

BIO-471

Cancer biology I

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Cursus	Sem.	Type
Life Sciences Engineering	MA1, MA3	Opt.
Minor in life sciences engineering	H	Opt.

Language of teaching	English
Credits	5
Session	Winter
Semester	Fall
Exam	During the semester
Workload	150h
Weeks	14
Hours	5 weekly
Lecture	3 weekly
Exercises	2 weekly
Number of positions	

Summary

The course covers in detail molecular mechanisms of cancer development with emphasis on cell cycle control, genome stability, oncogenes and tumor suppressor genes.

Content

The 2x5 credit course starts in the fall semester and continues throughout the spring semester as Cancer Biology II. In the fall semester (Cancer Biology I), the following topics are covered:

- Oncogenes and tumor suppressors
- Cell cycle regulation
- Apoptosis and senescence
- Signalling pathways in cancer
- Genome maintenance and segregation
- DNA repair
- Functional genomic screens and targeted cancer therapies

Learning Prerequisites**Recommended courses**

Basic knowledge of molecular biology and genetics.

Teaching methods

Ex cathedra and exercises

Assessment methods

written exam during the winter session

Supervision

Others Office hours by appointment only.

Resources**Bibliography**

Robert A. Weinberg: The Biology of Cancer, 2nd edition 2013, Garland Science, Taylor & Francis Group,

LLC

Ressources en bibliothèque

- [Robert A. Weinberg: The Biology of Cancer](#)

Moodle Link

- <https://go.epfl.ch/BIO-471>

Prerequisite for

Master in life sciences & technology, specialization in molecular medicine.