

Erasmus Mundus Master QEM Models and Methods of Quantitative Economics

DIPLOMA SUPPLEMENT

The Diploma Supplement was developed by the European Commission, Council of Europe and by UNESCO/CEPES (European Centre for Higher Education).

The purpose of the supplement is to provide sufficient independent data to improve the international transparency and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc...). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value-judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

WARNING: This Diploma Supplement is only valid if presented with the official degree certificate. The QEM Consortium provides each student with only one official copy of all documents associated with their academic work. Notarized copies are to serve as official copies for all purposes. Translation in national language is provided if required by national legislation.

1. Information identifying the holder of the qualification

- 1.1 Family Name(s):
- 1.2 Given Name(s):
- 1.3 Date of Birth (day/month/year):
- 1.4 Student Identification Number:

2. Information identifying the qualification

2.1 Name of qualification(s) and title(s) conferred:

In view of the Framework Partnership Agreement [Number and date] with the Commission of the European Communities and in view of the [date of agreement's signature] Agreement between Université de Paris 1 Panthéon-Sorbonne, Università Ca' Foscari di Venezia, Universität Bielefeld and Universitat Autònoma de Barcelona, partner universities of the QEM "Models and Methods of Quantitative Economics" Erasmus Mundus Consortium related to the development of a joint Master degree, and according to the mobility track of the student, the national degrees checked below are conferred:

- **Universitat Autònoma de Barcelona**
Modelos y Métodos de Economía Cuantitativa / Models and Methods of Quantitative Economics.
- **Universität Bielefeld**
Master of Science Wirtschaftsmathematik
- **Université Paris 1 Panthéon-Sorbonne**
Master Mathématiques Appliquées à l'Economie et à la Finance
- **Université Paris 1 Panthéon-Sorbonne**
Master Economie Theorique et Empirique
- **Università Cà Foscari di Venezia**
Laurea magistrale in Economia

- 2.2 Main field(s) of study for the qualification:
Economics and management, Mathematics and Finance

Students achieve a high level in quantitative tools, mathematical methods, and models in economics as well as in applications, preparing them for economic scientific research and academic careers or positions in banks, insurance companies, financial institutions, and industry, at both national and international levels.

- 2.3 Names and status of awarding institutions:
According to the mobility track of the student, the awarding institutions are checked below:

- Universitat Autònoma de Barcelona, public university
- Universität Bielefeld, public university
- Université Paris 1 Panthéon-Sorbonne, public university
- Università Cà Foscari di Venezia, public university

- 2.4 Name(s) and status of institution(s) (if different from 2.3.) administering studies

- 2.5 Language of instruction/examination:
English

3. Information on the level of the qualification

- 3.1 Level of qualification:
Second cycle university studies. Five years (10 semesters) of higher education studies and research after high school, conferring a Master's degree (see section 8).
- 3.2 Official length of programme:
2 years corresponding to 120 ECTS (see section 8).
- 3.3 Access requirement(s):
Admission is based on academic excellence and it is mandatory for a student to have a bachelor's degree or a degree at the level of a bachelor's degree. Admission is granted according to national laws, which are specified in annex.

4. Information on the contents and results gained

- 4.1. Mode of study:
- Full time during 2 years (4 semesters)
 - Mobility in at least two universities of the QEM Consortium
 - Mandatory language courses
 - Mandatory Master Dissertation
- All information on the organisation of studies can be found on the QEM website, <http://erasmusmundus-qem.univ-paris1.fr/>
- 4.2. Programme requirements:
- The first year of study is devoted to the foundation courses (mandatory) in Microeconomics, Macroeconomics, Econometrics, Probability, Statistics and Mathematics.
 - The second year is devoted to specialization in Macroeconomics, Theoretical and Applied Microeconomics, Finance, Mathematical Economics, Econometrics, and research pursuant to the Master Dissertation.
 - Scientific courses: 92 ECTS.

