



Course syllabus for

## **The Healthy Human 2, 30 credits**

Den friska människan 2, 30 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:

[Spring2008](#) , [Autumn2008](#) , [Spring2009](#) , [Autumn2009](#) , [Spring2010](#) , [Autumn2011](#) , [Spring2013](#) , [Autumn2013](#) , [Autumn2014](#) , [Spring2015](#) , [Autumn2015](#) , [Spring2016](#) , [Autumn2016](#) , [Autumn2017](#) , [Spring2018](#) , [Autumn2019](#) , [Spring2020](#) , [Autumn2020](#) , [Autumn2021](#)

Course code	2LK002
Course name	The Healthy Human 2
Credits	30 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Medicine
Level	G1 - First cycle 1
Grading scale	Pass, Fail
Department	Department of Physiology and Pharmacology
Participating institutions	<ul style="list-style-type: none"><li>• Department of Microbiology, Tumor and Cell Biology</li><li>• Department of Medical Biochemistry and Biophysics</li><li>• Department of Neuroscience</li><li>• Department of Molecular Medicine and Surgery</li></ul>
Decided by	Pn för läkarprogrammet
Decision date	2007-03-13
Revised by	Programme Committee 2
Last revision	2015-10-12
Course syllabus valid from	Spring 2016

### **Specific entry requirements**

12 credits from semester 1 on the Degree Programme in Medicine.

A student failing due to shortage in knowledge, skills or attitudes, thus jeopardising patient safety and/or trust in medical care, can be assigned to a new clinical placement only after having completed objectives set in the individual plan.

### **Objectives**

## Learning Outcomes

The general aim of the course is to acquire basic knowledge and skills about the normal structure and function of the body and attitude of significance for the continued medicine programme and the future profession

### Intended learning outcomes

Knowledge and understanding are structured after the SOLO taxonomy (S1-S4) and skills according to Miller's pyramid (M1-M4) (see the end of the course syllabus) On completion of the course, the student should:

### Knowledge and understanding

- Be able to account for structure and function from a cellular to organ level concerning blood circulation respiration hematopoiesis skin immune system temperature regulation urinary organs body fluids endocrine system reproductive organs and musculoskeletal system and can account for and analyze how these systems interact to control the internal environment of the body and also be able to predict how changed structure and function in the systems can lead to disease (S1-S3)
- Be able to describe individual-, gender- and age-related differences in structure and function of the in the course included systems and account for different ways to study the structure and function of the different systems (S1-S2)
- Be able to define central ethical concepts and basic concepts within medical psychology and account for professional ethical rules (PD, PC) (S1-S2)

### Skills

- Demonstrate the ability to carry out simple physical examinations of heartbeat, blood pressure, respiratory sound, lymph nodes, thyroid gland and function tests of joints and musculature. (M1-M3)
- Be able to show anatomic structures of dissected bodies plastic models and in radiological images, and be able to identify tissues and organs in histological preparations. (M1-M3)
- Be able to distinguish ethical problems and be able to analyze and argue rational around them (PD, PC) (M1-M2)
- Be able to bring a conversation with patients in a patient-centered way and be able to respond to both patients and other concerned in a respectful way. (PC) (M1-M3)

### Attitude

- demonstrate the ability to a critical attitude how knowledge of current organs and function systems has been received and be able to separate scientifically based knowledge from proven experience
- be able to reflect on different interests in meetings with patients, relatives and health-care personnel (PD, PC)

## Content

The topic-specific nucleus in the course consists of the basic scientific the disciplines histology, macroscopic anatomy, medical biochemistry and physiology and immunology. Furthermore, element from the clinical disciplines anaesthesiology, urology, endocrinology, pediatrics, obstetrics, gynaecology, orthopaedic surgery, family medicine, medical ethics or psychology. Both basic scientific and clinical active teachers participate in the course. The course is divided into five modules.

### **Blood, immune system, circulation & respiration, 7 hp**

The components, properties and function of the blood. Thymus and other lymphatic organs. The histology and functions of the skin. The structure and normal functions of the immune system. The anatomy, histology and normal functions and regulation of the heart and the blood vessels. Temperature regulation. The lungs and the airways and the anatomy, histology and normal functions of the gas

exchange and regulation.

