UCLouvain

wsbim2142

2026

Tumor genetics and epigenetics

2.00 credits	20.0 h	Q1

Teacher(s)	De Smet Charles ;Demoulin Jean Baptiste (coordinator) ;Havelange Violaine ;
Language :	French > English-friendly
Place of the course	Bruxelles Woluwe
Prerequisites	Before taking this class, students must have followed molecular biology and genetic courses.
Main themes	1. Cancer genetics: the goal of this chapter is to give an overview of the mechanism whereby the accumulation of DNA alteration give rise to cancer cells. We will define cancer cell clonality, oncogenes, tumor suppressors and cell selection and give specific examples. 2. Cancer epigenetics: this chapter focuses on the epigenetic alterations of cancer cells, including challenges and therapeutic opportunities. 3. Cancer genomics: this chapter focuses on novel technologies to study and diagnose cancer, in particular genome and transcriptome sequencing.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 After this course, students should: - Understand the genetic and epigenetic mechanisms of tumorigenesis. - Know the various types of DNA alterations and the methods that are available to study them. - Link cancer genetics with diagnosis, prognosis and treatment. Understand scientific literature on this topic (books, articles, publications, methods)
Bibliography	"The biology of Cancer", Robert Weinberg, Ed Garland Science.
Faculty or entity in charge	FASB

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biomedicine	SBIM2M	2		
Master [60] in Biomedicine	SBIM2M1	2		