UNIVERSITÀ DEGLI STUDI DI PADOVA

MASTER (LM) DEGREE COURSE IN

MOLECULAR BIOLOGY

Study programme for students enrolled in the academic year 2025-2026 entirely held in English

CURRICULUM MOLECULAR BIOLOGY	
1st YEAR	
MANDATORY UNITS	**CREDITS**
ADVANCED CELL BIOLOGY	**9**
ADVANCED BIOCHEMISTRY	**8**
APPLIED STATISTICS	**6**
PLANT MOLECULAR AND CELL BIOLOGY	**9**
MOLECULAR BIOLOGY OF DEVELOPMENT	**8**
GENOMICS AND NGS DATA ANALYSIS	**9**
NEUROBIOLOGY	**10**
2nd YEAR	
MANDATORY UNITS	**CREDITS**
MOLECULAR GENETICS	**6**
STRUCTURAL BIOCHEMISTRY AND BIOPHYSICS	**9**
2 OR 3 FREE-CHOICE UNITS AMONG THE FOLLOWING:	**CREDITS**
MODELS IN GENETIC DISEASE RESEARCH	**4**
EPIGENETICS AND EPIGENOMICS	**6**
MICROBIAL METAGENOMICS	**6**
COMPUTATIONAL ANTHROPOLOGY	**6**
BIOCHEMISTRY OF DISEASES	**8**
MOLECULAR ANTHROPOLOGY	**8**
BEHAVIOURAL GENETICS	**8**
ENGLISH LANGUAGE B2 (PRODUCTIVE SKILLS)	**2**
8 ADDITIONAL FREE CHOICE CREDITS	
ACTIVITIES OF OCCUPATIONAL RELEVANCE	**3**

FINAL THESIS/DISSERTATION	**35**

ANY FURTHER NOTES

- **Attendance is mandatory according to the didactic regulamentation.**
- **Free-choice credits can be chosen among the university's educational offer as long as they are consistent with the educational path. For possible suggestion of pre-evaluated units, see other curricula "units that can be used as free credits".**

CURRICULUM INTEGRATIVE PLANT BIOLOGY	
1st YEAR	
MANDATORY UNITS	**CREDITS**
ADVANCED CELL BIOLOGY	**9**
ADVANCED BIOCHEMISTRY	**8**
APPLIED STATISTICS	**6**
PLANT MOLECULAR AND CELL BIOLOGY	**9**
MOLECULAR BIOLOGY OF DEVELOPMENT	**8**
GENOMICS AND NGS DATA ANALYSIS	**9**
ENVIRONMENTAL PLANT BIOTECHNOLOGIES	**6**
2nd YEAR	
MANDATORY UNITS	**CREDITS**
PLANT NATURAL METABOLITES	**9**
PLANT GENETICS AND EPIGENETICS	**6**
ACTIVITIES OF OCCUPATIONAL RELEVANCE	**3**
8 ADDITIONAL FREE CHOICE CREDITS	
FINAL THESIS/DISSERTATION	**35**

ANY FURTHER NOTES

- **Attendance is mandatory according to the didactic regulamentation.**
- **Free-choice credits can be chosen among the university's educational offer as long as they are consistent with the educational path. For possible suggestion of pre-evaluated units, see other curricula “units that can be used as free credits”.**

CURRICULUM BIOENERGETICS AND METABOLISM	
1st YEAR	
MANDATORY UNITS	**CREDITS**
ADVANCED CELL BIOLOGY	**9**
ADVANCED BIOCHEMISTRY	**8**
APPLIED BIOSTATISTICS	**6**
MOLECULAR BIOLOGY OF DEVELOPMENT	**8**
BIOENERGETICS	**8**
INTRACELLULAR COMMUNICATION	**6**
METABOLISM AND METABOLOMICS	**8**
2nd YEAR	
MANDATORY UNITS	**CREDITS**
ORGANELLE DYNAMICS	**6**
METABOLIC DISORDERS	**9**
MOLECULAR GENETICS	**6**
8 ADDITIONAL FREE CHOICE CREDITS	
ACTIVITIES OF OCCUPATIONAL RELEVANCE	**3**
FINAL THESIS/DISSERTATION	**35**

ANY FURTHER NOTES

- **Attendance is mandatory according to the didactic regulamentation.**
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CURRICULUM GÉNETIQUE

The curriculum "Génetique" is reserved for students selected through a specific call, aimed at issuing a double degree, which involves carrying out part of the training course at the Université de Paris, in different mobility schemes and study plans.
Students must obtain 60 CFU in Padua and 60 CFU in Paris.

