



DEPARTMENT OF CLINICAL SCIENCE, INTERVENTION AND TECHNOLOGY

H9F5520, Incurable Cancers, 1.5 credits (hec)

Obotlig cancer, 1,5 högskolepoäng

Third-cycle level / Forskarnivå

Approval

This syllabus was approved by the The Committee for Doctoral Education on 2024-02-07, and was last revised on 2024-02-07. The revised course syllabus is valid from autumn semester 2024.

Responsible department

Department of Clinical Science, Intervention and Technology, Faculty of Medicine

Prerequisite courses, or equivalent

Recommended: Basic course in tumor biology and oncology, or similar.

Purpose & Intended learning outcomes

Purpose

This translational course is designed for PhD students and junior postdocs that wish to connect their knowledge on tumor biology to clinical reality. The students will learn about the clinical behavior of cancers that are particularly hard to treat, including carcinomas of the lung, pancreas, esophagus, and liver. The course provides a basic historical overview of efforts to treat these cancers and will discuss the possible reasons for failure to make significant progress.

A focus will then lie on novel developments that in recent years have begun to spark significant improvements in the treatment of “incurable cancers”.

By connecting molecular tumor biology and clinical reality, the course shall inspire the student to develop their own approaches to cure potentially “incurable” cancers.

Intended learning outcomes

After completion of the course, the students should be able to:

- Appreciate the complexity of cancers and differentiate between tumor types with a

generally good and bad prognosis

- Reflect on the reasons why treatment of some cancer types has been particularly challenging
- Describe the basics of the most important treatment strategies in oncology and how they failed for specific cancer types
- Present an overview of recent improvements in cancer treatment on a molecular level, and their effects on cancers that are regarded hard to treat.

Course content

This course will provide information on clinical treatment strategies and introduce the concept of incremental progress that has driven developments in oncology for decades. It will discuss why conventional treatments that are successful for some cancers, fail in others.

Then, the course will cover clinically important examples of tumor types that challenge the paradigm of incremental progress, and introduce novel therapies from a more preclinical perspective.

Forms of teaching and learning

Seminars by clinicians (oncologists and surgeons) and by basic researchers. Group discussions and staged “Molecular Tumor Boards”, in which preclinical knowledge will be applied to clinical patient cases. Field visits to the hospital.

Language of instruction

The course is given in English

Grading scale

Pass (G) /Fail (U)

Compulsory components & forms of assessment

Compulsory components

Attendance to all the activities of the course and the oral examination are mandatory. Absence from mandatory parts of the course will have to be compensated for by other activities after discussion with the course leaders.

Forms of assessment

Active participation in the Molecular Tumor Board discussions and the seminars, where the student shall demonstrate the ability to discuss general concepts of cancer therapy.

To pass the course, the participant is required to:

- Complete all assignments and participate actively in group discussions during the course.
- Pass an oral examination on the concluding day.

Course literature

Mandatory reading:

- Cancer treatment and survivorship statistics, 2019, Miller et al., CA Cancer J Clin. 2019 Sep;69(5):363-385. doi: 10.3322/caac.21565. Epub 2019 Jun 11.
- Treatment of non-small cell lung cancer (NSCLC)
Zarogoulidis et al, J, J Thorac Dis. 2013 Sep; 5(Suppl 4): S389–S396. doi: 10.3978/j.issn.2072-1439.2013.07.10
- The Effect of Advances in Lung-Cancer Treatment on Population Mortality
Howlader et al., N Engl J Med 2020; 383:640-649
doi: 10.1056/NEJMoa1916623

Recommended reading (not required for the course):

- “The Emperor of all Maladies”, Siddhartha Mukherjee, 2011
- “The First Cell: And the Human Costs of Pursuing Cancer to the Last”, Azra Raza, 2019