SYLLABUS

Basic Pharmacology 7.5 credits M0045H

Allmän farmakologi

Course syllabus admitted: Autumn 2016 Sp 1 - Spring 2019 Sp 3

DECISION DATE
2016-02-15

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LULEÅ TEKNISKA UNIVERSITET

Basic Pharmacology 7.5 credits M0045H

Allmän farmakologi

First cycle, M0045H

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 +
Swedish upper secondary school courses Mathematics 2a/2b/2c , General Science 2, Social Studies 1b/1a1 +1a2 (specifik entry A14).
Or:
Swedish upper secondary school courses Mathematics B, General Science B, Social Studies A (specifik entry 16)

Selection

The selection is based on final school grades or Swedish Scholastic Aptitude Test.

Examiner

Sitaram Velaga

Course Aim

The student should be able to describe:

- the concept of pharmacology
- the effect of drugs on normal and disease processes in the human body
- certain legislation and definitions that surround drug processing and usage, from idea to medicine.
- different problem profiles that prevent rational pharmacotherapy
- the concept of receptors in drug treatment and the role of the receptor in signal transduction as well as regulation of receptors
- the modes of action of drugs
- transmission and signal substances in the autonomous nervous system and how these influence the organs
- some elementary pharmacokinetic parameters and how drugs are distributed in and eliminated from the body
- the definition of a drug side effect, mechanisms that can cause injuries, affected organs, relevant drugs, reporting of side effects.
- pharmacokinetic and pharmacodynamic interactions, risk categories, risk medicines, prevalence
- the dosage forms of drugs
- pharmaceutical information sources

Contents

Drug processing and general pharmacology:

- The development of new drugs, clinical trails, the definition of brand-name drugs, generic drugs, parallel imports, drug preparation forms
- Subdivision of drugs according to ATC code and nomenclature.
- The roles of different professions within the drug processing
- Laws/statutes that govern drug processing
- Common problems in the processing and usage of drugs

Pharmacodynamics:

- The effect of drugs on normal and disease processes in the human body
- Transmission and signal substances in the autonomous nervous system
- The role and function of receptors
- Processes that regulate the autonomous nervous system
- How the different transmitter substances influence target organs

Pharmacokinetics:

- elementary pharmacokinetic parameters and how drugs are absorbed, distributed in and eliminated from the body

Drug Interactions:

- pharmacokinetic and pharmacodynamic interactions, FASS classification of interactions,
- risk categories, risk medicines, alcohol and drugs, food and drugs, natural remedies, prevalence

Drug side-effects:

- drug side-effects, definition, prevalence, different mechanisms that can cause injuries, classification of drug side-effects
- affected organs, relevant drugs, report on side effects.

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 a web-based distance course (no meetings on campus). No compulsory meetings. Teaching consists of lectures given via Adobe Connect Pro. The largest part of the course is carried out by the student based on flexible learning techniques (the student studies to a large extent in the time that suits the student). Communication with fellow students and lecturers takes place via the learning management system/course room in Canvas, e-mail, telephone and via Adobe Connect. An introduction to Adobe Connect will be offered at the beginning of the course. Course material is in the course room at address: ltu.instructure.com. Some of the teaching may be given in English.

The student participant in the course with the computer (internet).

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.
Written web-based examination
Written assignments

Remarks

The course is given by distance as a web-based course.

Access to the Internet via computer and broadband connection, headphones with microphone is required for the distance meetings of the course. A web camera is desirable for video communication.
Study supervision is provided in the course room in Canvas.

Literature. Valid from Autumn 2016 Sp 1

Nordeng, H. & Spigset, O; Farmakologi och läkemedelsanvändning, Studentlitteratur AB Lund 4, 2014
FASS net version see www.fass.se
Läkemedelsboken see net version http://www.lakemedelsboken.se/

Material via Canvas.

Reference literature:
Rang, Dale, Ritter Moore ; Pharmacology. (latest edition). (Churchill Livingstone)
Simonsen, T., & Aarbakke, J. (2001) Illustrerad farmakologi 1 Stockholm: Natur och Kultur
Simonsen,T., Aarbakke, J., Hasselström, J., Nordlund, H. & Lysså, R. (2004) Illustrerad farmakologi, 2, sjukdomar och behandlingar. Stockholm: Natur och Kultur.

Course offered by

Department of Health Sciences

Items/credits

Number	Type	Credits	Grade
0005	Web-based examination	5	U G VG
0006	Written assignment	2.5	U G#

Last revised

by 2016-02-15

Syllabus established

by Prefekt vid Institutionen för hälsovetenskap 2008-02-22