CURRICULUM GENETIQUE
FOR STUDENTS WHO ATTENDED THE BIOINFORMATICS CURRICULUM IN THE FIRST YEAR

1st YEAR (held in Padua)

MANDATORY UNITS	CREDITS
ADVANCED CELL BIOLOGY	**9**
FUNDAMENTALS OF INFORMATION SYSTEMS	**12**
APPLIED STATISTICS	**6**
MOLECULAR BIOLOGY OF DEVELOPMENT	**8**
GENOMICS AND NGS DATA ANALYSIS	**9**
MICROBIAL METAGENOMICS	**6**
COMPUTATIONAL ANTHROPOLOGY	**6**
ENGLISH LANGUAGE B2 (PRODUCTIVE SKILLS)	**2**
FRENCH LANGUAGE	**2**

2nd YEAR (held in Paris)

MANDATORY UNITS	CREDITS
MODELS IN GENETIC DESEASE RESEARCH (this unit is held in Padua as an intensive course addressed to both Italian and French students)	**4**
UNITS TO CHOOSE FROM A LIST OF TEACHINGS HELD IN PARIS 5 modules, 3 ECTS, within "Master in Sciences, Santè et Application- mention Genetique" (MODULI MEG)	**15**
UNITS TO CHOOSE FROM A LIST OF TEACHINGS HELD IN PARIS 2 modules, 3 ECTS, within "Master in Sciences, Santè et Application- mention Genetique" (MODULI MEG)	**6**
FINAL THESIS/DISSERTATION (it includes a part of bibliographic research)	**35**

ANY FURTHER NOTES

Attendance is mandatory according to the didactic regulamentation

CURRICULUM GENETIQUE FOR STUDENTS WHO ATTENDED THE MOLECULAR BIOLOGY CURRICULUM IN THE FIRST YEAR	
1st YEAR (held in Padua)	
MANDATORY UNITS	**CREDITS**
ADVANCED CELL BIOLOGY	**9**
ADVANCED BIOCHEMISTRY	**8**
APPLIED STATISTICS	**6**
PLANT MOLECULAR AND CELL BIOLOGY	**9**
MOLECULAR BIOLOGY OF DEVELOPMENT	**8**
GENOMICS AND NGS DATA ANALYSIS	**9**
NEUROBIOLOGY	**10**
ENGLISH LANGUAGE B2 (PRODUCTIVE SKILLS)	**2**
2nd YEAR (held in Paris)	
MANDATORY UNITS	**CREDITS**
MODELS IN GENETIC DESEASE RESEARCH (this unit is held in Padua as an intensive course addressed to both Italian and French students)	**4**
UNITS TO CHOOSE FROM A LIST OF TEACHINGS HELD IN PARIS 5 modules, 3 ECTS, within “Master in Sciences, Santè et Application- mention Genetique” (MODULI MEG)	**15**
UNITS TO CHOOSE FROM A LIST OF TEACHINGS HELD IN PARIS 2 modules, 3 ECTS, within “Master in Sciences, Santè et Application- mention Genetique” (MODULI MEG)	**6**
FINAL THESIS/DISSERTATION (it includes a part of bibliographic research)	**35**

ANY FURTHER NOTES

Attendance is mandatory according to the didactic regulamentation

CURRICULUM GENETIQUE FOR STUDENTS WHO ATTENDED THE FIRST YEAR IN PARIS	
1st YEAR (held in Paris)	
MANDATORY UNITS	**CREDITS**
During the first year the students take several modules mandatory and optional within "Master in Sciences, Santè et Application- mention Genetique"	**60**
ADVANCED BIOCHEMISTRY	**8**
2nd YEAR (held in Paris)	
MANDATORY UNITS	**CREDITS**
MODELS IN GENETIC DESEASE RESEARCH (this unit is held in Padua as an intensive course addressed to both Italian and French students)	**4**
ITALIAN LANGUAGE	**2**
1 UNIT TO CHOOSE AMONG THE FOLLOWING:	**CREDITS**
BIOCHEMISTRY FOR GENETICS	**8**
HUMAN PHYSIOLOGY	**9**
BIOCHEMISTRY OF DISEASES	**8**
1 UNIT TO CHOOSE AMONG THE FOLLOWING:	**CREDITS**
COMPUTATIONAL ANTHROPOLOGY	**6**
MOLECULAR ANTHROPOLOGY	**8**
EPIGENETICS AND EPIGENOMICS	**6**
APPLIED STATISTICS FOR GENETICS	**6**
1 UNIT TO CHOOSE AMONG THE FOLLOWING:	**CREDITS**
MOLECULAR GENETICS	**6**
SYSTEMS BIOLOGY	**6**
INTEGRATIVE BIOLOGY AND NETWORK ANALYSIS	**6**
FINAL THESIS/DISSERTATION	**35**

ANY FURTHER NOTES

Attendance is mandatory according to the didactic regulamentation