



LUND
UNIVERSITY

Faculty of Medicine

BIMM23, Biomedicine: Metabolic diseases, 7.5 credits

Biomedicin: Metabola sjukdomar, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Committee for Biomedical, Medical and Public Health Education on 2015-06-09 to be valid from 2015-07-01, spring semester 2016.

General Information

The course is an elective component of the Master of Medical Science programme in Biomedicine.

Language of instruction: English

Main field of studies

Biomedicine

Depth of study relative to the degree requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding

On completion of the course, students shall scientifically and professionally be able to

- explain the structure and function of the endocrine system and discuss how its regulation affects the internal environment, growth and metabolic control of the body
- describe the metabolic syndrome and discuss causes contributing to its emergence
- explain in detail the mechanisms behind metabolic diseases and argue for different types of drugs and preventive treatments

Competence and skills

On completion of the course, students shall scientifically and professionally be able to

- extract, analyse and present information from scholarly journals on endocrine and metabolic issues
- critically review, present and discuss current research on endocrine and metabolic diseases
- clearly formulate a defined research project to address a given issue
- work in groups and make constructive contributions to the group's ability to solve research problems within endocrine and metabolic diseases.

Judgement and approach

On completion of the course, students shall scientifically and professionally be able to

- reflect on and assess research related to the field of metabolic diseases, and formulate hypotheses for the pathogenesis behind these diseases
- reflect on ethical approaches within metabolic research
- identify their need of further knowledge and take responsibility for their ongoing learning

Course content

The course provides students with specialisation and development of courses in cell biology and human physiology, focusing on (some of the) endocrine and metabolic diseases included in the strong research areas at Lund University. The course starts with the normal physiology of the endocrine organs and how they govern the metabolism of the body. The following weeks deal with endocrine pathophysiology from different perspectives, i.e. focusing on the different endocrine organs. The course also addresses the cardiovascular complications that arise in connection with the metabolic syndrome and also highlight genetic aspects of metabolic diseases. The course is intended to prepare for research and aims to introduce the students to ongoing research within the field.

Course design

The course is structured around weekly themes which are introduced by a lecture followed by a compulsory TBL*) group exercise and method discussions that are concluded at the end of the week. Each theme will include a lecture/seminars with experienced metabolic researchers, for which students are to prepare and analyse material for discussion. The students will practise reading research articles, extracting relevant content and presenting it orally. The article presentations will include references to previous course content. All students are expected to be prepared and participate constructively in the discussion. Attendance is compulsory for all TBL sessions and the seminars marked in the timetable.

**) TBL (team-based learning) means that students are divided into groups in which they are to prepare through readiness assurance tests (RAT), individually and in groups. The students will then work on applying their knowledge.

Assessment

The assessment is based on two examination components: an individual readiness assurance test (iRAT) and course portfolio.

The iRAT is used to assess the learning outcomes of knowledge and understanding.

The course portfolio is used to assess the learning outcomes of knowledge and understanding, competence and skills, and judgement and approach. It is to include a written and oral presentation of a research project plan, review of the work of a fellow student, and active participation in seminars, discussions, presentations and TBL. Furthermore, the portfolio is to include an individual written assignment, in which students reflect on their performance to attain the learning outcomes, complete their project plan and review the project plans of fellow students.

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

Grades

Marking scale: Fail, Pass.

Entry requirements

To be admitted to course, students must have 120 first or second cycle credits in science subjects, including at least 15 credits in cell biology, 15 credits in biochemistry, 15 credits in human physiology, 7.5 credits in immunology and 7.5 credits in microbiology.

Subcourses in BIMM23, Biomedicine: Metabolic diseases

Applies from V16

- 1501 Individual Readiness Assurance tests (iRATs), 2,0 hp
Grading scale: Fail, Pass
- 1502 Course portfolio, 5,5 hp
Grading scale: Fail, Pass