

## Business Mathematics (M.Sc., Master Degree Programme)

Study plan | Start in winter term

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*Note: The following overview offers a non-binding overview of the structure and composition of the modules. The legally binding criteria are available in the examination regulations.*

Module code	Module title (Compulsory/Elective)	Sem.	CP	Type	hours	Course title	Assessment	Module Convenor	Comment/ Language		
<b>1<sup>st</sup> Semester (Wi)</b>											
■	Basic Specialization Mathematics (WP)	Wi	20	A choice of 20 CP from the compulsory elective <a href="#">Basic Specialization Mathematics Modules</a> must be completed.							
■	Specialization Economic Sciences (WP)	Wi	10	A choice of 10 CP out of a total of 40 CP from the compulsory elective <a href="#">Specialization Economic Sciences Modules</a> must be completed.							
<b>2<sup>nd</sup> Semester (Su)</b>											
■ <b>Module code</b>	Seminar Module A (P)	Su	5	S	2	Analysis or Numerical Mathematics or Optimization or Stochastics seminar		de Vries	English		
				Ü	1	Practical course from the module's current range of courses.					
				Poster presentation							
■	Advanced Specialization Mathematics (WP)	Su	10	A choice of 10 CP out of 20 CP from the compulsory elective <a href="#">Advanced Specialization Mathematics Modules</a> must be completed.							
■	Specialization Economic Sciences (WP)	Su	15	A choice of 15 CP out of a total of 40 CP from the compulsory elective <a href="#">Specialization Economic Sciences Modules</a> must be completed.							

3 <sup>rd</sup> Semester (Wi) <sup>M</sup>									
■ <b>Module code</b>	Seminar Module B (P)	Wi	5	S	2	Analysis or Numerical Mathematics or Optimization or Stochastics seminar		de Vries	English
				Ü	1	Practical course from the module's current range of courses.			
				Poster presentation					
■	Advanced Specialization Mathematics (WP)	Wi	10	A choice of 10 CP out of 20 CP from the compulsory elective <a href="#">Advanced Specialization Mathematics Modules</a> must be completed.					
■	Specialization Economic Sciences (WP)	Wi	15	A choice of 15 CP out of a total of 40 CP from the compulsory elective <a href="#">Specialization Economic Sciences Modules</a> must be completed.					
4 <sup>th</sup> Semester (Su)									
■ <b>Module code</b>	Master's Thesis (P)	Su	30			Master's Thesis		Schulz	English
				Master's Thesis					

<sup>M</sup> Mobility window

**Compulsory Elective "Basic Specialization Mathematics" Modules (20 CP to be chosen)**

■ <b>Module code</b>	Specialization Analysis I (WP)	Wi	10	V	4	Lecture on Complex Analysis <i>or</i> Functional Analysis <i>or</i> lecture from the module's current range of courses.		Frerick	English
				Ü	2	Practical course from the module's current range of courses.			
				Written exam (105 min.) <i>or</i> Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Numerical Mathematics I (WP)	Wi	10	V	4	Numerical Methods for Ordinary Differential Equations (WP)		Schulz	English Students must select one of the compulsory elective (WP) lectures (V).
				V	4	Numerical Solutions of Partial Differential Equations (WP)			
				V	4	Numerical Optimization (WP)			
				Ü	2	Practical course from the module's current range of courses.			
				Written exam (105 min.) <i>or</i> Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Optimization I (WP)	Wi	10	V	4	Lecture from the module's current range of courses.		de Vries	English
				Ü	2	Practical course from the module's current range of courses.			
				Written exam (105 min.) <i>or</i> Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Stochastics I (WP)	Wi	10	V	4	Lecture from the module's current range of courses.		Mattner	English
				Ü	2	Practical course from the module's current range of courses.			
				Written exam (105 min.) <i>or</i> Oral exam (20–30 min.)					

**Compulsory Elective "Advanced Specialization Mathematics" Modules (20 CP to be chosen)**

■ <b>Module code</b>	Specialization Analysis II (WP)	Wi/ Su	10	V	4	Lecture from the module's current range of courses.		Frerick	English
				Ü	2	Practical course from the module's current range of courses.			
				Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Numerical Analysis II (WP)	Wi/ Su	10	V	4	Lecture from the module's current range of courses.		Schulz	English
				Ü	2	Practical course from the module's current range of courses.			
				Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Optimization II (WP)	Wi/ Su	10	V	4	Lecture from the module's current range of courses.		de Vries	English
				Ü	2	Practical course from the module's current range of courses.			
				Oral exam (20–30 min.)					
■ <b>Module code</b>	Specialization Stochastics II (WP)	Wi/ Su	10	V	4	Lecture from the module's current range of courses.		Mattner	English
				Ü	2	Practical course from the module's current range of courses.			
				Oral exam (20–30 min.)					
■ <b>Module code</b>	Selected Topics of Mathematics A (WP)	Wi/ Su	5	V+Ü	3	Lecture <i>and</i> Practical course from the module's current range of courses (WP)		Roos	English
				S+Ü	3	Seminar <i>and</i> Practical course from the module's current range of courses (WP)			
				Oral exam (15–20 min.) <i>or</i> Poster presentation					
■ <b>Module code</b>	Selected Topics of Mathematics B (WP)	Wi/ Su	5	V+Ü	3	Lecture <i>and</i> Practical course from the module's current range of courses (WP)		Roos	English
						<i>or</i>			

				S+Ü	3	Seminar <i>and</i> Practical course from the module's current range of courses (WP)		
				Oral exam (15–20 min.) or Poster presentation				
■ Module code	Selected Topics of Mathematics C (WP)	Wi/ Su	10	V	4	Lecture from the module's current range of courses.		Roos
				Ü	2	Practical course from the module's current range of courses.		English
				Oral exam (20–30 min.)				