- Master Dissertation over the last semester during the second year (QEM2): 20 ECTS. It is research oriented, either in a research centre or through a qualifying internship at a firm.
- Mandatory foreign language training: 8 ECTS (2 ECTS per semester).
- 120 ECTS are required to earn the degree (some of these 120 ECTS are completed in mandatory classes, the remaining ECTS are completed in elective courses).
- A minimum GPA of 3.0 is needed to automatically earn the degree (B average, see section 4.4).

All programme requirements are described in details in the QEM Consortium Program (website <http://erasmusmundus-qem.univ-paris1.fr/>). This information can be obtained from the Faculty offices of the partner universities.

4.3. Programme details

The list of learning activities taken by the student, the corresponding credits, the language of instruction (where it is different than English) are detailed on the semesterly transcripts of results attached at the end of this document.

If the student has undertaken one or more internship(s) and/or a study period in another institution within the framework of a student mobility agreement, this information is also included on the transcript of results.

Mobility track:

Semester 1: Universität Bielefeld

Semester 2: Université Paris 1 Panthéon-Sorbonne

Semester 3: Università Cà Foscari di Venezia

Semester 4: Università Cà Foscari di Venezia

Master Dissertation:

- Title:
- Advisor:

Overall GPA:

4.4 Grading scheme and grade distribution guidance:

Conversion table between the grades in the different institutions

QEM Grades	GPA	Paris QEM1	Paris QEM2	Barcelona QEM1 & QEM2	Bielefeld QEM1 & QEM2	Venice QEM1 & QEM2
A+	4	95 – 100	>14	9,5 – 10	1.0	30 L
A	4	90 – 94	13 – 13.9	9,0 – 9,4	1.7 / 1.3	29 – 30
A-	3.7	87 – 89	12 – 12.9	8,5 – 8,9	2.3 / 2.0	28
B+	3.3	83 – 86	11 – 11.9	8,0 – 8,4	2.7	26 – 27
B	3	80 – 82	10 – 10.9	7,5 – 8,4	3.0	25
B-	2.7	75 – 79	9 – 9.9	7 – 7,9	3.3	23 - 24
C+	2.3	70 – 74	8 – 8.9	6,5 – 6,9	3.7	22
C	2	65 – 69	7 - 7.9	6 – 6,4	4	20 - 21
D	1	50 – 64	4 – 6.9	5 – 5,9	4.3	18 – 19
F	0	<50	<4	<4,9	5	<18

The language courses are mandatory. They are graded with a QEM Pass/Fail although a local mark may be given. As with the scientific courses, students need to retake a failed language course.

- The Grade Point Average (GPA) is calculated at the end of each semester taking into account the conversion table between the grades in the different institutions.
- Students may be allowed to take more than 120 ECTS, in which case the GPA is calculated taking into account all the courses the student took.
- Students may choose to retake any course. If the course is graded F, the grade obtained in the retake will replace the original one in the GPA and both courses will remain on the transcript. If the course was graded above D, the retake course will be added to the list of courses taken by the student and will count with the new grade (which amounts to taking the average grade of the retake and the original one).

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- Students who failed a class (F) need to retake the class. The GPA (from 0 to 4) calculated at the end of each semester will not take into account the Failed (F) courses (so the average semester GPA can be different from the overall GPA).
- To receive the degree, it is mandatory that the students not have any remaining Failed (F) courses at the end of the programme.
- The overall GPA the student is earned for the two-year programme takes into account the average grade of all the scientific courses including the Master Dissertation (but not the language courses which are graded PASS/FAIL).

The examination regulations can be found on the QEM website,
<http://erasmusmundus-qem.univ-paris1.fr/>

4.5 Overall classification of the graduate

The final national degree grade, if applicable is specified on the degree certificate and in annex.

5. Information on the function of the qualification

5.1 Access to further study:

Holders of the joint master obtained in the QEM programme may apply for a PhD programme (see sections 7).

5.2 Professional status:

Not applicable

6. Additional information

6.1 Additional information:

The students enrolled in the Master QEM Programme have a mandatory mobility among the universities of the Consortium with a full academic acknowledgement of the credits acquired. During the two years of the programme, they must study in at least two universities.

