ACADEMIC COOPERATION
Part of the ALGANT network (consortium of 10 universities):
› Canada: Concordia University (Montreal)
› France: Université Paris-Sud (Orsay), University of Bordeaux
› Germany: Duisburg-Essen University, Regensburg University
› India: The Chennai Mathematical Institute
› Italy: Milano University, Padova University
› Netherlands: Leiden University
› South Africa: Stellenbosch University

Students follow this two-year Master course in two of the partner countries and, upon completion of the course, are awarded a double degree from the two universities.

LEVEL
Double/multiple Master degree of Science in Mathematics.

ADMISSION REQUIREMENTS
Candidates must fulfill the following requirements:
› Hold a Bachelor degree of Science in Mathematics or an equivalent degree.

LANGUAGE REQUIREMENTS
› A good level of English is required.

PROGRAM DURATION
2 years (120 ECTS).

TUITION FEES
4,000€/year. A fee waiver may be granted.

The ALGANT Master program provides a study and research track in pure mathematics, with a strong focus on algebra, geometry and number theory. This track may be completed throughout Europe and the world, thanks to a partnership between leading research universities. The ALGANT course introduces students to the latest developments within these subjects, and provides the best possible preparation for their forthcoming doctoral studies.

The ALGANT program consists mainly of advanced courses within the field of mathematics and of a research project or internship leading to a Master thesis. Courses are offered in: algebraic geometry, algebraic and geometric topology, algebraic and analytic number theory, coding theory, combinatorics, complex function theory, cryptography, elliptic curves, manifolds. Students are encouraged to participate actively in seminars.

The university partners offer compatible basic preparation in the first year (level 1), which then leads to a complementary offer for more specialized courses in the second year (level 2).

Each partner university offers a range of courses for the ALGANT program. For detailed information on the structure of the program in the different universities, please consult the partner university websites. You may also consult the ALGANT website (currently being updated). In Bordeaux, the ALGANT program is structured as follows.
**Year 1**

*Note: courses are taught in French.*

**SEMESTER 1**
- Modules et espaces quadratiques (9 ECTS)
- Théorie des groupes (6 ECTS)
- Analyse complexe (9 ECTS)
- Analyse fonctionnelle (6 ECTS)

**SEMESTER 2**
- Géométrie (6 ECTS)
- Théorie des nombres (6 ECTS)
- Théorie et distributions spectrales (6 ECTS)
- Probabilités et statistiques (6 ECTS)
- Cryptologie (6 ECTS)
- Algèbre et calcul formel (6 ECTS)

**Year 2**

*Note: courses are taught in English and the content is redefined each year. For details, please consult: www.u-bordeaux.fr and www.u-bordeaux.com*

**SEMESTER 1**
- Number theory (9 ECTS)
- Algorithmic number theory (6 ECTS)
- Geometry (9 ECTS)
- Elliptic curves (6 ECTS)
- Algebraic geometry (9 ECTS)
- Analytic number theory: advanced course 1 (6 ECTS)

**SEMESTER 2**
- Cohomology of groups: advanced course 2 (6 ECTS)
- The key role of certain inequalities at the interface between complex geometry (6 ECTS)

→ And after?*

Students who successfully complete the ALGANT program will be well equipped to pursue a career in research by preparing a Ph.D.

They may also directly apply for positions as highly trained mathematicians, especially in the areas of cryptography, information security and numerical communications.

**How to apply?**

Applications may be completed on-line:


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**Strengths**

- Courses given by academic experts within the field of mathematics.
- Individually tailored study tracks.
- Top-quality scientific environment and facilities provided by leading global research institutes, e.g. Institut de Mathématiques de Bordeaux.

Supported by the IdEx – International Master program of the Bordeaux Excellence Initiative.

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**Contact**

GENERAL COORDINATOR: 
Peter Stevenhagen, Leiden University

COORDINATOR OF A LGANT-BORDEAUX: 
Christine Bachoc

Contact for application and further information:
masterALGANT@math.u-bordeaux1.fr

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University of Bordeaux, France