



**Karolinska
Institutet**

Course syllabus for

Tumor Biology, 9 credits

Tumörbiologi, 9 hp

This course syllabus is valid from autumn 2014.

Please note that the course syllabus is available in the following versions:

[Autumn2011](#) , [Autumn2013](#) , Autumn2014 , [Autumn2015](#) , [Autumn2016](#) , [Autumn2019](#) , [Autumn2020](#)

Course code	4BI079
Course name	Tumor Biology
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	AV - Second cycle
Grading scale	Pass, Fail
Department	Department of Microbiology, Tumor and Cell Biology
Decided by	Programnämnd 7
Decision date	2011-04-06
Revised by	Programme Committee 7
Last revision	2014-03-28
Course syllabus valid from	Autumn 2014

Specific entry requirements

At least the grade G (pass) on the courses Applied communication in biomedicine 1 including philosophy of science and bioethics, Applied communication in biomedicine 2, Frontiers in translational medicine, Laboratory animal science in theory and practice, and Biostatistics, within the Master's programme in Biomedicine.

Objectives

On completion of the course the student should:

With regards to Knowledge and understanding:

- understand the basic principles in cancer biology,
- understand how cell cycle regulation, tumor suppressors and oncogenes are used for development of new treatment forms,
- demonstrate a thorough knowledge of the relation between cell death and cancer growth,
- demonstrate an understanding of how the tumor environment interacts with malignant cells to develop tumor tissue,
- explain how metastasis, cancer progenitor cells, cell death and the immune system are used for

cancer therapy.

With regards to Competence and skills:

- be able to give an overview of the cancer problem, the modern view on what cancer is, from a basic to a clinical perspective,
- explain the most important problems that need to be solved regarding cancer biology,
- explain tumour progression and metastasis,
- account for commonly known hereditary cancer syndromes.

With regards to Judgment and approach:

- demonstrate an ability to discuss and understand advanced problems in cancer biology.

Content

The course consists of 5-6 week-long parts each with a different focus on the goals of the course. The teaching is performed either within one single period or in 2-3 weeks long sessions. The course also offers a two-day residential session.

Teaching methods

The educational view is based on learning as an active research process. The course is an advanced course, and it is assumed that the student takes responsibility to acquire knowledge. The teaching will take place in the form of expert lectures, seminars and group assignments led of researcher. Group - and/or individual assignments are included and are presented as written reports and oral presentations.

Examination

Upon completion each of the 1-2 week long parts will be examined, ie 5-6 parts of 1,5-3,0 credits each. Each part must have been passed in order to obtain the grade of Pass for the whole course. The examination of the course is conducted through oral- or written assignments but may also take the form of interactive presentations.

Compulsory participation:

Course introductions, group assignments, seminars and demonstrations are compulsory. The course director assesses if and, in that case, how absence can be compensated. Before the student has participated in all compulsory parts or compensated absence in accordance with the course director's instructions, the student's results will not be registered in LADOK. Absence from a compulsory activity may result in that the student cannot compensate the absence until the next time the course is given.

Limited number of examinations or practical training sessions

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student is not approved after four examinations, he/she is recommended to retake the course at the next regular course date, and may, after that, participate in two more examinations. If the student has failed six examinations/tests, no additional examination or new admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination, for which the student registered but not participated in, will not be counted as an examination.

Transitional provisions

After each course, there will be at least six occasions for examination within a two-year period after the

end of the course.

Other directives

The course language is English.

Literature and other teaching aids

Course literature is scientific papers and material handouts out during the course.

One book is recommended covering the whole subject: Robert A. Weinberg. The Biology of Cancer (Garland Science, 2007).