

Course Title	Tumor Immunology and Immunotherapy				
Course Code	MCB640				
Course Type	Elective				
Level	Master's (2 nd cycle)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	TBA				
ECTS	10	Lectures / week	3 Hours	Laboratories / week	None
Course Purpose and Objectives	The main objective of the Tumor Immunology and Immunotherapy course is to provide a detailed understanding of the role of different immune system components in controlling tumor growth, describe how immune functions are compromised during cancer progression as well as discuss the latest advances in immune-based anticancer therapies.				
Learning Outcomes	<p>Upon completion of the course, students will be able to:</p> <ul style="list-style-type: none"> • Describe the different components of the innate and adaptive immune system • Describe in which ways the immune system handles cancer • Explain why the immune system components can both inhibit or promote tumor growth. • Describe different types of immune cells and their role in cancer patients. • Explain the principles for different immunotherapies such as use of immune checkpoint inhibitor antibodies, adoptive T cell transfer, vaccinations, dendritic cell (DC) therapy etc. • Explain in which ways it is possible to measure immune responses in patients and in experimental systems. 				
Prerequisites	None	Required	None		
Course Content	<p>Description:</p> <ul style="list-style-type: none"> • Innate immune system and its role in controlling tumorigenesis • The potential of natural killer cells in cancer immunotherapy • The role of tumor associated macrophages in cancer progression and response to therapy • Dendritic cells (DC) and dendritic cell tumor immunotherapies • Adaptive immune system components and regulation of cancer progression • Adaptive T cell immunity and tumor antigen recognition • Modulation of the adaptive immune system by inflammation and T-regulatory cell responses 				

	<ul style="list-style-type: none"> • Escape from immune surveillance and ageing in compromising anti-tumor immune responses • Antibody-based cancer therapies • Vaccination as a tool for cancer prevention and therapy • Immune-checkpoint blockade in cancer immunotherapy • Adoptive T-cell anti-cancer therapies • Experimental methods for measuring immune system responses in animal models or patients 										
Teaching Methodology	Face to face										
Bibliography	<p>Cancer Immunology and Immunotherapy, by G. Dranoff, Latest edition, Springer</p> <p>Tumor Immunology and Immunotherapy, by R. C. Rees, Latest edition, Oxford University Press</p> <p>Biology of Cancer, Latest Edition, Chapter 15, by R. Weinberg, Garland Science</p> <p>Selected scientific articles in pdf format that will be provided in advance by the lecturer</p>										
Assessment	<table> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignments</td> <td>20%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignments	20%	Class participation	10%	Total	100%
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