



**Karolinska  
Institutet**

Course syllabus for

## **Introduction to Biomedical Science, 8 credits**

Introduktion till biomedicin, 8 hp

This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

Please note that the course syllabus is available in the following versions:

Autumn2014 , [Autumn2015](#)

Course code	1BI020
Course name	Introduction to Biomedical Science
Credits	8 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	G1 - First cycle 1
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Medical Biochemistry and Biophysics
Participating institutions	<ul style="list-style-type: none"><li>• Department of Neuroscience</li></ul>
Decided by	Programme Committee 7
Decision date	2014-03-21
Course syllabus valid from	Autumn 2014

## **Specific entry requirements**

Biology 2, Physics 2, Chemistry 2, Mathematics 4 (field specific entry requirements A13). Or: Biology B, Physics B, Chemistry B, Mathematics D (field specific entry requirements 13).

## **Objectives**

Upon completion of the course, the student should:

- have knowledge about the field of biomedicine,
- be able to account for basic anatomic concepts and structures,
- be able to account for basic biochemical and cell biology-related concepts,
- be able to explain basic principles of structural and functional concepts for biological macromolecules,
- be able to explain the principles of the information flow in the cell,
- demonstrate basic skills in biochemical laboratory work,
- demonstrate an understanding of an ethical and safety attitude to biomedical work.

# Content

The course defines the subject area of biomedicine and points out the areas where biomedicine is applied. Further, specific knowledge will be communicated in basic biochemistry and cell biology and the organisation of the body.

Orientation in biomedicine: General lectures on various biomedical areas where also an ethical attitude is provided and advantages and disadvantages of different biomedical model systems.

Basic biochemistry and cell biology: Biochemical and cell biology-related concepts, the structure of the cell, pH and buffers, macromolecules, protein chemistry, structure and function relationship, enzyme kinetics and the central cell function of enzymes, and the flow of genetic information (replication, transcription and translation - at a general level).

The organisation of the body: Basic anatomic concepts and structures, and basic integrative physiology. Cardiopulmonary resuscitation

## Teaching methods

Teaching will be in the form of lectures, web-based seminars, laboratory sessions, group tuition and project work.

## Examination

The examination consists of laboratory reports, oral and written presentation of project work, and a written examination. The laboratory reports and the oral and written presentation of project work is graded Fail/Pass. The written examination is graded Fail/Pass/Pass with distinction.

The final grade for the course is based on the grade on the written examination. To obtain at least the grade pass on the course the student must have passed all the examinations.

Compulsary participation

Attendance is compulsory at laboratory sessions, including laboratory lectures, at presentations, and at cardiopulmonary resuscitation. The course director assesses if and in that case how absence may be compensated. Before the student has participated in compulsory parts, or compensated absence in accordance with the course director's instructions the student's course result will not be registered in LADOK.

Limitation of number of occasions to write the exam

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student has failed six examinations/tests, no additional examination or new admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination for which the student registered but not participated in, will not be counted as an examination.

## Transitional provisions

After each course, there will be at least six occasions for examination within a two-year period after the end of the course.

## Other directives

The course language is English.

Course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

Oral evaluation in the form of course council meetings will be carried out after the course.

## Literature and other teaching aids

*Ferrier, Denise R.*

### **Biochemistry**

6. ed. : Lippincott Williams and Wilkins, 2013

ISBN:978-1-4511-7562-2 LIBRIS-ID:13993817

[Library search](#)

*Taylor, Jason J.; Memmler, Ruth Lundeen.; Cohen, Barbara J.*

### **Memmler's structure and function of the human body. Structure and function of the human body**

10th ed. : Philadelphia : Wolters Kluwer Health/Lippincott Williams & Wilkins, c2013. - xxxi, 481 p.

ISBN:978-1-60913-902-5 (hardcover) LIBRIS-ID:13415916

[Library search](#)