

# Info Moment Master of Mathematics

August 2, 2021



# Before we start

- You can certainly use your webcam!
- Please ask all questions you might have!
- Slides will become available afterwards

# Master of Mathematics VS Master in de Wiskunde

## Important differences

- Options: research vs education
- Language: at least 30 ECTS dutch courses (on top of your thesis!)

## Minor differences

- Available courses:  
“Differentiaaltopologie”, “Discrete wiskunde”, “Wiskundige logica”, “Numerieke simulatie van differentiaalvergelijkingen”, ...
- You can still take these, if you speak Dutch

## General advice

- Choose English
- Except if you want option "Onderwijs"

## Links

- English: [https://onderwijsaanbod.kuleuven.be//opleidingen/e/SC\\_51958514.htm](https://onderwijsaanbod.kuleuven.be//opleidingen/e/SC_51958514.htm)
- Dutch: [https://onderwijsaanbod.kuleuven.be/opleidingen/n/SC\\_51957503.htm](https://onderwijsaanbod.kuleuven.be/opleidingen/n/SC_51957503.htm)

# Structure of the Program

6	Truncus Communis
54	Profile
30	Option
30	Master's Thesis
X	Extra

- Mathematics of the 21st Century
- Friday 4 - 6 pm
- First year

# Structure of the Program

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- Core courses (30)
  - Pure: choose 5/6
  - Applied: choose 5/9
- In-depth courses (24)
  - In-depth courses
  - Courses from Dutch master
  - Courses from the other profile
  - Science, education and society
  - ≤ 18 Bachelor courses to fill gaps
  - ≤ 6 Course from other option + general non mathematics course
  - .... Talk to program director!

6 ECTS	<a href="#">Algebraic Geometry I</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Commutative Algebra</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Group Theory</a>	①	②	Ⓛ	⋮
6 ECTS	<a href="#">Functional Analysis</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Differential Geometry</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Probability and Measure</a>	①	②	Ⓛ	

6 ECTS	<a href="#">Optimization</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Computational Methods for Astrophysical Applications</a>	①	②	Ⓛ	⋮
6 ECTS	<a href="#">Introduction to Plasma Dynamics</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Numerical Simulation of Differential Equations</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Fundamentals of Financial Mathematics</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Statistical Tools for Quantitative Risk Management</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Advanced Nonparametric Statistics and Smoothing</a>	①	②	Ⓛ	
6 ECTS	<a href="#">Waves and Instabilities</a>	①	②	Ⓛ	⋮
6 ECTS	<a href="#">Robust Statistics</a>	①	②	Ⓛ	

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- Research
  - Student seminar
  - Reading course
  - selected topics course: choose 1, not yet published (or other university)
  - 12 ECTS in-depth as before
- Professional
  - Choose 18 ECTS from 16 courses
  - 12 ECTS in-depth as before
- Onderwijs

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- No panic right now!
  - Unless you want to propose your own topic
- Choice deadline  $\rightsquigarrow$  end April
- You can already look at previous topics if you want:  
<https://wis.kuleuven.be/english/education/ma-math/master-thesis>
- Should pass 54 ECTS before starting thesis

# Structure of the Program

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- You can do more courses if you want to
  - Talk to the program director
- Credit contract?

# International experience

- International experience is certainly a possibility!
  - Erasmus, Exchange, summer schools, ...
  - See <https://wet.kuleuven.be/internationalisering>

# Things you might want to know

- When to choose my courses?
  - ISP opens again in second semester
  - Best to plan 2 years already
    - Master thesis topic
    - Courses are not given every year
- There is a lot possible if you can convince program director
  - Note: you can mix applied and pure if you want to
- Workload: prepare to work, prepare to work together
- Do what feels right! Try to do it quick
- You can check schedule online!

