

## UNIVERSITÀ DEGLI STUDI DI PADOVA

#### **OPEN WEEKS**

Global Engagement Office International Relations Division



## 8 CENTURIES OF ACADEMIC EXCELLENCE



Italian World-Class University

Multidisciplinary and Interdisciplinary

Research-Intensive



## 8 CENTURIES OF ACADEMIC EXCELLENCE



 Best University in Italy for Teaching and Research Quality

• **Top 250** University in the world



#### THE UNIVER-CITY

- City-campus
- Student-centred town
- Unique setting: UNESCO World Heritage Site
- Strategic position









## **APPLICATIONS**

2<sup>nd</sup> November 2024

2<sup>nd</sup> February 2025





Application fee ( $\in$  30) + Admission fee ( $\in$  204 tbd)

#### ENTRY REQUIREMENTS



Università degli Studi di Padova

LANGUAGE CERTIFICATE	MINIMUM SCORE
TOEFL (Including TOEFL IBT)	80
IELTS (Academic / General Training)	6.0
Cambridge ESOL (General and HE)	173
Trinity College London (ISE)	ISE II
Oxford University Press (OTE)	126
Gatehouse (ESOL International Classic)	GA Level 1
Pearson PTE	PTE General 3 (ESOL Level 1)
Pearson PTE Academic	65

Verify **country-based** specific entry title **requirements** at the following link: <u>https://www.unipd.it/e</u> <u>n/entry-title-</u> <u>requirements</u>



#### **OPEN WEEKS**

#### Master's Degree in Molecular Biology Vice Programme Coordinator: Prof. Luigi Leanza





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**INTRO-KEYWORDS** 

# M.S. PROGRAMS IN MOLECULAR BIOLOGY

## Funded in 2008: 2y (Master)

- Originally all classes were in Italian
- «M.S. in Molecular Biology» started some classes in English in 2011
- Since 2018 all classes of the «M.S. in Molecular Biology» are in English



#### **INTRO-KEYWORDS**



Università degli Studi di Padova





KNOWLEDGE, SKILLS AND COMPETENCE IN THE FIELD OF CELLULAR AND MOLECULAR BIOLOGY OF PLANTS, ANIMALS AND MICROORGANISMS







#### **INTRO-KEYWORDS**

#### M.S. Molecular Biology 80 students (40/y) 120 ECTS credits (60/y)



B.S. Molecular Biology240 students (80/y)180 ECTS credits (60/y)

Students/teachers = 80/20 = 4

90% of the students have got their degree in two years

In 2021, 50% of enrolled students were extra EU





PROGRAMME SPECIFIC ENTRY REQUIREMENTS

Students enrolling in the MOLECULAR BIOLOGY master's program must have a **bachelor degree** and the following knowledge:

- Principles of genetics and mechanisms of heredity and mapping
- Genetics of model organisms.
- Natural selection and biological evolution.
- DNA Replication, Transcription and Translation Control
- Genomics, Transcriptomics and Bioinformatics.



PROGRAMME SPECIFIC ENTRY REQUIREMENTS

- Structure and organization of the plant and animal cell
- Control of cell cycle, signal transduction pathways, histology and embryology
- Plant anatomy and physiology, photosynthesis, C3 and C4 metabolism, plant hormones.
- Physical barriers and transport in biological systems, voltagedependent ion channels, synaptic transmission.
- Sensory receptors and transduction. Genetic engineering. Structure and function of macromolecules, main metabolic pathways, cellular respiration.
- Principles of bioinformatics.



PROGRAMME SPECIFIC ENTRY REQUIREMENTS

## MINIMUM GPA for ADMITTANCE

For Italian Candidates: final Bachelor's degree mark > 98/110 For international candidates (useful for approximate understanding): 89/100

18/20

4.6/5

3.6/4

8,9/10

3,8/4,30



## PROGRAMME STRUCTURE

#### First semester first year:

Advanced Cell Biology 9 ECTS Advanced Biochemistry 8 ECTS Applied Statistics 6 ECTS Plant Molecular and Cell Biology 9 ECTS **Second semester, first year:** Molecular Biology of Development 8 ECTS

Genomics and NGS data analysis 9 ECTS Neurobiology 10 ECTS

#### First semester second year:

Molecular genetics 6 ECTS Structural Biochemistry and Biophysics 9 ECTS

Activities of occupational relevance: 3 ECTS + Free choice: 8 ECTS **Final exam 35 ECTS** 

