Physics – Differential Geometric Methods (9 ECTS) • Mathematical Control Theory (6 ECTS) • Fourier Analysis (6 ECTS) • Mathematical Biology (9 ECTS) • Scientific Computing (9 ECTS) • Geometry and Topology for Data Analysis (6 ECTS) • Statistics of Stochastic Processes (6 ECTS) • Statistical Models (6 ECTS) • Stochastic Differential Equations (6 ECTS)	Choose 30 ECTS among: • Einführung in Kommutative Algebra und Algebraische Geometrie (10 ECTS) • Kommutative Algebra (10 ECTS) • Computeralgebra (10 ECTS) • Algebraische Geometrie (10 ECTS) • Algebraische Geometrie und Torische Varietäten (10 ECTS) • Algebraische Transformationsgruppen (10 ECTS) • Algebraische Zahlentheorie (10 ECTS) • Zahlentheorie und Kryptographie (10 ECTS) • Geometrie (10 ECTS) • Konvexe Geometrie (10 ECTS) • Algebraische Topologie (10 ECTS) • Algebraische Topologie 2 (10 ECTS) • Funktionalanalysis (10 ECTS) • Einführung in die Harmonische Analyse (10 ECTS) • Harmonische Analyse im euklidischen Raum (10 ECTS) • Einführung in Partielle Differentialgleichungen (10 ECTS) • Partielle Differentialgleichungen (10 ECTS) • Dynamische Systeme (10 ECTS) • Einführung in Geometrische Maßtheorie (10 ECTS)



- Mathematical Aspects of Bioelectromagnetism and Imaging (6 ECTS)
- Mathematical models for the Physical, Natural and Social Sciences (6 ECTS)
- Foundations of Analysis (6 ECTS)
- Foundations of Geometry (6 ECTS)
- Elementary mathematics from a Higher Viewpoint (6 ECTS)
- Experimental Mathematics Laboratory at School Level (6 ECTS)
- Laboratory of Didactics of Mathematics (6 ECTS)

Courses from BIO/, SECS_P/, SECS_S/, INF/01, ING-INF/, ING-IND/, ICAR/01-02,07, M-PED/, M-PSI/1-4, M-FIL/02,05, MED/01 offered by the Lauree Magistrali at the University of Trento can also be chosen, in agreement with the bilateral committee.

English language B2 level

- Geometrische Maßtheorie (10 ECTS)
- Einführung in Differentialgeometrie (10 ECTS)
- Einführung in Mathematische Physik (10 ECTS)
- Lie-Gruppen (10 ECTS)
- Geometry in Physics (10 ECTS)
- Mathematical Quantum Theory (10 ECTS)
- Mathematical Relativity (10 ECTS)
- Mathematical Statistical Physics (10 ECTS)
- Advanced Topics in Mathematical Quantum Theory (10 ECTS)
- Advanced Topics in Mathematical Relativity (10 ECTS)
- Advanced Topics in Mathematical Statistical Physics (10 ECTS)
- Algorithmen der Numerischen Mathematik (10 ECTS)
- Numerik stationärer Differentialgleichungen (10 ECTS)
- Wahrscheinlichkeitstheorie (10 ECTS)
- Kombinatorik (10 ECTS)
- Mathematische Statistik (10 ECTS)

THESIS (30 ECTS)

Course lists and dates may be subject to change. Students admitted to the DDP shall submit a study plan which has to be approved by the bilateral committee.