# Example schedule: pure + research

1<sup>st</sup>: 27

SEM 1	Maandag	Dinsdag	Woensdag	Donderdag	Vrijdag	
8:00						
8:30						
9:00				AG 1: Exercises	CA: Exercises	
9:30						
10:00						
10:30	Commutative Algebra	Algebraic Topology				
11:00						
11:30						
12:00						
12:30						
13:00		Algebraic Topology				
13:30	DG: Exercises					
14:00						
14:30						
15:00						
15:30						
16:00		Algebraic Geometry 1	Differential Geometry		Math 21: Lectures	
16:30						
17:00						
17:30						
18:00						
18:30						
19:00						
19:30						
20:00						



# Example schedule: pure + research

2<sup>nd</sup>: 33

SEM 2	Maandag	Dinsdag	Woensdag	Donderdag	Vrijdag		
8:00							
8:30							
9:00				Algebraic Geometry 2			
9:30							
10:00							
10:30		Discrete Wiskunde		RS: Exercises			
11:00							
11:30							
12:00							
12:30							
13:00							
13:30							
14:00				DW: Oefeningen	Riemannian Geometry		
14:30							
15:00							
15:30							
16:00			Riemann Surfaces	Riemannian Geometry	Math 21: Presentations		
16:30							
17:00		Geschiedenis van de Wiskunde					
17:30							
18:00							
18:30							
19:00							
19:30							
20:00							

