

# Sapienza Università di Roma

## Applied Mathematics, master

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### Study plan

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Matematica applicata per le scienze

### First year

Orientamento unico





Course	Semester	CFU	SSD	Language
1031344 - INSTITUTIONS OF SUPERIOR ANALYSIS	First semester	9	MAT/05	
1031355 - PROBABILITY INSTITUTIONS	First semester	9	MAT/06	
10589497 - Elements of theoretical physics	First semester	6	FIS/02	
- A SCELTA DELLO STUDENTE	Second semester	6		
1031353 - INSTITUTIONS OF MATHEMATICAL PHYSICS	Second semester	9	MAT/07	
Gruppo opzionale delle Istituzioni per Matematica Applicata per le Scienze	Go to group			
Gruppo opzionale integrativo analitico-geometrico per Matematica Applicata per le Scienze	Go to group			

Orientamento unico

Course	Semester	CFU	SSD	Language
Gruppo opzionale analitico per Matematica Applicata per le Scienze	Go to group		MAT/05	
Gruppo opzionale integrativo per Matematica Applicata per le Scienze	Go to group			
Gruppo opzionale applicato per Matematica Applicata per le Scienze	Go to group			

## Second year








Orientamento unico

Course	Semester	CFU	SSD	Language
- A SCELTA DELLO STUDENTE	First semester	6		
AAF1149 - OTHER USEFUL SKILLS FOR INCLUSION IN THE WORLD OF WORK	First semester	3		
AAF1778 - Scientific English	First semester	4		
AAF1027 - FINAL EXAM	Second semester	29		
Gruppo opzionale integrativo analitico-geometrico per Matematica Applicata per le Scienze	Go to group			
Gruppo opzionale integrativo per Matematica Applicata per le Scienze	Go to group			
Gruppo opzionale applicato per Matematica Applicata per le Scienze	Go to group			

[Modellistica differenziale numerica](#)




## First year

Orientamento unico


Course	Semester	CFU	SSD	Language
1031344 - INSTITUTIONS OF SUPERIOR ANALYSIS	First semester	9	MAT/05	
1031383 - INSTITUTIONS OF NUMERICAL ANALYSIS	First semester	9	MAT/08	
1031355 - PROBABILITY INSTITUTIONS	First semester	9	MAT/06	
1031385 - APPLIED ANALYTICAL MODELS	First semester	6	MAT/05	
1031353 - INSTITUTIONS OF MATHEMATICAL PHYSICS	Second semester	9	MAT/07	
1031450 - NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS	Second semester	6	MAT/08	
- A SCELTA DELLO STUDENTE	Second semester	6		
Gruppo opzionale numerico per Modellistica Differenziale Numerica	Go to group		MAT/08	
Gruppo opzionale integrativo analitico per Modellistica Differenziale Numerica	Go to group		MAT/05	
Gruppo opzionale integrativo per Modellistica Differenziale Numerica	Go to group			
Gruppo opzionale applicato per Modellistica Differenziale Numerica	Go to group			

## Second year

Orientamento unico

Course	Semester	CFU	SSD	Language
- A SCELTA DELLO STUDENTE	First semester	6		
AAF1149 - OTHER USEFUL SKILLS FOR INCLUSION IN THE WORLD OF WORK	First semester	3		
AAF1778 - Scientific English	First semester	4		







Orientamento unico

Course	Semester	CFU	SSD	Language
AAF1027 - FINAL EXAM	Second semester	29		
Gruppo opzionale applicato per Modellistica Differenziale Numerica	Go to group			
Gruppo opzionale integrativo per Modellistica Differenziale Numerica	Go to group			
Gruppo opzionale integrativo analitico per Modellistica Differenziale Numerica	Go to group		MAT/05	
Gruppo opzionale numerico per Modellistica Differenziale Numerica	Go to group		MAT/08	

[Matematica per le Data Sciences](#)

**First year**

Orientamento unico





Course	Semester	CFU	SSD	Language
1031383 - INSTITUTIONS OF NUMERICAL ANALYSIS	First semester	9	MAT/08	
1031355 - PROBABILITY INSTITUTIONS	First semester	9	MAT/06	
1031375 - MATHEMATICAL STATISTICS	First semester	6	MAT/06	
10595859 - Foundations of Algebra and Geometry	First semester	9		
1031353 - INSTITUTIONS OF MATHEMATICAL PHYSICS	Second semester	9	MAT/07	
- A SCELTA DELLO STUDENTE	Second semester	6		
Gruppo opzionale algebrico per Matematica per Data Science	Go to group		MAT/02	
Gruppo opzionale applicato per Matematica per Data Science	Go to group			
Gruppo opzionale informatico per Matematica per Data Science	Go to group		INF/01	

Orientamento unico

Course	Semester	CFU	SSD	Language
Gruppo opzionale integrativo applicato per Matematica per Data science	Go to group			