**Urinary organs, body fluids, endocrinology & reproduction, 7.5 hp** The anatomy, histology and function of the kidneys and the urinary tract. Regulation of fluid, electrolyte and acid/base balance. Hormone-producing cells, tissues and the histology and anatomy of the glands. The chemistry, production and effects of hormones, and the regulation of hormonal systems. The histology and anatomy of the reproductive organs. Sex differentiation. The morphology and function of germ cells. The effects and regulation of gonadal hormones. Fertilisation. Pregnancy

**The human in movement, 5.5 hp**

The histology, anatomy and basic kinesiology (movement theory) of the musculoskeletal system. The skeletal musculature physiology with the internal structure and internal organisation with muscle fibres of muscles and motor units. The basic structure of the motor function (neuronal control, reflectors). The physiology at physical work and effects of physical training

**Professional development and primary care, 2.5 hp** Basic concepts in medical ethics and medical psychology. Gender Medicine and inter-cultural communication. Physical examination and taking patient history in clinical education. **Integration and exam, 7.5 hp**

Repetition, integration and summary of the all expected learning outcomes of the course.

## Teaching methods

As support for learning is given during the course the following teacher-supervised/teacher-supported resources: lectures, group assignments, project work, seminars, workshops, laboratory sessions, dissections, microscopy exercises, demonstrations and proficiency training. Not teacher-supervised studies take place in the form of self-study, reflection and studies.

Some teaching may be in English.

## Examination

Compulsory teaching without assessment of achievement and where expected learning outcomes can not be reached under other forms: All teaching of professional development (PD)

During the course, short examinations and feedbacks take place with the purpose of facilitate achievement of all expected learning outcomes that are tested in a final examination of the course.

*Module: The blood, the immune system, circulation & respiration:* Presentation of the project work blood- oral formative examination Seminar the immune system- oral formative feedback Test achieving aims (INCH) in circulation & temperature regulation- written individual formative examination Seminar heart & circulation- oral formative feedback INCH respiration- written individual formative examination Seminar respiration- oral formative feedback *Module: Urinary organs, body fluids, the endocrine system and reproduction:* Presentation of the group assignment the buffers of the blood- oral formative examination INCH urinary organ & body fluids- written individual formative examination. Integrative seminar urinary organ & body fluids- oral formative examination Endocrinology & reproduction- oral formative examination Anatomy and histology the blood, the immune system, circulation, respiration, urinary organs, the endocrine system & reproduction- written individual examination on anatomic models, preparations and histological preparations *Module: Man in movement:* Seminar muscle- oral formative feedback The anatomy of the musculoskeletal system- examination with anatomic models and preparations The histology of the musculoskeletal system- web-based written examination Seminar with presentation and discussion of case from PC- oral formative feedback *Module: Professional skills and primary care:* All placement- individual continuous formative feedback

Integrated examination- written individual examination

For admission to write examination is required completed compulsory components and part examinations excluding seminar with presentation of case from PC and PD and remaining PC.

## Transitional provisions

If a course has been closed down or undergone major changes, at least two additional examinations (excluding regular examinations) in the previous contents are provided during a period of a year from the date of the change.

## Other directives

Evaluation will take place in accordance with the instructions of the Board of Education. Furthermore, evaluation will take place continuously during the course, with web-based questionnaires. Continuous dialogue with the course participants takes place also via an at the beginning of the course established course council.

Absence from compulsory components: In addition to what is documented under Teaching methods and Examination the course leader decides whether absence from compulsory teaching activities may be compensated. Study results cannot be reported until the student has participated in compulsory course components or compensated for any absence in accordance with instructions from the course leader.

Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

Aims concerning knowledge and understanding are structured according to the SOLO taxonomy: S1) simple (e.g. know, identify), S2) compound (e.g. account for, describe), S3) related (e.g. analyse, relate to), and S4) extended (e.g. theorise, analyse). Practical skills outcomes are tiered according to Miller's pyramid: M1) know, M2) know how one carries out, M3) be able to show and M4) be able to carry out professional

## Literature and other teaching aids

*Feneis, Heinz; Dauber, Wolfgang*

### **Anatomisk bildordbok**

*Spitzer, Gerhard; Brinkman, Ingrid*

5., utökade uppl. /b [fackgranskning: Håkan Aldskogius] : Stockholm : Liber, 2006 - [4], 520 s.

ISBN:91-47-05301-1 LIBRIS-ID:10162715

URL: <http://www2.liber.se/bilder/omslag/100/4705301o.jpg>

[Library search](#)

*Gilroy, Anne M.*

### **Anatomy : an essential textbook : Latin nomenclature**

New York : Thieme, [2016] - 510 s.

ISBN:9781626231177 LIBRIS-ID:18268868

[Library search](#)

### **Atlas of anatomy : Latin nomenclature**

*Gilroy, Anne M.; MacPherson, Brian R.; Ross, Lawrence M.; Schünke, Michael; Schulte, Erik; Schumacher, Udo*

2nd ed. : New York : Thieme, 2013 - 694 p.