# Example schedule: pure + professional

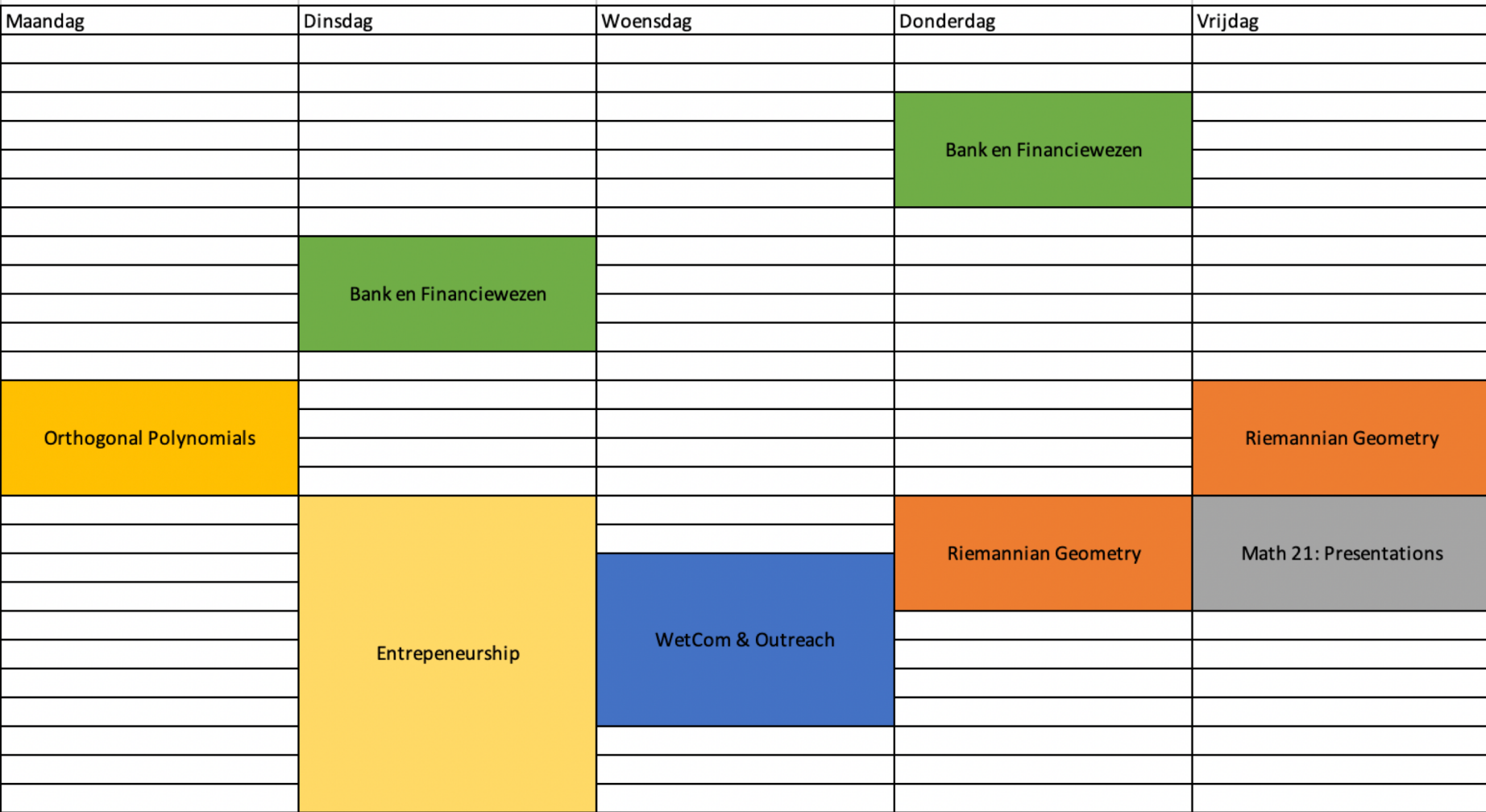
1<sup>st</sup>: 29

SEM 1	Maandag	Dinsdag	Woensdag	Donderdag	Vrijdag
8:00					
8:30					
9:00				AG 1: Exercises	CA: Exercises
9:30					
10:00					
10:30	Commutative Algebra	Algebraic Topology			
11:00					
11:30					
12:00					
12:30					
13:00		Algebraic Topology			
13:30	DG: Exercises				
14:00					
14:30					
15:00					
15:30					
16:00		Algebraic Geometry 1	Differential Geometry		Math 21: Lectures
16:30					
17:00					
17:30					
18:00		Entrepreneurship			
18:30					
19:00					
19:30					
20:00					
20:30					
21:00					

# Example schedule: pure + professional

2<sup>nd</sup>: 31

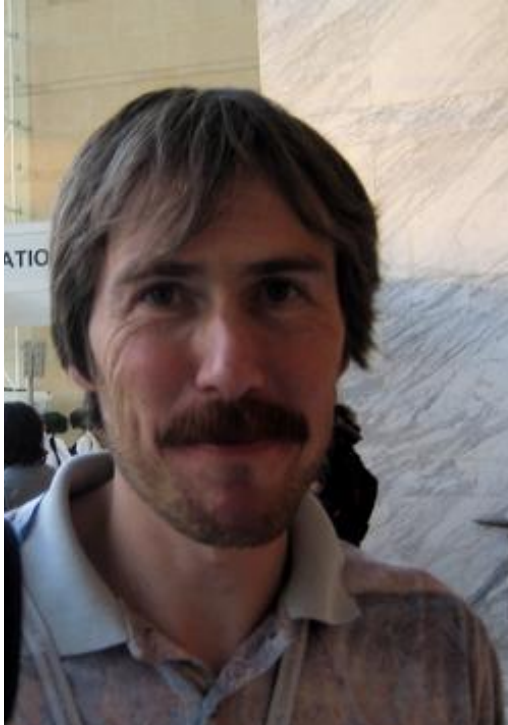
SEM 2	Maandag	Dinsdag	Woensdag	Donderdag	Vrijdag
8:00					
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21:00					



# Onderwijs

# Wiskundige ingenieurstechnieken

# Help?



Program director  
Wim Veys



Study Advisor  
Kuijlaars



Ombuds person  
Stijn



Erasmus coordinator  
Keppens

Help?

*Wina*



Student  
association Wina

Student  
representatives

pocwis@wina.be

Questions?



# Specific rooms

<https://www.wina.be/nl/nieuws/master-infomoment/>

## Pure - Research

- Charlotte
- Michaël

## Pure - Professional

- Rune
- Simon

## Applied - Professional

- Nika

## Optie Onderwijs

- Jonas
- Mathias

## Educatieve Master

- Nore

## Wiskundige Ingenieurstechnieken

- Evert