6.2 Additional information sources:

- Master QEM web page: <http://erasmusmundus-qem.univ-paris1.fr/>
- NIC-NARIC networks website <http://www.enic-naric.net/>

And also web pages of the five universities of the Consortium:

- Université Paris1 Panthéon-Sorbonne (France): <http://www.univ-paris1.fr/>

- Universität Bielefeld (Germany): <http://www.uni-bielefeld.de/>
- Universita Autònoma de Barcelona (Spain): <http://www.uab.es/>
- Università Ca' Foscari Venezia (Italy): <http://www.unive.it/>

7. Certification of the Supplement

- 7.1 Date (date/month/year):
- 7.2 Signature: Professeur Bernard Cornet
- 7.3 Capacity: Coordinator of the QEM programme
Université Paris 1 Panthéon-Sorbonne
- 7.4 QEM consortium seal:

8. Information on the European Higher Education System

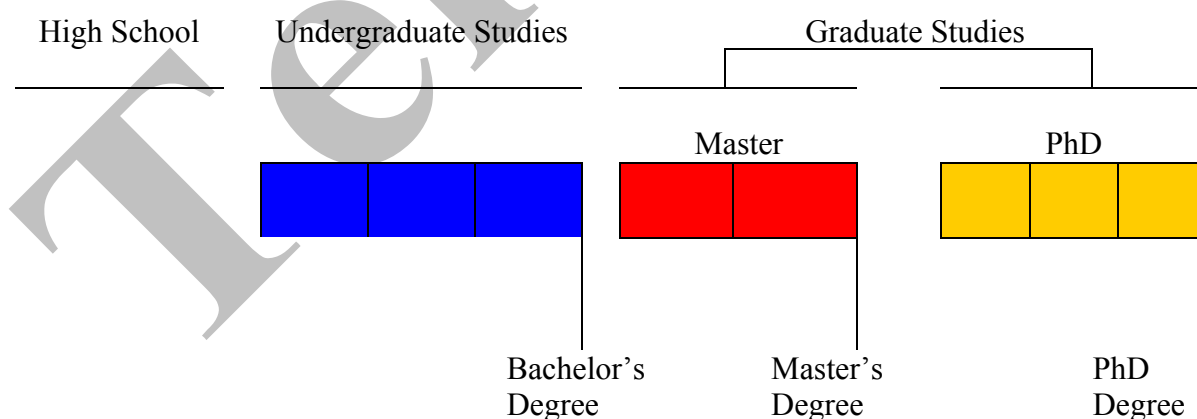
The purpose of the Bologna process (or Bologna accords) is to create the European higher education area by making academic degree standards and quality assurance standards more comparable and compatible throughout Europe, in particular under the Lisbon Recognition Convention. It is named after the place it was proposed, the University of Bologna in the Italian city of Bologna, with the signing in 1999 of the Bologna declaration by Ministers of Education from 29 European countries.

European Credit Transfer and Accumulation System (ECTS) is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries. For successfully completed studies, ECTS credits are awarded. One academic year corresponds to 60 ECTS-credits that are equivalent to 1500-1800 hours of study in all countries irrespective of standard or qualification type and is used to facilitate transfer and progression throughout the Union.

The basic framework adopted is of three cycles of higher education qualification. As outlined in the Bergen Declaration of 2005, the cycles are defined in terms of qualifications and ECTS credits:

- 1st cycle: typically 180–240 ECTS credits, usually awarding a Bachelor's degree.
- 2nd cycle: typically 90–120 ECTS credits (a minimum of 60 on 2nd-cycle level), usually awarding a Master's degree.
- 3rd cycle: Doctoral degree. 180 ECTS.

In most cases, these will take 3 (possibly 4), 2, and 3 years respectively to complete. The actual naming of the degrees may vary from country to country.



The Bologna system is thus comparable to the North American system with a slight difference in the structure of a PhD programme, which in the North American system is normally five years with no distinction between the two first years and the last three years (sometimes with a possibility of being awarded a Master's degree after the first two years of study).

Specific information on the national higher education systems are given in annex.