ISBN:9781604067477 (hardcover : alk. paper) LIBRIS-ID:14805917

[Library search](#)

*Netter, Frank H.*

### **Atlas of Human Anatomy**

Sixth Edition : Philadelphia : Saunders/Elsevier, c2014 - 1 volume (various pagings)

ISBN:9781455704187 (hbk.) LIBRIS-ID:16454748

[Library search](#)

**Sobotta atlas of human anatomy : musculoskeletal system, internal organs, head, neck, neuroanatomy**

*Sobotta, Johannes; Paulsen, Friedrich; Waschke, Jens; Klonisch, Thomas; Hombach-Klonisch, S.*

15th ed., English version with Latin nomenclature : München : Elsevier/Urban & Fischer, 2011. - 3 dl.

ISBN:9780723437314 (set) LIBRIS-ID:17852490

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*Brunnström, Signe*

**Brunnstrom's Clinical kinesiology.**

*Smith, Laura K.; Weiss, Elizabeth Lawrence; Lehmkuhl, L. Don*

5. ed. /b revised by Laura K. Smith, Elizabeth Lawrence Weiss, L. Don Lehmkuhl : Philadelphia : F.A. Davis, cop. 1996 - 468 s.

ISBN:0-8036-7916-5 LIBRIS-ID:5688170

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*Snell, Richard S.; Snell, Richard S.t Clinical anatomy for medical students.*

**Clinical anatomy**

7. ed. : Philadelphia : Lippincott Williams & Wilkins, cop. 2004 - x, 1012 s.

ISBN:0-7817-4315-X LIBRIS-ID:9023138

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**Medical physiology : a cellular and molecular approach**

*Boron, Walter F.; Boulpaep, Emile L.*

Updated 2. ed. : Philadelphia, Pa : Saunders Elsevier, cop. 2012 - xii, 1337 s.

ISBN:978-0-8089-2449-4 (international ed.) LIBRIS-ID:12505054

[Library search](#)

*Rhoades, Rodney.; Bell, David R.*

**Medical physiology : principles for clinical medicine**

4th ed. : Philadelphia : Wolters Kluwer Health/Lippincott Williams & Wilkins, c2013. - xvi, 819 p.

ISBN:978-1 511-1039-5 LIBRIS-ID:14002815

[Library search](#)

*Rådmark, Olof; Wetterholm, Anders*

**Syror och baser. Vattenlösningars egenskaper, osmos och tonicitet. Elektrolyter**

Institutionen för Medicinsk Biokemi och Biofysik, 2011

*Ross, Michael H.; Pawlina, Wojciech.*

**Histology : a text and atlas : with correlated cell and molecular biology**

Seventh edition. : Philadelphia : Wolters Kluwer Health, [2015], 2016 - xv, 984 pages

ISBN:9781451187427 LIBRIS-ID:17630334

[Library search](#)

*Abbas, Abul K.; Lichtman, Andrew H.; Pillai, Shiv.*

**Basic immunology : functions and disorders of the immune system.**

4th ed. : Philadelphia : Saunders, cop. 2014 - x, 320 s.

ISBN:978-1-4557-0707-2 (pbk.) LIBRIS-ID:13610618

[Library search](#)

**Medicinsk mikrobiologi & immunologi***Brauner, Annelie*

1. uppl. : Lund : Studentlitteratur, 2015 - 824 s.

ISBN:9789144038681 LIBRIS-ID:15416988

[Library search](#)*Brändén, Henrik; Andersson, Jan***Grundläggande immunologi***Engqvist, Jeanette; Sonesson, Johan*

3., [uppdaterade och omarb.] uppl. /b [illustrationer: Jeanette Engqvist samt Johan Sonesson] : Lund : Studentlitteratur, 2004 - 354 s.

ISBN:91-44-03073-8 LIBRIS-ID:9522851

[Library search](#)**Immunobiology : the immune system in health and disease***Janeway, Charles A.*

6. ed. : New York : Garland, cop. 2005 - 823 s.

ISBN:0-8153-4101-6 (Garland) LIBRIS-ID:9293790

[Library search](#)*Parham, Peter***The Immune System**

3rd ed. : New York : Garland Science, 2009

**Neuroscience***Purves, Dale*

5. ed. : Sunderland, Mass. : Sinauer Associates, cop. 2012 - xvi, 759 s.

ISBN:978-0-87893-695-3 (hbk.) LIBRIS-ID:12074995

[Library search](#)**Profesional development****Professionell utveckling inom läkaryrket***Andersson, Sven-Olof*

1. uppl. : Stockholm : Liber, 2012 - 306 s.

ISBN:978-91-47-09967-2 LIBRIS-ID:12542995

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