



**Karolinska  
Institutet**

Course syllabus for

# **Laboratory and Physiological Diagnostics, 9 credits**

Laboratoriediagnostik och fysiologisk diagnostik, 9 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:

Autumn2008 , Autumn2009

|                            |   |
|----------------------------|---|
| Course code                | 1BA020  |
| Course name                | Laboratory and Physiological Diagnostics              |
| Credits                    | 9 credits   |
| Form of Education          | Higher Education, study regulation 2007               |
| Main field of study        | Biomedical Laboratory Science                         |
| Level                      | G1 - First cycle 1                                    |
| Grading scale              | Pass, Fail  |
| Department                 | Department of Laboratory Medicine                     |
| Decided by                 | Programnämnden för Biomedicinska analytikerprogrammet |
| Decision date              | 2008-05-21  |
| Course syllabus valid from | Autumn 2008   |

## **Objectives**

The course should provide basic knowledge of the biomedical analyst's role in healthcare and the importance of analyses and examinations in determining diagnoses. On completion of the course, the student should be able to: - account for and apply current safety regulations and hygienic instructions in laboratories and clinics - reflect on and discuss ethical issues - search and choose relevant information and present his/her results orally and in writing - cooperate and work in a group - carry out the analyses and studies included in the course, considering established quality requirements - account for the importance of these analyses and examinations in determining diagnoses - describe how a scientific article is structured

## **Content**

The first part of the course highlights the role of diagnostic tools in major medical diseases. This takes place in group assignments on e.g. asthma, HIV, breast cancer and heart failure. Data search, literature studies and report writing are important parts of the course. Study visits at laboratories and clinics occur. Ethical and scientific aspects are discussed during the course. Laboratory sessions and seminars in microbiology, laboratory safety and microscopy are included in this first part of the course (4.5 HE

credits). The remaining part of the course (4.5 HE credits) comprises analyses and examinations for diagnosis of diseases in the various organ systems of the body. Examples of laboratory sessions/demonstrations are: - ECG, spirometry, ultrasound, blood pressure and EEC/EMG (Clinical Physiology) - Blood sampling, smear, staining and microscopy of leukocytes (Clinical Chemistry) - The cultivation of urine samples, Gram staining and microscopy of bacteria (Clinical microbiology) - Frozen sectioning of tissue, and diagnostics and identification of squamous epithelium (Clinical pathology and Clinical cytology) The four parts of the course are: - Basic Diagnosis, 4.5 HE credits Basic Diagnosis - Diagnosis of Diseases 1, 1.5 HE credits Diagnosis of Diseases 1 - Diagnosis of Diseases 2, 1.5 HE credits Diagnosis of Diseases 2 - Diagnosis of Diseases 3, 1.5 HE credits Diagnosis of Diseases 3

## **Basic diagnosis, 4.5 hp**

Grading scale: GU

## **Diagnosis of diseases 1, 1.5 hp**

Grading scale: GU

## **Diagnosis of diseases 2, 1.5 hp**

Grading scale: GU

## **Diagnosis of diseases 3, 1.5 hp**

Grading scale: GU

## **Teaching methods**

The teaching is given as lectures, group assignments, data searches, laboratory sessions, seminars, demonstrations, physiological studies and study visits. The student should document laboratory work in a personal workbook.

## **Examination**

As examination forms, oral and written reports, and a written examination are included. All laboratory sessions, patient examinations, group assignments and seminars are compulsory. A practical examination of different laboratory parts can take place based on the student's workbook. In case of absence of a laboratory session or examination, an agreement is made between the student and the responsible teacher concerning compensation. Students who have not passed the regular examination are entitled to participate in five more examinations. If the student is not approved after four examinations, he/she is recommended to retake the course at the next regular course date and may, after that, participate in two more examinations. If the student has failed six examinations/tests, no additional examination or new admission in the course is given. 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 regarded as an examination. If a student fails a laboratory session, the student has the opportunity to redo the laboratory session once.

## **Other directives**

Teaching of Report writing/Scientific articles is given on several occasions in the course and is used also by the student in the course Basic laboratory methodology. Course evaluation will be carried out in accordance with the guidelines established by the Board of Education.

## Literature and other teaching aids

*Ringsrud, Karen Munson; Linné, Jean Jorgenson*

**Linné & Ringsrud's Clinical laboratory science : the basics and routine techniques**

*Turgeon, Mary L.*

5. ed. /b [editor] Mary L. Turgeon : St. Louis, Mo. : Mosby Elsevier, cop. 2007 - xiv, 608 s.

ISBN:0-323-03412-8 LIBRIS-ID:10255799

[Library search](#)

*Brauer, Kerstin*

**Klinisk fysiologi : med nuklearmedicin och klinisk neurofysiologi**

*Jonson, Björn; Wollmer, Per*

2. uppl. : Stockholm : Liber, 2005 - 427 s.

ISBN:91-47-05244-9 (inb.) LIBRIS-ID:9864337

[Library search](#)

*Burnett, David; Crocker, John*

**The science of laboratory diagnosis**

2. ed. : Chichester : Wiley, 2005 - 542 p.

ISBN:0-470-85912-1 (hbk.) LIBRIS-ID:9612133

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