

**SYLLABUS**

# **Medical Science, basic pharmacology, physiology and pharmaceutical calculation 7.5 credits M0039H**

**Med.vetenskap: Allm.farmakologi, fysiologi och läkemedelsräkning**

**Course syllabus admitted: Spring 2017 Sp 3 - Autumn 2018 Sp 2**

**DECISION DATE  
2016-06-22**

# Medical Science, basic pharmacology, physiology and pharmaceutical calculation 7.5 credits M0039H

## Med.vetenskap: Allm.farmakologi, fysiologi och läkemedelsräkning

### First cycle, M0039H

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG	Medicinsk vetenskap	Medicine

## Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Basic anatomy and physiology (M0048H).

## Selection

The selection is based on 1-165 credits.

## Examiner

Johanna Sundbaum

## Course Aim

After completing the course students will be able to:

- describe and explain the sensory organs, the excretion organs and reproductive organs structure and physiological functions
- describe and explain basic pain physiology
- explain and account for body fluid / electrolyte and acid-base balance
- accurately measure, assess and evaluate the heart rate / blood pressure, and understand its sources of error
- explain the meaning of the regulations governing the handling of drugs in the health care and be able to apply them both theoretically and practically.
- implement pharmacy calculation for the patient safety
- explain and understand general pharmacological principles

This knowledge constitutes a basis for future placement and career-specific courses and is of importance to enable good and patient safe care in the future career as a registered nurse.

## Contents

- General pharmacology
- Acid- base balance
- The anatomy and physiology of the kidneys and the urinary tract
- Pain physiology
- The anatomy and physiology of the sensory organs
- The anatomy and physiology of the reproductive organs
- Pharmaceutical calculations
- Drug management
- Field study in drug management
- Pulse and blood pressure lab

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course is designed for a future work as a registered nurse.

The tuition forms vary with individual studies and work or cooperation in groups and lectures. Field studies, seminars and laboratory sessions are compulsory. The studies are carried out by means of detailed objectives and instructions as presented in the study guide.

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. The course is examined in written and oral examination. Seminar, written report and take-home examination. Examination forms may vary.

## Remarks

This is a first-cycle course. Studyguide is provided in the course room in Canvas. Passing this course constitutes a specific entry requirement for work placement courses and the thesis.

## Transition terms

From autumn 2010, the section on the musculoskeletal system has been moved to course M0048H. From spring 2011, the section on pulse and blood pressure has moved from M0048H to M0039H.

## Literature. Valid from Autumn 2016 Sp 1

Henriksson, O. & Lennermark, I. (2012). Vårt att veta om vätskebalans: lärobok om vatten-, elektrolyt och syra-basbalans. (4th ed.) Lund: Studentlitteratur.

Lindh, M. & Sahlqvist, L. (2012). Säker vård: att förebygga skador och felbehandlingar inom vård och omsorg. (1st ed.) Stockholm: Natur & Kultur.

\* Lindskog, B.I. (2014). Medicinsk terminologi. (6th ed.) Lund: Studentlitteratur.

Nordeng, H. & Spigset, O. (2014). Farmakologi och läkemedelsanvändning. (2nd ed..) Lund: Studentlitteratur (will also be used in T3)

Norrbrink, C. (2014). Om smärta- ett fysiologiskt perspektiv. Lund: Studentlitteratur.

Olsen, L.A. & Hälleberg Nyman, M. (2015). Säker läkemedelsberäkning: dos, styrka, mängd. (1st ed.). Stockholm: Natur & kultur.

\* Raadu, G. (ed.) (latest edition). Författningshandbok för personal inom hälso- och sjukvården. Stockholm: Liber Sand, O. (2007). Människokroppen: fysiologi och anatomi. (2nd ed.) Stockholm: Liber .

\* Vigué-Martin J. (2006 or later) Atlas över människokroppen. Stockholm: Liber AB

\* The literature has been used in earlier courses

## Course offered by

Department of Health Sciences

## Items/credits

Number	Type	Credits	Grade
0002	Written exam in pain physiology	0.5	U G VG
0010	Take-home examination in sense- and reproductive physiology	1	U G VG
0012	Written exam in basic pharmacology	1.5	U G VG
0013	Written exam in pharmaceutical calculation	0.5	U G#
0015	Written exam in renal physiology	0.6	U G VG
0016	Written exam in Fluid and acid-base balance	0.9	U G VG
0019	Mandatory task in drug management	1.5	U G#
0020	Laboratory in Blood pressure and Pulse	1	U G#

## Last revised

by 2016-06-22

## Syllabus established

by Prefekt vid Institutionen för hälsovetenskap 2007-12-17