## Second year

Orientamento unico



Course	Semester	CFU	SSD	Language
- A SCELTA DELLO STUDENTE	First semester	6		
AAF1149 - OTHER USEFUL SKILLS FOR INCLUSION IN THE WORLD OF WORK	First semester	3		
AAF1778 - Scientific English	First semester	4		
AAF1027 - FINAL EXAM	Second semester	29		
Gruppo opzionale integrativo applicato per Matematica per Data science	Go to group			
Gruppo opzionale informatico per Matematica per Data Science	Go to group		INF/01	
Gruppo opzionale applicato per Matematica per Data Science	Go to group			
Gruppo opzionale algebrico per Matematica per Data Science	Go to group		MAT/02	

### Optional Groups








**Gruppo opzionale delle Istituzioni per Matematica Applicata per le Scienze: The student must acquire 9 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031383 - INSTITUTIONS OF NUMERICAL ANALYSIS	First year	First semester	9	MAT/08	
1031352 - INSTITUTIONS OF SUPERIOR ALGEBRA	First year	First semester	9	MAT/02	




**Gruppo opzionale delle Istituzioni per Matematica Applicata per le Scienze: The student must acquire 9 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
10595859 - Foundations of Algebra and Geometry	First year	First semester	9		
1031354 - INSTITUTIONS OF SUPERIOR GEOMETRY	First year	First semester	9	MAT/03	






**Gruppo opzionale applicato per Matematica Applicata per le Scienze: The student must acquire 12 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031451 - STOCHASTIC PROCESSES	First year	Second semester	6	MAT/06	
1031365 - DYNAMICAL SYSTEMS	First year	Second semester	6	MAT/07	
10595860 - Mathematical methods in Statistical Mechanics	First year	Second semester	6		
1044640 - Stochastic calculus with applications	Second year	First semester	6	MAT/06	
1031445 - Numerical methods for nonlinear PDEs	Second year	First semester	6	MAT/08	
10596055 - Fluid mechanics and kinetic theories	Second year	First semester	6	MAT/07	
10596056 - Mathematical methods in quantum mechanics	Second year	First semester	6	MAT/07	




**Gruppo opzionale integrativo analitico-geometrico per Matematica Applicata per le Scienze: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031385 - APPLIED ANALYTICAL MODELS	First year	First semester	6	MAT/05	
1031359 - FUNCTIONAL ANALYSIS	First year	Second semester	6	MAT/05	
10593295 - Calculus of Variations	First year	Second semester	6	MAT/05	







**Gruppo opzionale integrativo analitico-geometrico per Matematica Applicata per le Scienze: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1022837 - RIEMANNIAN GEOMETRY	First year	Second semester	6	MAT/03	
1031366 - PARTIAL DIFFERENTIAL EQUATION	First year	Second semester	6	MAT/05	
1022838 - SUPERIOR GEOMETRY	Second year	First semester	6	MAT/03	
10593293 - Fourier Analysis	Second year	First semester	6	MAT/05	
10593299 - Control Theory	Second year	First semester	6	MAT/05	

**Gruppo opzionale analitico per Matematica Applicata per le Scienze: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031385 - APPLIED ANALYTICAL MODELS	First year	First semester	6	MAT/05	
1031359 - FUNCTIONAL ANALYSIS	First year	Second semester	6	MAT/05	
10593295 - Calculus of Variations	First year	Second semester	6	MAT/05	

**Gruppo opzionale integrativo per Matematica Applicata per le Scienze: The student must acquire 6 CFU from the exams below**



Course	Year	Semester	CFU	SSD	Language
1031385 - APPLIED ANALYTICAL MODELS	First year	First semester	6	MAT/05	
1031375 - MATHEMATICAL STATISTICS	First year	First semester	6	MAT/06	
1031451 - STOCHASTIC PROCESSES	First year	Second semester	6	MAT/06	
10595860 - Mathematical methods in Statistical Mechanics	First year	Second semester	6		
1031365 - DYNAMICAL SYSTEMS	First year	Second semester	6	MAT/07	
10593300 - Computational Mathematics	First year	Second semester	6	MAT/08	

**Gruppo opzionale integrativo per Matematica Applicata per le Scienze: The student must acquire 6 CFU from the exams below**





<b>Course</b>	<b>Year</b>	<b>Semester</b>	<b>CFU</b>	<b>SSD</b>	<b>Language</b>
1031366 - PARTIAL DIFFERENTIAL EQUATION	First year	Second semester	6	MAT/05	
1031444 - ANALYSIS OF DATA SEQUENCES	First year	Second semester	6	MAT/07	
10593293 - Fourier Analysis	Second year	First semester	6	MAT/05	
10593299 - Control Theory	Second year	First semester	6	MAT/05	
1044640 - Stochastic calculus with applications	Second year	First semester	6	MAT/06	
1031448 - MODELS OF NEURAL NETWORKS	Second year	First semester	6	MAT/07	
10595858 - Elements of probability and statistics for data sciences	Second year	First semester	6	MAT/06	
1031445 - Numerical methods for nonlinear PDEs	Second year	First semester	6	MAT/08	
10596055 - Fluid mechanics and kinetic theories	Second year	First semester	6	MAT/07	
10596056 - Mathematical methods in quantum mechanics	Second year	First semester	6	MAT/07	
10595855 - Nonlinear Analysis	Second year	First semester	6	MAT/05	
1031360 - SUPERIOR ANALYSIS	Second year	First semester	6	MAT/05	