Information on Erasmus Mundus Programmes

Erasmus Mundus is the international counterpart of the Erasmus programme, which is named after the Dutch scholar Desiderius Erasmus Roterodamus, who studied in different monastic schools in Europe in the 15th century. "Mundus" is Latin for world, meaning the name "Erasmus Mundus Programme" stands for the international version of the Erasmus programme.

It was created on 5 December 2003, gazetted on 31 December 2003 in the official journal of the European Union and became an official programme on 20 January 2004. Most of the programmes are called "European Master" and lead to a joint or double Master's Degree. The main objective, from the European Union's Lisbon Strategy, is to make Europe "the most competitive and knowledge-based economy in the world and a reference for high quality and excellence in education". Specific objectives:

- Promoting a European model for higher education.
- Attracting qualified graduates and scholars from other parts of the world to obtain qualifications and experience in the EU.
- Increasing cooperation between the EU and institutions from outside Europe.
- Increasing the visibility of European higher education throughout the world.

The Erasmus Mundus recognition is very competitive at the European level. In 2009, there are over 100 master's programmes. The complete list of Erasmus Mundus master's programmes can be found on the European Commission website.

9. Certification of the Supplement

9.1 Date (date/month/year): 08/07/2011

9.2 Capacity:

Coordinator, Université Paris 1 Panthéon-Sorbonne
Professor Bernard CORNET

Website: <http://erasmus-mundus.univ-paris1.fr>

Email: gem@univ-paris1.fr

9.3 Signature with official stamp/seal:

Transcript of Results 20XX-20XX

Gender Name, First Name

born on year/month/day in City, Country

is certified having been a full time student at the Universität Bielefeld, in the Master:

Wirtschaftsmathematik

as part of the Erasmus Mundus Master QEM (Models and Methods of Quantitative Economics), and having passed the examination for the fall term 20XX-20XX with the detailed results are as follows:

Courses	ECTS	Grades	Local Marks	Date	Institution
Probability Theory (<i>Prof. XXXX</i>)	7	X	X.X	Fall XX/XX	U. Bielefeld
Optimization (<i>Prof. XXXX</i>)	7	X	X.X	Fall XX/XX	U. Bielefeld
Microeconomics 1 (<i>Prof. XXXX</i>)	7	X	X.X	Fall XX/XX	U. Bielefeld
Macroeconomics 1 (<i>Prof. XXXX</i>)	7	X	X.X	Fall XX/XX	U. Bielefeld
German Language Course	2	PASS	PASS	Fall XX/XX	U. Bielefeld
TOTAL	31	GPA: X.XX			

Bielefeld, January XX, 20XX

Prof. Dr. Frank Riedel
 Coordinator of QEM

QEM Grades	GPA	Paris QEM1	Paris QEM2	Barcelona QEM1 & QEM2	Bielefeld QEM1 & QEM2	Venice QEM1 & QEM2
A+	4	95 – 100	>14	9,8 – 10	1.0	30 L
A	4	90 – 94	13 – 13.9	9,5 – 9,7	1.7 / 1.3	29 – 30
A-	3.7	87 – 89	12 – 12.9	9 – 9,4	2.3 / 2.0	28
B+	3.3	83 – 86	11 – 11.9	8,5 – 8,9	2.7	26 – 27
B	3	80 – 82	10 – 10.9	7,5 – 8,4	3.0	25
B-	2.7	75 – 79	9 – 9.9	7 – 7,4	3.3	23 – 24
C+	2.3	70 – 74	8 – 8.9	6,5 – 6,9	3.7	22
C	2	65 – 69	7 – 7.9	6 – 6,4	4.0	20 – 21
D	1	50 – 64	4 – 6.9	5 – 5,9	4.3	18 – 19
F	0	<50	<4	<4,9	5.0	<18

Transcript of Results 20XX-20XX

Gender Name, First Name

born on year/month/day in City, Country

is certified having been a full time student at the Université Paris 1 Panthéon-Sorbonne, in the Master:

Master 1 Erasmus Mundus QEM: Models and Methods of Quantitative Economics

as part of the Erasmus Mundus Master QEM (Models and Methods of Quantitative Economics), and having passed the examination for the academic year 20XX/XX with the detailed results are as follows:

