Faculty of Science

BIOR40, Biology: Cellular and Molecular Immunology, 15 credits

Biologi: Cellulär och molekylär immunologi, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by on 2007-04-12 and was last revised on 2014-03-06 by Study programmes board, Faculty of Science. The revised syllabus applies from 2014-03-06, autumn semester 2014.

General Information

Language of instruction: English

Main field of studies	*Depth of study relative to the degree requirements*
Biology	A1F, Second cycle, has second-cycle course/s as entry requirements
Molecular Biology	A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding The student should be able to on completion of the course: account for how human immune defence is organised explain the cause of and compare the role at infection and sterile tissue damage of the innate immune defence reflect over which effect activation of the innate immune defence have on the following adaptive reply describe the development and selection of the lymphocytes at the cellular level and be able to explain how the genes of the antigen receptors are expressed at the molecular level under the development describe the principles of how immune response be induceras: communication between different försvarsceller, molecular mechanisms for how antigen is processed and presented how the försvarscellerna is activated the effektorfunktionerna at the activated cells and how these cells combate infections describe the principles of how resting and activated försvarsceller migrate to and from lymphoid organs and icke-lymfoid tissue describe primary and secondary immune responses and explain the principles of vaccination explain how the immune responses are regulated; and the

toleransmekanismer of the immune system describe symptoms and disease mechanism at some common autoimmune diseases at a general level describe symptoms and disease mechanism at the överkänslighetstillstånd at a general level Skills and abilities The student should be able to on completion of the course: identify and present relevant information from scholarly journals with cellular and molecular immunological issues and evaluate and relate the information to the field apply some current experimental methods that are used at research within cellular and molecular immunology and summarise the laboratory results in writing Judgement and approach The student should be able to on completion of the course: evaluate and review media information critically (radio, TV, daily press, bloggar and web pages) concerning immunological issues

Course content

The course is designed as theme weeks that treat different immunological ämnesavsnitt. Under the theme weeks, different lärformer including lectures are integrated, self-study in? team?, and teacher-supervised group and discussion exercises. The first theme weeks are organised as introduktionsavsnitt that aim to introduce the students to the subject areas that will be treated during the course. To this section, two laboratory sessions also hear to increase understanding of basic technologies that are used within the field. Remaining part of the course is a specialisation in the immune defence with theme weeks that treat the different learning objectives, and in addition, laboratory sessions and scientific seminars aligned. The aim of the lectures is to introduce, supplement and update selected sections in the textbooks. The ambition is that the lecturers should integrate new research results in the teaching. The students read supplementary scientific articles that are discussed under the group work.

Course design

The teaching consists of lectures, group and discussion exercises and laboratory sessions. Participation in laboratory sessions and teacher-supervised group work and thereby integrated other teaching is compulsory. The expected learning outcomes concerning knowledge and understanding are examined at the written examination. The expected learning outcomes respect skills and abilities and judgement and approach are examined through the written examination, participating in group work, scientific seminar and participation in laboratory session and submission of laboratory report.

Assessment

Examination Written examination and participation in compulsory parts. For students who have not passed at regular examinations are offered further examination in close connection to this.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.
The grading system includes grades are Fail, Pass, Pass with distinction. The final grade is determined by combining the scores for the various elements included in the examinations. Laboratory reports and the gruppövningsarbetet have the grades passed and failed. The written examination has the grades passed with distinction, passed and failed. Activity under group work and laboratory sessions are taken into account and can compensate results nearest the border to pass with distinction.

Entry requirements

Admission to the course requires 120 credits science studies including courses corresponding cell and molecular biology / biochemistry 30 credits, genetics 5 hp, microbiology 5 hp, Human Physiology 15 credits, immunology 5hp, Chemistry 15 hp, and molecular biology (a) advanced courses 30 credits, and English B (advanced)

Further information

The course can not be include in a higher education qualification together with BIOR40 Cellular and molecular immunology 15 credits.

Subcourses in BIOR40, Biology: Cellular and Molecular Immunology

Applies from V08

0701 Cellular and Molecular Immunology, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction