Advanced Immunology, 5.0 credits

Avancerad Immunologi, 5.0 hp

Third-cycle education course

8FO0045

Department of Biomedical and Clinical Sciences

Valid from: Second half-year 2024

Approved by
The Research and PhD studies Committee

Approved
2011-03-07

Revised by
The Research and PhD studies Committee

Revised
2022-05-07

Registration number
LiU-2022-00958

Entry requirements

Entry requirement for studies on third-cycle education courses

- second-cycle degree,
- 240 credits in required courses, including at least 60 second-cycle credits, or
- acquisition of equivalent knowledge in some other manner

Learning outcomes

By the end of the course the students will be able to:
Knowledge and understanding

- Explain the biology, regulation and genetics of the immune system
- Explain the aetiology and pathophysiology of immunological and inflammatory diseases
- Describe the principles of immunomodulatory treatment and the role of the immune system in development of tumours

Competence and skills

- Critically review problems in current research within the field of cellular and molecular immunology
- Critically discuss regulation of the immune system in relation to the molecular mechanisms for immunopathogenesis
- Apply knowledge and integrate results from current research in immunology in order to discuss new hypotheses in immunobiology
- Apply a selected immunological concept in her/his own research project

Judgement and approach

- Analyse and critically evaluate current research on given immunological topics
- Critically evaluate the possibility for a selected immunological concept to be successfully applied in her/his own research project
- Reflect on her/his need for additional immunological knowledge and to continuously develop her/his skills

Contents

Theoretical aspects of the following subject areas are dealt with in the course:

- General immunobiology
- Immunogenetics and -pathology
- Regulation of the immune system
- The aetiology and pathophysiology of immunological and inflammatory diseases
- Immunomodulatory treatment and the role of the immune system in development of tumours
- Novel immunological concepts and their application in research projects

Educational methods

The pedagogical approach applied at the Faculty of Medical and Health Sciences is student centered, problem based learning (PBL). The student takes responsibility for his/her own learning, and seeks and evaluates information and knowledge based on own queries and formulated problems. The role of the teacher is to guide and support the students.
Educational methods applied in this course are lectures, tutorial groups, seminars and presentations.
The course will in part be given in parallel with the Master student course Advanced Immunology, with shared lectures and tutorial groups. The PhD students will have separate examination assignments and seminars at the research level.

Examination

The course is examined through an individual written report that is presented and defended orally and through a critical review of another student's report.
In addition, active participation in compulsory elements is required for passing the course. By active participation is meant that the student contributes with work, input and / or own reflections with relevance to the task. The compulsory elements are tutorial groups and seminars.
For students who have already completed the course at advanced level, examination is only required through an individual written report which is presented and defended orally at a seminar, and through critical examination of another student's report, in order for the requirements for credits at the postgraduate level to be met.
Students who fail are offered one re-examination occasion in close connection to the course. After that participation in a coming course examination is offered. The re-examination should be equally comprehensive as the ordinary examination.
Change of examiner
Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion.
Grading
Pass or Fail
**Course certificate

**On the student’s request, course certificate is issued by the course examiner.

Grading

Two-grade scale

Course literature

A list of recommended literature will be provided by the course coordinator before the start of the course.

General information

The course is planned and carried out according to what is stated in this syllabus. Course evaluation, analysis and suggestions for improvement should be fed back to the Research and PhD studies Committee (FUN) by the course coordinator.
If the course is withdrawn or is subject to major changes, examination according to this syllabus is normally offered at three occasions within/in close connection to the two following semesters.
In order to be able to benefit from the course, the PhD student needs to have basic knowledge in immunology.