



## Master's Programme Molecular Precision Medicine

The master's degree programme in Molecular Precision Medicine is a joint programme of the Medical University of Vienna and the University of Vienna. The programme is dedicated to a molecular and mechanistic understanding of human disease and its treatment.

The course brings basic, translational and clinical scientists together with doctors to educate students in the opportunities, challenges and future perspectives of precision medicine.

### Career Opportunities

The Master's programme in Molecular Precision Medicine will qualify you to pursue a career in basic, clinical or translational biomedical research, equipped with a deep molecular and mechanistic understanding of human disease.

This flagship programme is designed to provide a rigorous training in bioinformatics that will also allow you to pursue a career in data science. You will learn about target identification, drug development and the clinical evaluation of therapeutics, acquiring skills that will enable you to bridge the gap between the bench and the clinic.

Finally, you will be confronted with the ethical and socio-economic issues associated with the practice of precision medicine.

Our goal is to train the next generation of scientific leaders in the field of molecular precision medicine. We are looking forward to your application!



## Master's Programme Molecular Precision Medicine

From bench to bedside



[www.meduniwien.ac.at/en/master-mpm](http://www.meduniwien.ac.at/en/master-mpm)

In co-operation with



With additional expertise from



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Imprint: Publisher and media owner: Markus Müller, Rector. Medical University of Vienna. Responsible for content: Thomas Leonard, Curriculum Director. Corporate Communications: Johannes Angerer. Photos: PopTika/Shutterstock.com (cover), CI Photos/Shutterstock.com, Gorodenkoff/Shutterstock.com. Published: March 2022

## Course Structure

### MPM1: Chromosome, Gene and Defective DNA Repair Disorders

In this module, you will develop a deep and mechanistic understanding of how DNA is faithfully replicated and repaired, how and where lesions typically arise and how they cause disease.

### MPM2: Diseases of Proteostasis

Defects in protein quality control are manifested in many diseases. This module covers protein folding, quality control, trafficking and turnover, alongside novel therapeutic strategies.

### MPM3: Diseases of Enzymatic Insufficiency

Many diseases are the result of enzymatic insufficiency. This module will develop a deep and mechanistic understanding of enzyme function and pathological dysfunction, including therapeutic strategies.

### MPM4: Diseases of Pathological Signal Transduction

Pathological signal transduction leads to many diseases, including cancer. This module covers signal transduction mechanisms, the consequences of pathogenic lesions and therapeutic treatment avenues.

### MPM5: Diseases of the Immune System

Many diseases result from failures in our body's defense mechanisms. This module examines immune diseases as well as emerging concepts in harnessing our immune system for the treatment of disease.

### MPM6: Biomedical Informatics and Genomic Medicine

Molecular precision medicine requires the high-throughput profiling of genomics data. In this module, you will develop the computational skills and knowledge to interrogate these large data sets.

### MPM7: From Bench to Bedside

All therapeutics trace their origins to basic discoveries in biology. In this module, you will learn how basic research is translated into therapeutics that are administered in the clinic.

### MPM8: Free Elective Course

You will have the opportunity to gain practical lab experience in a participating basic or clinical research lab. Alternatively, you may elect to take courses from other approved Master's programmes.

### MPM9: Ethics, Policy, Legislation and Health Economics

Precision medicine raises a multitude of ethical, policy, legislative, economic and value judgement issues. This module confronts you with these problems and prepares you to critically evaluate them.



## Admission Requirements

Completed bachelor's degree in the biological sciences or medicine from an accredited university or higher education establishment.

Basic knowledge and competencies in molecular biology.

Working knowledge of English (B2 level, Common European Framework of Reference).

## Admissions Procedure

A written application must be submitted online.

For more information see

[www.meduniwien.ac.at/en/master-mpm](http://www.meduniwien.ac.at/en/master-mpm)