**Gruppo opzionale numerico per Modellistica Differenziale Numerica: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
10593300 - Computational Mathematics	First year	Second semester	6	MAT/08	
1031445 - Numerical methods for nonlinear PDEs	Second year	First semester	6	MAT/08	




**Gruppo opzionale integrativo analitico per Modellistica Differenziale Numerica: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
10593295 - Calculus of Variations	First year	Second semester	6	MAT/05	
1031366 - PARTIAL DIFFERENTIAL EQUATION	First year	Second semester	6	MAT/05	
10593299 - Control Theory	Second year	First semester	6	MAT/05	
10593293 - Fourier Analysis	Second year	First semester	6	MAT/05	





**Gruppo opzionale integrativo per Modellistica Differenziale Numerica: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
10593295 - Calculus of Variations	First year	Second semester	6	MAT/05	
1031366 - PARTIAL DIFFERENTIAL EQUATION	First year	Second semester	6	MAT/05	
1031451 - STOCHASTIC PROCESSES	First year	Second semester	6	MAT/06	
1031365 - DYNAMICAL SYSTEMS	First year	Second semester	6	MAT/07	
10593300 - Computational Mathematics	First year	Second semester	6	MAT/08	
10593299 - Control Theory	Second year	First semester	6	MAT/05	
10593293 - Fourier Analysis	Second year	First semester	6	MAT/05	



**Gruppo opzionale integrativo per Modellistica Differenziale Numerica: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1044640 - Stochastic calculus with applications	Second year	First semester	6	MAT/06	
1031445 - Numerical methods for nonlinear PDEs	Second year	First semester	6	MAT/08	
10596055 - Fluid mechanics and kinetic theories	Second year	First semester	6	MAT/07	


**Gruppo opzionale applicato per Modellistica Differenziale Numerica: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031451 - STOCHASTIC PROCESSES	First year	Second semester	6	MAT/06	
1031365 - DYNAMICAL SYSTEMS	First year	Second semester	6	MAT/07	
1044640 - Stochastic calculus with applications	Second year	First semester	6	MAT/06	
10596055 - Fluid mechanics and kinetic theories	Second year	First semester	6	MAT/07	




**Gruppo opzionale algebrico per Matematica per Data Science: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031836 - DISCRETE MATHEMATICS	First year	Second semester	6	MAT/02	
10595880 - Combinatorics	Second year	First semester	6	MAT/02	



**Gruppo opzionale applicato per Matematica per Data Science: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031444 - ANALYSIS OF DATA SEQUENCES	First year	Second semester	6	MAT/07	







**Gruppo opzionale applicato per Matematica per Data Science: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031448 - MODELS OF NEURAL NETWORKS	Second year	First semester	6	MAT/07	
10595858 - Elements of probability and statistics for data sciences	Second year	First semester	6	MAT/06	
10595857 - Data Mining	Second year	Second semester	6	MAT/08	






**Gruppo opzionale informatico per Matematica per Data Science: The student must acquire 6 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031446 - THEORY OF ALGORITHMS	First year	Second semester	6	INF/01	
1031363 - THEORY OF CODES	Second year	First semester	6	INF/01	

**Gruppo opzionale integrativo applicato per Matematica per Data science: The student must acquire 12 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031444 - ANALYSIS OF DATA SEQUENCES	First year	Second semester	6	MAT/07	
10593300 - Computational Mathematics	First year	Second semester	6	MAT/08	
1031836 - DISCRETE MATHEMATICS	First year	Second semester	6	MAT/02	
10595860 - Mathematical methods in Statistical Mechanics	First year	Second semester	6		
1031451 - STOCHASTIC PROCESSES	First year	Second semester	6	MAT/06	
1031446 - THEORY OF ALGORITHMS	First year	Second semester	6	INF/01	

**Gruppo opzionale integrativo applicato per Matematica per Data science: The student must acquire 12 CFU from the exams below**

Course	Year	Semester	CFU	SSD	Language
1031448 - MODELS OF NEURAL NETWORKS	Second year	First semester	6	MAT/07	
10595857 - Data Mining	Second year	First semester	6	MAT/08	
10595858 - Elements of probability and statistics for data sciences	Second year	First semester	6	MAT/06	
10595880 - Combinatorics	Second year	First semester	6	MAT/02	
1031363 - THEORY OF CODES	Second year	First semester	6	INF/01	

Downloads

 [laureamagistralematapp-presentazione-202006.pdf](#)

 [laureamagistralematapp-brochure-202006.pdf](#)