Courses	ECTS	Grades	Local Marks	Date	Institution
Microeconomics 2 (Prof. XXXX/Prof. P. XXXX)	7	X	XX	Spr.XX/X X	U. Paris 1
Macroeconomics 2 (Prof. XXXX/Prof. XXXX)	7	X	XX	Spr.XX/X X	U. Paris 1
Econometrics (Prof. XXXX/Prof. XXXX/Prof. XXXX/Prof. XXXX)	7	X	XX	Spr.XX/X X	U. Paris 1
Dynamic Optimization (Prof. XXXX)	4	X	XX	Spr.XX/X X	U. Paris 1
Statistics (Prof. XXXX)	4	X	XX	Spr.XX/X X	U. Paris 1
French as Foreign Language	2	Pass	Pass	Spr.XX/X X	U. Paris 1
TOTAL	31		GPA: X.XX		

Paris, July 5, 2010

Dr Jean-Marc Bonnisseau
Director of Studies, QEM

QEM Grades	GPA	Paris QEM1	Paris QEM2	Barcelona QEM1 & QEM2	Bielefeld QEM1 & QEM2	Venice QEM1 & QEM2
A+	4	95 – 100	>14	9,8 – 10	1.0	30 L
A	4	90 – 94	13 – 13.9	9,5 – 9.7	1.7 / 1.3	29 – 30
A-	3.7	87 – 89	12 – 12.9	9 – 9.4	2.3 / 2.0	28
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Transcript of Results 20XX-20XX

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as part of the Erasmus Mundus Master QEM (Models and Methods of Quantitative Economics), and having passed the examination for the fall term 20XX/XX with the detailed results are as follows:

Courses	ECTS	Grades	Local Marks	Date	Institution
Information Structures, Risk Allocation and Prices in Financial Markets (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
Finance 2a (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
Finance 2b (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
Topics in Cooperative Game Theory (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
Optimal Taxation (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
Investment and Interaction with Risk and Ambiguity (Prof. XXXX)	5	X	X.X	Fall XX/XX	U. Bielefeld
Reading Course in Macroeconomics (Prof. XXXX)	4	X	X.X	Fall XX/XX	U. Bielefeld
German Language Course	2	PASS	PASS	Fall XX/XX	U. Bielefeld
TOTAL	31	GPA: X.XX			

Bielefeld, March XX, 20XX

Prof. Dr. Frank Riedel
 Coordinator of QEM

QEM Grades	GPA	Paris QEM1	Paris QEM2	Barcelona QEM1 & QEM2	Bielefeld QEM1 & QEM2	Venice QEM1 & QEM2
A+	4	95 – 100	>14	9,8 – 10	1.0	30 L
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Transcript of Results 20XX/XX

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born on year/month/day in City, Country

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as part of the Erasmus Mundus Master QEM (Models and Methods of Quantitative Economics), and having passed the examination for the fall term 20XX/XX with the detailed results are as follows:

Courses	ECTS	Grades	Local Marks	Date	Institution
Masterthesis (Prof. XXXX)	20	X	X.XX	Spring XX/XX	U. Bielefeld
Seminar Masterthesis (Prof. XXXX)	6	PASS	PASS	Spring XX/XX	U. Bielefeld
EBIM – BIGSEM Kolloquium	2	PASS	PASS	Spring XX/XX	U. Bielefeld
German Language Course	2	PASS	PASS	Spring XX/XX	U. Bielefeld
TOTAL	30	GPA: X.XX			

Bielefeld, July XX, 20XX

Prof. Dr. Frank Riedel
 Coordinator of QEM

QEM Grades	GPA	Paris QEM1	Paris QEM2	Barcelona QEM1 & QEM2	Bielefeld QEM1 & QEM2	Venice QEM1 & QEM2
A+	4	95 – 100	>14	9,8 – 10	1.0	30 L
A	4	90 – 94	13 – 13.9	9,5 – 9,7	1.7 / 1.3	29 – 30
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