University of Oum El Bouaghi

Faculty of Exact Sciences, Natural and Life Sciences

Department of Mathematics and Computer Science

Program name: Bachelor's degree in Mathematics

- **Level:** Bachelor

- **Domain:** Mathematics and Computer Science

- **Field:** Mathematics

- **Specialty:** Mathematics

Program Description:

The mathematics bachelor is a 3-year course, which aims to provide a foundation of knowledge and skills in mathematics, which can be reinvested in different fields of application. This license is a fundamental and necessary step for students intending to teach, research, or other professional goals .

1. **Entry Requirements**

   - Secondary (high) school diploma or equivalent certificate.

2. Program Units and modules

- ### **Semester 1**

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit1	**7**	**11**		
Analysis 1	4	6	40%	60%
Algebra 1	3	5	40%	60%
Fundamental Teaching Unit2	**7**	**11**		
Algorithms & data structures 1	4	6	40%	60%
Machine structure	3	5	40%	60%
Methodology Teaching Unit	**2**	**4**		
Scientific terminology and written expression	1	2	-	100%
Foreignlanguage1	1	2	-	100%
Discovery Teaching Unit	**2**	**4**		
Physics 1 (point mechanics)	2	4	40%	60%

- ### **Semester 2**

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit1	**6**	**10**		
Analysis 2	4	6	40%	60%
Algebra 2	2	4	40%	60%
Fundamental Teaching Unit2	**6**	**10**		
Algorithms & data structures 2	4	6	40%	60%
Machine structure 2	2	4	40%	60%
Methodology Teaching Unit	**4**	**7**		
Introduction to probability and descriptive statistics	2	3	40%	60%
Information and communications technology	1	2	-	100%
programming tools for mathematics	1	2	40%	60%
Transversal Teaching Unit	**2**	**3**		
Physics 2 (generalElectricity)	2	3	40%	60%

• Semester 3

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit1	**10**	**18**		
Algebra 3	3	5	40%	60%
Analysis 3	4	7	40%	60%
Introduction to topology	3	5	40%	60%
Methodology Teaching Unit	**6**	**10**		
Numericalanalysis 1	3	4	40%	60%
Mathematicallogic	2	3	40%	60%
Programming Tools 2	1	3	40%	60%
DiscoveryTeaching Unit	**1**	**2**		
History of Mathematics	1	2	-	100%

• Semester 4

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit1	**10**	**18**		
Algebra 4	3	5	40%	60%
Analysis 4	4	7	40%	60%
complexAnalysis	3	6	40%	60%
Methodology Teaching Unit	**6**	**10**		
Numericalanalysis 2	2	4	40%	60%
Probability	2	3	40%	60%
Geometry	2	3	40%	60%
DiscoveryTeaching Unit	**1**	**2**		
Application of mathematics to other sciences	1	2	-	100%

• Semester 5

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit1	**7**	**11**		
Measure and integration	4	6	40%	60%
Normed vector spaces	3	5	40%	60%
Fundamental Teaching Unit2	**6**	**11**		
Differential equations	4	6	40%	60%
Equations of mathematical physics	2	5	40%	60%
Methodology Teaching Unit	**2**	**5**		
Optimization without constraints	2	5	40%	60%
DiscoveryTeaching Unit	**1**	**2**		
Introduction to didactics of Mathematic	1	2	-	100%

• Semester 6

Teaching units	Coeff	Credits	Evaluation Mode	
			continuous	Exam
Fundamental Teaching Unit	**6**	**10**		
Numerical methods for ODE and PDE	5	9	40%	60%
Introduction to the theory of linear operators	5	9	40%	60%
Methodology Teaching Unit	**4**	**8**		
Transformations in Lp spaces	2	5	40%	60%
Differential geometry	2	5	40%	60%
Transversal Teaching Unit	**2**	**2**		
Ethics and deontology of teaching and research	2	2	-	100%