

Code BENG 624 Name Metastasis and Tumor Environment Hour per week 3 (3 + 0) Credit 3 ECTS 7,5 Level/Year Graduate Semester - Type Elective Location AGU Prerequisites None Special Conditions - Coordinator(s) Webpage Content Tumor is more than a mass of cancerous proliferating cells. It is a complex architecture that is composed of cancerous and normal cells that constitute the tumor microenvironment. This tumor can grow and spread throughout the body by a process called metastasis. This course will provide a detailed overview about the molecular events that regulate and drive tumor metastasis and its effect on the tumor microenvironment. Objectives - Provide an overview about the different components of the tumor microenvironment (TME) Objectives - Provide a detailed description of the metastasis process. - Highlight the idae that tumor cells - Provide a detailed description of the metastasis - Provide a detailed description of the tumor microenvironment and the different interaction among its different components of the TME Learning LO1: Be able to describe the multistep process of metastasis <th>COURSE RECORD</th> <th></th>	COURSE RECORD	
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Requirements None.	Requirements	NONE.
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LEARNING ACTIVITIES *Please, use this one as a reference for your course*

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Activities	Number	Weight (%)
Lecture	7	30%
Group Works	2	35%
Presentations	7	35%
Site Visits	0	0%
	Total	100

ASSESSMENT	
Evaluation Criteria	Weight (%)
Quizzes	20%
Weekly Assignments	15%
Group Project Assignments & Presentations	30%
Attendance/Participation	05%



Final Exam/Submission		40%
	Total	100%

For a detailed description of grading policy and scale, please refer to the website https://goo.gl/HbPM2y section 28.

COURSE LOAD *Please, use this one as a reference for your course*

Activity	Duration	Quantity	Work Load
	(hour)		(hour)
In class activities	2	14	28
Lab	0	0	0
Group work	2	12	24
Research (web, library)	6	14	84
Required Readings	3	14	42
Pre-work for Presentation	5	14	70
Lab reports	0	0	0
		General Sum	248

ECTS: 7,5 (Work Load/25-30)

CONTRIBUTION TO PROGRAMME OUTCOMES*

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	P013	P014
L01	3	5	3	4	5	5	5	4						
L02	3	5	3	4	5	5	4	4						
L03	3	5	5	5	5	4	4	5						
L04	3	5	5	5	5	5	5	5						

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

WEEKLY SCHEDULE

W	Торіс	Outcomes
1	Overview for tumor metastasis and Tumor Microenvironment (TME)	L01, L02
	Activity: None	
2	Tumor Heterogeneity and Cancer Stem Cells/Initiating Cells	L02, L03,L04
	Activity: Research article discussion	
3	TME: Immune cells	L02, L03,L04
	Activity: Research article discussion	
4	TME: Cancer Associated Fibroblasts	L02, L03,L04
	Activity: Research article discussion	
5	TME: Endothelial Cells, Pericytes, Lymphatic Endothelial Cells and	L02, L03,L04
	Adipocytes	
	Activity: Research article discussion	
6	TME: Extracellular Matrix	L02,L03,L04
	Activity: Research article discussion	
7	TME: Extracellular Vesicles	L02,L03,L04
	Activity: Research article discussion	
8	Epithelial-to-Mesenchymal Transition (EMT)	L01, L02, L03,
	Activity: Research article discussion	L04
9	Angiogenesis	L01, L02, L03,
	Activity: Research article discussion	L04
10	Circulating Tumor Cells, micrometastasis and cancer dormancy	L01, L02, L03,
	Activity: Research article discussion	L04
11	Metastatic Niche	L01, L02, L03,
	Activity: Research article discussion	L04
12	Tumor Metabolism	L01, L02, L03,
	Activity: Research article discussion	L04
13	Signalling Pathways in Metastasis	L01, L02, L03,



	Activity: Research article discussion	LO4
14	Epigenetic Regulation of Tumor Metastasis	L01, L02, L03,
	Activity: Research article discussion	LO4

Prepared by Mona El Khatib Date 17/07/2018