Course syllabus for

Pharmacology and Toxicology, 10 credits

Farmakologi och toxikologi, 10 hp
This course syllabus is valid from spring 2011.
Please note that the course syllabus is available in the following versions:
Spring2009 , Spring2011 , Spring2013 , Spring2014 , Spring2015

Course code	1BI008
Course name	Pharmacology and Toxicology
Credits	10 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	First cycle, has only upper-secondary level entry requirements
Grading scale	Excellent, Very good, Good, Satisfactory, Sufficient, Fail, Fail
Department	Department of Physiology and Pharmacology
Decided by	Programnämnden för biomedicinprogrammen
Decision date	2008-10-13
Revised by	Programnämnd 7
Last revision	2010-10-26
Course syllabus valid from	Spring 2011

Specific entry requirements

At least grade E at the courses in Introduction to biomedical science (1BI001) and General and Organic Chemistry (1BI000), and at least grade G (pass) at part 1 and 2, Basal metabolism and laborations (3+2 credits) of the course Medical biochemistry (1BI002), and part 1, Cell biology (6 credits) of the course Cell biology and genetics (1BI003).

Objectives

After completing the course, the student should be able to: - describe basic pharmacological principles within the field of pharmacokinetics (i.e. principles of absorption, distribution, and elimination of drugs). - describe interindividual differences in drug metabolism as well as interactions between different drugs. - describe different classes of receptors which interact with drugs, and describe intracellular transduction mechanisms coupled to some of these receptors. - explain principles for central and peripheral neurotransmission. - describe mechanisms of action of drugs within the following fields: neuropsychopharmacology, general anaesthesia, local anaesthesia, analgesia, cardiovascular pharmacology, diuretic drugs, respiratory pharmacology, and gastrointestinal pharmacology. - describe and explain toxicological principles, e.g. dose-effect relationships and methods for studying bioactivation and the toxicity of xenobiotics.

Content

Medication is a very important part in the overall treatment of various diseases. This course intends to equip the students with basic knowledge of how drugs affect cells, organs and, not the least, all organisms. The course will mainly focus on general pharmacological principles. The course in toxicology intends to give the students knowledge of toxicological principles such as dose response, and how bioactivation and toxicity of xenobiotic substances are studied. The course is divided in four parts that are examined one by one: Part 1: Half-time oral quiz, 2.2 HE credits Part 2: Laboratory practicals and participation in Group seminars, 3 HE credits Part 3: Problem (Problem-based learning) in toxicology, 0.8 HE credits Part 4: Integration of the course contents in a written exam, 4 HE credits

Half-time oral quiz, 2.2 hp

Grading scale: GU

Laboratory practicals and participation in Group seminars, 3.0 hp

Grading scale: GU

Problem (Problem-based learning) in Toxicology, 0.8 hp

Grading scale: GU

Integration of the course contents in a written exam, 4.0 hp

Grading scale: AF

Teaching methods

The course consists of lectures, supervised laboratory practicals, and supervised group seminars. The group seminars will review and substantially expand upon the material provided in the lecture series. These seminars train the students to independently search for and assess relevant information, and provide an opportunity to discuss problems and theoretical concepts with faculty members that are actively involved in research in the fields above. The course also includes a seminar task which will be solved by using the pedagogical approach Problem based learning.

Examination

Component 1: The oral quiz is graded as fail/pass. Component 2: The students have to participate in all laboratory practicals and group seminars to be graded as pass. Student who cannot participate in these mandatory events, have to send in a written description of the event (e.g. a group seminar). Component 3: The PBL-component in toxicology is graded as fail/pass. Component 4: The integration of the course content is examined by a written exam graded as F/Fx/E/D/C/B/A (see above). Compulsory participation The course director assesses if and, in that case, how absence can be compensated. Before the student has participated in all compulsory parts or compensated absence in accordance with the course director's instructions, the student's results for respective part will not be registered in LADOK. Limited number of examinations or practical training sessions 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 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 occasion there will be at least six occasions for the examination within a 2-year period from the end of the course.

Other directives

The course language is English

Literature and other teaching aids

Rang, H.P; Dale, M.M

Rang & Dales Pharmacology

2007 : Edinburgh: Churchill Livingstore,
ISBN:978-0-443-06911-6
Library search

Casarett and Doull's toxicology : the basic science of poisons

Doull, John; Casarett, Louis J.; Klaassen, Curtis D.

6. ed. : New York : McGraw-Hill Medical Publ. Division, cop. 2001 - xix, 1236 s.
ISBN:0-07-134721-6 LIBRIS-ID:8273822
Library search

FASS : Akademi-FASS

Läkemedelsindustriföreningen (LIF), 2008
ISBN:978-91-85929-00-9
Library search

Läkemedelsboken, n 2007

Stockholm : Apoteket AB, 2007 - 1260 s.
ISBN:91-85574-57-0 LIBRIS-ID:10399282
Library search