#### CURRICULUM MOLECULAR BIOLOGY

Laboratory activities: 10 ECTS (160 hr)



## PROGRAMME STRUCTURE

#### First semester first year:

Advanced Cell Biology 9 ECTS Advanced Biochemistry 8 ECTS Applied Biostatistics 6 ECTS Plant Molecular and Cell Biology 9 ECTS Second semester, first year:

#### Molecular Mechanisms of Plant Adaptation (12 ECTS): Mod.A: Plant Morphological Adaptation 6 ECTS Mod.B: Plant Physiological Adaptation 6 ECTS Genomics and NGS data analysis 9 ECTS Environmental Plant Biotechnology 6 ECTS *First semester second year:* Plant natural metabolites 9 ECTS

Plant genetics and epigenetics 6 ECTS Activities of occupational relevance: 3 ECTS + Free choice: 8 ECTS **Final exam 35 ECTS** 

#### CURRICULUM MOLECULAR BIOLOGY OF PLANTS

Laboratory activities: 10 ECTS (160 hr)



## PROGRAMME STRUCTURE

#### First semester first year:

Advanced cell biology 9 ECTS Advanced biochemistry 8 ECTS Applied biostatistics 6 ECTS

#### Second semester, first year:

Molecular biology of development 8 ECTS Bioenergetics 8 ECTS Intracellular communication 6 ECTS Metabolism and metabolomics 8 ECTS *First semester second year:* 

Organelle dynamics 6 ECTS Metabolic disorders 9 ECTS Molecular genetics 6 ECTS

Activities of occupational relevance: 3 ECTS + Free choice: 8 ECTS Final exam 35 ECTS

#### CURRICULUM MOLECULAR BIOLOGY OF METABOLIC ORGANELLES

#### Laboratory activities: 10 ECTS (160 hr)



Understanding at molecular level how plants interact with the environment, respond to biotic and abiotic stimuli. The focus is on the strategies plants use to adapt to climate changes, with potential practical applications.







#### PROGRAMME STRUCTURE

#### DOUBLE DEGREE

The **Génétique Moleculaire** Curriculum is the result of an agreement between **Université de Paris and the University of Padua**, who mutually promote an integrated study program in the field of molecular biology, with a focus on genetics. The Signatory Universities joined forces to create a study path that allows the release of a

double degree to the respective students who have completed the planned training path.

A maximum of six students (from the Molecular Biology curriculum) can be selected each academic year. In order to be selected, the candidates should formally apply during their first year of their respective Master's degrees.

Full details on the agreements terms and the rules to be eligible for the double degree can be found <u>here</u>.

# Students evaluations 2024 (anonimous, n=40)





#### INTERNATIONALISATION

#### COORDINATORS: Proff. Mauro Zordan and Luigi Leanza



**DESTINATIONS:** Paris **Berlin Bielefeld** Munich London Wien Coimbra

#### VIRTUALLY... ANY UNIVERSITY IN EUROPE!



#### **RESEARCH OPPORTUNITIES**

Graziano Martello, Luca Scorrano, Idiko Szabo, Luigi Leanza, Tomas Morosinotto, Luca Pagani, Barbara Baldan, Lorella Navazio, Francesco Argenton, Laura Cendron, Carlo Viscomi



Stem cells, Mitochondria, Organelles, Genetic signalling, Cancer, Green biotech, Mouse, Zebrafish, Drosophila, Arabidopsis CRISPR/Cas9, Neurodegeneration.



#### CAREER OPPORTUNITIES



90% of our students are getting a PhD fellowship in Padova or other European Universities.



#### CONTACTS

## **International Desks**

## Dedicated department-based desks for international students:

- ✓ orientation/advising for degree programme choice
- ✓ admissions & enrolment
- ✓ students' welcome
- ✓ support through academic career





#### international.biologia@unipd.it





#### Master's Degree in Molecular Biology

#### www.unipd.it/en

https://biologia-molecolare.biologia.unipd.it/en

www.biologia.unipd.it/en//

## Visit our application platform



Academic-related enquiries: <u>didattica.biologia@unipd.it</u> International Desk: <u>international.biologia@unipd.it</u>









<u>unipd</u>, <u>dibiounipd</u>







WATCH OUR VIDEO "10 reasons for studying in Padua" <u>www.youtube.com/watch?v=Zl6vKRe6PWc</u>