

SINGULAR COURSE UNITS 2023-24 - Molecular Medicine and Oncology, MMO

Name	Programme	Coordinator	Overview	Eligibility	# Students (Max./Min.)	Application Deadline	Starting Date	Fee	ECTS	Language
Molecular Biology Techniques (Hands-on)	MSc in MMO	Ana Paula Soares Dias Ferreira / Maria do Céu Fontes Herdeiro Figueiredo	Practical unit, «hands on», indeed in lab environment	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Molecular Biology I	MSc in MMO	Carlos Reguenga	A - To provide knowledge on the molecular and structural constitution, organization and functioning of the components of the living cells, namely the molecular basis of gene expression, signaling pathways and protein trafficking. B - To prepare students for critical assessment of scientific material. C- To prepare students to envisage the usefulness of molecular cell biology research in Clinical Practice.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Cell Cycle & Apoptosis I	MSc in MMO	Henrique Almeida	To acquire basic knowledge on the concept and regulation of cell cycle (CC) and apoptotic cell death (ACD). To understand the role of CC and ACD in homeostasis. To understand and integrate CC and ACD disregulation at the genesis of human disorders. To familiarize theoretically with technical procedures used in the study of these entities and understand their benefits. To set forth scientific problems and methodological strategies to solve them. To integrate concepts and perception the current frontiers of knowledge, through the contact with internationally reknowed researchers in the field.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Human Genetics and Disease I	MSc in MMO	Filipa Carvalho	To provide the students the fundamental outlines concerning the inheritance of the characteristics that define the human being in their normal and pathological manifestations, using disease models for discussion.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Oncobiology I	MSc in MMO	Valdemar Máximo / Maria de Fátima Machado Henriques Carneiro	The general aim of the Oncobiology module is integrated in the principal goal of the "Mestrado em Medicina e Oncologia Molecular da FMUP", directed to the acquisition of the language and the basic concepts of molecular biology and molecular pathology in order to contribute to further understanding of cellular, tissue and organic functioning, with importance for the medical diagnosis, prognosis and therapeutics	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Molecular Cytogenetics I	MSc in MMO	Manuel Teixeira	The somatic mutation theory of cancer, with emphasis for the relevance of fusion genes for carcinogenesis; To acquire knowledge about the various cytogenetic techniques; To know the advantages and limitations of these methodologies in various models of carcinogenesis; To understand the relevance of the genetic information for diagnosis, prognosis, treatment and follow up of neoplastic diseases; Practical classes on FISH analysis	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Angiogenesis in Inflammation and Cancer I	MSc in MMO	Raquel Soares	To understand the molecular mechanisms and the main factors involved in angiogenesis, as well as the angiogenic modulators. To identify the role of angiogenesis in physiological and distinct pathological situations, including cancer. To recognize methodologies used for examining angiogenesis (in vitro and in vivo models). To identify pro- and anti-angiogenic therapies	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Pharmacogenomics, Precision Medicine and Molecular Epidemiology	MSc in MMO	Rui Medeiros	To review the basic concepts in Pharmacogenomics and Molecular Epidemiology and its implications to Health Sciences and Medicine	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Cardiac Insufficiency I	MSc in MMO	Carmen Dulce da Silveira Brás Silva Ribeiro, Joaquim Adelino Correia Ferreira Leite Moreira	This course unit aims at providing students with an updated viewpoint on the pathophysiology of heart failure. A special emphasis will be given to its molecular mechanisms and clinical and therapeutic implications	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Epigenetics and Cancer I	MSc in MMO	Carmen Jerónimo	1. Recognize major types of epigenetic (EPG) mechanisms and their implications for regulation of gene expression; 2. Understand the complexity of interactions between various EPG mechanisms; 3. Identify key genes and enzymes involved in EPG regulation; 4. Enumerate and characterize main EPG alterations involved in neoplastic transformation and progression; 5. Recognize reciprocal interactions between genetic and EPG mechanisms involved in tumorigenesis; 6. Identify the major therapeutic strategies based on the reversibility of EPG changes, specifically those based on DNA methyltransferases inhibitors mechanism of action, as well as methyltransferases and histone deacetylases; 7. Comprehend the potential of molecular EPG alterations as biomarkers for tumor detection, assessment of prognosis and prediction of response to therapy.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Endocrine Pathology I	MSc in MMO	Paula Freitas	To understand how to recognize endocrinopathies that may need a molecular diagnostic evaluation. To be aware of the methods that may be used in their diagnosis.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Gerontology I	MSc in MMO	Delminda Magalhães e Henrique Almeida	To acquire basic knowledge on the ageing process, particularly its likely causes and intervening mechanisms. To learn key-concepts of gerontology, historical aspects of the subject, its evolution and the current frontiers, with the help of internationally recognized scientists. To set forth scientific problems of the field and methodological strategies to solve them. To understand the current experimental models of ageing, with emphasis on cell models.	Graduates in the field of Life Sciences	up to 2	up to 15 days before course starts	to announce by September 2022	200 €	3	Portuguese or english (when portuguese speaking students or professors are present)
Applied Bioinformatics and Biostatistics	MSc in MMO	Filipe Almeida Monteiro	Theoretical learning on bioinformatics tools and their benefits for the study of life and health sciences. Acquisition of essential knowledge on the collection, organization and analysis of quantitative data frequently used in the study of life and health sciences.	Graduates in the field of Life Sciences	None	NA	NA	NA	3	NA