

People's Democratic Republic of Algeria Ministry of Higher Education and Scientific Research Sétif 1 University – Ferhat Abbas

Faculty /Institute: Faculty of Economics, Commerce and Management sciences

Master's Degree in:

Quantitative Economics

Presentation and Objectives of the Specialty:

Quantitative Economics is one of the most important and rapidly evolving disciplines in the fields of economics. It is widely taught in many of the world's most prestigious universities, such as MIT, Harvard, LSE, and the university of Amesterdam. IT combines economic theory with advanced mathematical, statistical, and computational methods to analyze and solve real-world problems.

The Master's Program in Quantitative Economics is designed to provide students with rigorous training in economic theory, quantitative methods, and empirical analysis. The program focuses on equipping students with advanced tools in econometrics, statistical modeling, and data analysis, enabling them to understand and address complex economic problems.

The main objectives of the program are:

1. To develop strong analytical and quantitative skills for economic modeling and decisionmaking.

2. To train students in the use of software tools such as R, Python, and specialized econometric packages.

3. To prepare graduates for careers in economic research, policy evaluation, and data-driven analysis in both the public and private sectors.

4. To foster critical thinking and research capabilities for those interested in pursuing doctoral.

Admission requirements:

The student must have Bachelor's degree in Quantitative Economics.

Career Prospects/Professions:

Graduates of Quantitative Economics are well-prepared for a wide range of careers, including:

- Economic Analyst
- Financial and Market Analyst
- Data Scientist / Data Analyst
- Policy Advisor / Policy Analyst
- Researcher in Public Institutions or International Organizations
- Consultant in Economic and Financial Affairs
- Academic / PhD Candidate in Economics or Econometrics

The demand for professionals with strong quantitative and analytical skills is growing, especially in fields such as finance, public policy, development economics, and business strategy.

Organization of Studies and Official Duration of the Program

Program Overview: A general description of program:

The Master's program is organized over two academic years (four semesters). It combines coursework, applied projects, and research work.

- Year 1 focuses on core knowledge in microeconomics, macroeconomics, econometrics, and quantitative methods.
- Year 2 emphasizes advanced topics, specialization courses, and the preparation of a Master's thesis.

The program typically requires the successful completion of coursework, practical assignments, and a defended research thesis to obtain the degree.

Curriculum Highlights: Some of the key courses and topics covered in the program include:

- Financial Econometrics
- Dynamic Econometrics
- Advanced Econometrics
- Advanced Microeconomics and Macroeconomics
- Economic Growth Theories and Models
- Optimization Methods
- Input-Output Analysis
- Labor Economics
- Big Data Analysis
- Data Science and Machine Learning
- R and Python Programming
- Policy Evaluation Techniques

- Survey Methodology
- Demographic and Financial Market Analysis
- Master's Thesis Methodology
- Specialized Foreign Language Courses

This curriculum ensures that students gain both theoretical knowledge and practical experience in quantitative economic analysis.

Admission Information: Details regarding admission requirements and procedures:

Candidates wishing to study Quantitative Economics remotely must hold a Bachelor's degree in Quantitative Economics. Additionally, a satisfactory level of English is required to pursue this specialization. Enrollment in this program is a national registration open to allAlgerian universities without specific quotas.

Applications for this specialization are submitted through a digital platform accessible via the website of Setif 1 University Ferhat Abbas. Candidates are required to fill in all necessary information and upload the required documents through the platform. These documents include the Baccalaureate success certificate, transcripts for the Bachelor's degree, the Bachelor's degree success certificate, and the candidate's disciplinary record.

Following this, the applications are reviewed by the Faculty's guidance and ranking committee, and the results are announced. After the appeals process and the announcement of the final results, successful candidates proceed to the administrative offices for final registration, accompanied by the official documents.

