



Degree **Sciences, technologies, health**
Specialisation **Mathematics**
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Aims

Acquiring essential knowledge and understanding the fundamental principles and concepts of **mathematics**.

Introduction to scientific rigour and the scientific approach.

An opening onto the various disciplines in the field of sciences and technologies, but also the human and social sciences.

Acquiring complementary skills in English, French and Computer science.

Access to the courses in the first year is via the general and multidisciplinary portal Mathematics-Computer Sciences-Physics-Chemistry (MIPC), which takes place over the first two terms of the Mathematics degree.

Through a clearly interdisciplinary orientation, the portal helps students acquire and reinforce the fundamental scientific skills and knowledge needed to go on to a specialisation in mathematics from the second year.

Admission

§ Baccalaureate, preferably scientific.

Skills

§ Establishing a problematic and helping to develop a project

§ Carrying out a study and designing solutions (problem-solving)

§ Looking for, processing information and communicating an approach and the results of the studies

After the course

Continuing studies

§ Towards the end of the programme there are optional lessons preparing studies in various mathematics-oriented master's degrees at COMUE:

Master's degree in the Teaching Professions, Education and Training in St-Étienne (MEEF, ESPE Lyon)

Master's degree in Applied Mathematics, Statistics

Master's degree in Mathematics and Applications

§ The course is adapted to continuing studies in some engineering schools and in most mathematics master's degree courses in France.

Job openings

After a specialisation, the course provides job openings in a range of sectors:

§ Education and research: primary and secondary school teachers in mathematics, teacher-researcher in higher education (universities, engineering schools, business schools, technical colleges)

§ Industry: research engineering in a range of sectors: meteorology and space sector, civil engineering, banking, finance, insurance, decision aid, cryptography and security, medicine and pharmaceuticals, image processing

Contact

School

+33 (0) 4 77 48 51 02

Tuition fees

Fees 2017/2018

Main registration: €184

Preventive medicine: €5.10

Social security: €217

Courses

term 1 - Mathematics, Engineering Sciences,	Hours	ects	term 2 - Mathematics	Hours	ects
CU MATHEMATICS	60	6	CU LINEAR ALGEBRA 1	70	7
CU COMPUTER SCIENCE	60	6	CU ANALYSIS 1	90	9
CU PHYSICS	60	6	CU I.T. TOOLS	10	4
CU CHEMISTRY	60	6	CU CINEMATICS AND DYNAMICS	28	4
CU MATHEMATIC TOOLS	30	3	CU DECISION-TAKING SCIENCES	36	4
CU METHODOLOGICAL AND SCIENTIFIC TOOLS		3	CU GENERAL ENGLISH B2	18	2
Expression and communication in languages	16	1			
Textual tools	1	1			
Digital tools and culture	14	1			

term 3 - Mathematics	Hours	ects
CU LINEAR ALGEBRA 2	66	6
CU ANALYSIS 2	70	7
CU GEOMETRY 1:	38	4
CU FUNCTIONS OF SEVERAL VARIABLES	58	6
CU CRYPTOGRAPHY	30	3
CU GENERAL ENGLISH B2	18	2
CU PERSONAL CAREER PROJECT	20	2

term 5 - Mathematics	Hours	ects
CU DIGITAL ANALYSIS	54	5
CU TOPOLOGY	50	5
CU MEASUREMENT AND INTEGRATION	60	6
CU ALGEBRA AND DISCRETE MATHEMATICS	60	6
CU STATISTICAL INFERENCE	32	3
CU ENGLISH AND SCIENTIFIC COMMUNICATIONS	24	3
CAREER PREPARATION 1		2
STUDENTS CHOOSE 1 CU FROM:		
Preparation for continuing studies or work integration	20	
Preparation for research or study project	20	
Introduction to primary school teaching	20	
Introduction to secondary school teaching	20	
ASTEP: Support in science and technology in primary school 1	25	

term 4 - Mathematics	Hours	ects
CU BILINEAR ALGEBRA	62	6
CU ANALYSIS 3	82	8
CU GEOMETRY 2:	32	3
CU PROBABILITIES 1	50	5
CU OPEN PROBLEMS	30	3
CU GENERAL ENGLISH B2	24	3
CU OPEN CREDITS	20	2

term 6 - Mathematics	Hours	ects
CU ALGEBRA 2	40	4
CU INFINITESIMAL CALCULUS AND DIFFERENTIAL EQUATIONS	60	6
CU PROBABILITIES 2	70	7
CU COMPLEX ANALYSIS	50	5
CU OPEN CREDITS	20	2
CU ENGLISH AND SCIENTIFIC COMMUNICATIONS	24	3
CAREER PREPARATION 2 (SUPPORTED PRACTICE)		3
STUDENTS CHOOSE 1 CU FROM:		
Internship in a company or laboratory		
Research or study project	16	
Internship in primary school	10	
Internship in secondary school	10	
ASTEP: Support in science and technology in primary school 2		