



LUNDS UNIVERSITET
Medicinska fakulteten

COURSE SYLLABUS

Ref
M 2007/520

1(3)

Adopted by the NBMFU on 7 March 2007
Valid from autumn term 2007

**Biomedical, medical and public health training
board (NBMFU)**

BIMM13 Cell and Tissue Culture

15 higher education credits Second cycle

General Information

Main field

Biomedicine

Subject

Cell culture

*Type of course and its location in the education
system*

The course is an optional second cycle course.

Language of instruction

English

Learning Outcomes

Knowledge and understanding

On completion of the course, students shall

- be able to examine and analyse practical and theoretical principles of cell culture
- be able to describe and explain the conditions under which cells can be cultured outside the body
- be able to explain the advantages and limitations of cell culture in biomedical research and applications.

Skills and abilities

On completion of the course, students shall

- be able to plan experiments using cultured cells
- be able to carry out cell culture, and associated laboratory techniques
- be able to carry out the most common analysis techniques associated with cell culture
- be able to present and analyse literature which covers cell culture
- be able to use language relevant to cell culture, orally and in writing.

Judgment and approach

On completion of the course, students shall

- demonstrate a constructive and critical approach to cell culture on a practical and theoretical level, encompassing ethical and environmental aspects of cell culture
- be able to rely on their acquired theoretical and practical knowledge when presented with a task in the subject field.

Adopted by the NBMFU on 7 March 2007
Valid from autumn term 2007

Course Contents

The course provides theoretical and practical knowledge and skills on how to culture cells outside the body. Students acquire practical and theoretical knowledge of the structure, equipment and sterile techniques of the cell culture laboratory, the growth conditions of cells in the body and how we attempt to mimic this in cultures, the composition of cell culture media, establishment of primary cultures and cell lines from normal tissue and tumours, routine cultivation of cells, long-term storage, contamination, various methods for characterisation of cells, transfection, and the use of cells in culture to resolve various issues in basic and applied research.

Subjects examined

A pass in the course requires attendance at all lectures, completion of all laboratory exercises and active participation in all laboratory demonstrations and base group meetings. Written laboratory reports, a pass in the practical examination and a pass in the written examination are also required.

Instruction and Examination

Theoretical instruction is provided in the form of lectures, base group meetings and laboratory demonstrations. Base group meetings consist of teacher-led group studies in which students go through study assignments in groups.

Practical instruction takes place in a number of laboratory sessions which students must complete in pairs. The laboratory exercises contain stages where students must plan their experiments themselves and write records. Written reports, in the form of “mini papers” are to be submitted for each laboratory exercise, and these are graded using points. Students also carry out a small laboratory project which is also to be presented orally for all students on the course.

The course has a practical and a theoretical examination. The practical examination takes place roughly halfway through the course, and consists of the students being given various laboratory assignments. The examiner will examine the approach, to be able to give tips on how the student can improve his/her work procedures. The theoretical examination is a written examination.

Written examination: two occasions for examination will be scheduled soon after the course. Re-examination will be planned by individual agreement.

Grades

The grades awarded are Pass or Fail.

Admission Requirements

Eligibility consists of the course BIMA50 (formerly BIM052) or at least 120 credits (80 credits in the old system) in scientific subjects, which must include the following: KEM101, KEM102, and BIO577 or the courses KBK010, KBI011 and KNL025/KNL026 at Lund University Faculty of Engineering.

Literature

The recommended course literature will be posted on the course website a month before the course starts.

Adopted by the NBMFU on 7 March 2007
Valid from autumn term 2007

Compendia and articles will also be distributed during the course.

Further Information

The course replaces the earlier BIM061.