Language of instruction: The language in which the training is delivered:

English

Training Canvas: The plan or Visual structure of program:

1-first semester :

	Course Title		Coefficients					Evaluation mode		
Education Units		Credits		On line COURS	Forum	VHS 15 WEEKS	Do Activities	Continuos Evaluation		Attendance
								Learning platform	forum	chuin
fundamental	Dynamic Econometrics	6	3	3h00	1h30	67h30	82h30	30%	30%	40%
code :UEF 1.1 credit :18 coefficients :9	Advanced Macroeconomics	6	3	3h00	1h30	67h30	82h30	30%	30%	40%
	Advanced Microeconomics	6	3	3h00	1h30	67h30	82h30	30%	30%	40%
Methodological Education Unit code :UEM 1.1 credit :9 coefficients :5	Decision Theory	4	2	1h30	1h30	45h	55h	30%	30%	40%
	Survey Techniques	4	2	1h30	1h30	45h	55h	30%	30%	40%
	Administrative Communication and Writing	1	1	1h30	-	22h30	10h	-	-	100%
Exploratory Education Unit code :UEd 1.1 credit :2 coefficients :2	Financial Markets	2	2	1h30	1h30	45h	5h00	60%	-	40%
Transverse Education Unit code :UET 1.1 credit :1 coefficients :1	Specialized Foreign Language 01	1	1	-	1h30	22h30	2h30	100%	-	-
Total of semester 1		30	17	15h	10h30	382h30	375h			

2-second semester

	Course Title		Coefficients			VHS 15 WEEKS	Do Activities	Evaluation mode		
Education Units		Credits		On line COURS	Forum			Continuos		
								Evaluation		Attendance
								Learning platform	Forum	Exam
fundamental	Financial Econometrics	6	3	3h00	1h30	67h30	82h30	30%	30%	40%
Education unit code :UEF 1.2	Economic Growth Theory and Models	4	2	1h30	1h30	45h	55h	30%	30%	40%
credits:18	Input-Output Analysis	4	2	1h30	1h30	45h	55h	30%	30%	40%
coefficients :9	Data Science and Machine Learning	4	2	1h30	1h30	45h	55h	30%	30%	40%
Methodological	Optimization Methods	5	2	1h30	1h30	45h	65h	30%	30%	40%
Education Unit code :UEM 1.2 credits :9 coefficients :4	Master's Thesis Methodology	4	2	1h30	1h30	45h	55h	30%	30%	40%
Exploratory Education Unit code :UEd 1.2 credist :2 coefficients :2	R Programming	2	2	1h30	1h30	45h	5h00	30%	30%	40%
Transverse Education Unit code :UET 1.2 credits :1 coefficients :1	Specialized Foreign Language 02	1	1	-	1h30	22h30	2h30	100%	-	-
Total of semester 2		30	16	12 h	12 h	360h	375h			

3-third semester :

								Evaluatio	n mode	
Education Units	Course Title		its			VHS 15	Do Activities	Continuos		Attendance
		its	icier	On Line	Forums	WEEKS		Evalua	ation	Exam
		Credi	Coeff	COURS				Learning platform	Forum	
fundamental	Advanced Econometrics	6	3	3h	1h30	67h30	82h30	30%	30%	40%
Education unit	General Equilibrium Models	6	3	1h30	1h30	45h	105h00	30%	30%	40%
code :UEF 2.1 credits :18 coefficients :8	Economic Policy Evaluation	6	3	1h30	1h30	45h	105h00	30%	30%	40%
Methodological	Big Data Analysis	5	2	1h30	1h30	45h	65h	30%	30%	40%
Education Unit code :UEM 2.1 credits :9 coefficients :4	Labor Economics	4	2	1h30	1h30	45h	55h	30%	30%	40%
Exploratory Education Unit code :UEd 2.1 credits :2 coefficients :2	Python Programming	2	2	1h30	1h30	45h	5h	30%	30%	40%
Transverse Education Unit code :UET 2.1 credits :1 coefficients :1	Demographic Analysis	1	1	-	1h30	22h30	2h30	100%	-	-
Total of semester 3		30	16	9h	10h30	292h30	442h30			

4-fourth semester

An internship in an institution or company that culminates in a memorandum discussing

	Weekly hourly volume	credits	coefficient
Personal work	30h/w	30	04
Field study (in various formats according	03h/w	/	1
to the subject of the memorandum)			/
Forums (certificate of attendance of a	02 h/w	/	
forum or training or training course in the			/
second year Master)			
Other work (determined by the	05 h/w	/	1
pedagogical committee of specialization)			/
Total Semester 4 (15 weeks)	600 h	04	04

Coordinator of the Program: MAACHE FAYCAL (Chair Person of Speciality)

Contact:<u>fmaache@yahoo.fr</u>