**Compulsory Elective „Specialization Economic Sciences“ Modules (40 CP to be chosen)**

**Specialization Business Administration**

■ <b>Module code</b>	Finance A (WP)	Wi	10	S	2	Finance A		Adam-Müller	English
				TUT	2-4	Finance A			
				Written exam (90 min.) or written assignment					
■ <b>Module code</b>	Finance B (WP)	Su	10	S	2	Finance B		Adam-Müller	English
				TUT	2-4	Finance B			
				Written exam (90 min.) or written assignment					
■ <b>Module code</b>	Finance C (WP)	Wi	10	S	2	Finance C		Rieger	English
				TUT	2-4	Finance C			
				Written exam (90 min.) or oral exam (15-20 min.)					
■ <b>Module code</b>	Finance D (WP)	Su	10	V/S	2	Finance D		Rieger	English
				TUT/V	2-4	Finance D			
				Written exam (90 min.) or oral exam (15-20 min.)					
■ <b>Module code</b>	Rechnungswesen (WP)	Wi	10	S/V	2	Rechnungswesen I: Konzernrechnungslegung nach HGB & IFRS		Wolz	Deutsch
				Ü/S	2	Rechnungswesen II: Übung zu Rechnungswesen I			
				Ü/S	2	Rechnungswesen III: Besondere Anforderungen an die Rechnungslegung von KI und FDI			
				Written exam (90 min.) or oral exam (15-20 min.)					

**Specialization Economics**

■ <b>Module code</b>	Advanced Microeconomics (P)	Wi	10	V	2	Advanced Microeconomics		Jirjahn, Matschke	English
				Ü	2	Advanced Microeconomics			
				K	2	Mathematics for Economists			
				Written exam (120 min.)					

■ <b>Module code</b>	Advanced Macroeconomics (P)	Wi	10	V	2	Advanced Macroeconomics		Neuenkirch	English
				Ü	2	Advanced Macroeconomics			
				Written exam (120 min.)					
■ <b>Module code</b>	Econometrics (P)	Wi	10	V	2	Econometrics		Neuenkirch	English
				TUT	2	Econometrics			
				Written exam (120 min.)					
■ <b>Module code</b>	Introduction to Monetary Policy and the EMU (WP)	Su	5	V	2	Introduction to Monetary Policy and the EMU		Bauer	English
				Written exam (60 min.)					
■ <b>Module code</b>	Special Topics of Monetary Policy (WP)	Su	5	S	2	Special Topics of Monetary Policy		Bauer	English
				Term paper					
■ <b>Module code</b>	International Macroeconomics (WP)	Su	5	V	2	International Macroeconomics		Neuenkirch	English
				Written exam (60 min.)					
■ <b>Module code</b>	Special Topics in International Macroeconomics (WP)	Su	5	S	2	International Macroeconomics		Neuenkirch	English
				Term paper					
■ <b>Module code</b>	Applied Financial Econometrics (WP)	Su	5	V	2	Applied Financial Econometrics		Neuenkirch	English
				Written exam (60 min.)					
■ <b>Module code</b>	Applied Macroeconometrics (WP)	Su	5	V	2	Applied Macroeconometrics		Neuenkirch	English
				Written exam (60 min.)					
■ <b>Module code</b>	Applied Time Series Econometrics (WP)	Su	5	V	2	Applied Time Series Econometrics		Neuenkirch	English
				Written exam (60 min.)					
■ <b>Module code</b>	Special Topics in Applied Econometrics (WP)	Wi	5	S	2	Special Topics in Applied Econometrics		Neuenkirch	English
				Term paper					
■ <b>Module code</b>	International Energy Markets (P)	Wi	10	V	2	International Energy Markets		von Auer	English
				S	2	International Energy Markets			
				Written exam (60 min.) and term paper and presentation					

■ <b>Module code</b>	International Environmental Economics (P)	Su	10	V/S/ Ü	4	International Environmental Economics		Müller- Fürstenberger	English
				Written exam (60 min.) <i>and</i> term paper and presentation					
■ <b>Module code</b>	Industrial Organization (WP)	Wi/ Su	10	V	2	Industrial Organization		Matschke	English
				Ü	2	Industrial Organization			
				Written exam (90 min.)					

## List of abbreviations

### *Compulsory attendance courses*

EX	Field trip/Day Field trip	LAB	Lab/lab course	PRS	Practice-oriented seminar
GÜ	Field exercise	PRA	Internship	PRÜ	Practical course
KOS	Colloquium seminar	PRO	Project seminar	SPÜ	Language course

### *Non-compulsory attendance courses*

EL	E-Learning-Course	LK	Reading course	TUT	Tutorium
FK	Specialised Course	OS	Advanced seminar	Ü	Practical course
HS	Master's-level seminar	PRP	Preparatory course	V	Lecture
KOL	Colloquium	PS	Bachelor's-level seminar	V+Ü	Lecture with practical course
K	Course	S	Seminar		

### *Other abbreviations*

LP	Credit Points	SWS	Hours	WP	Elective module or course
P	Compulsory module	Su	Summer term		
Sem	Semester	Wi	Winter term		