



Faculty of Health, Science and Technology
Nursing Science

Syllabus

Pathophysiology and pharmacology

Course Code:	KMA511
Course Title:	Pathophysiology and pharmacology <i>Patofysiologi och farmakologi</i>
Credits:	12
Degree Level:	Master's level
Progressive Specialisation:	Second cycle, has only first-cycle course/s as entry requirements (A1N)

Major Field of Study:

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2023-05-15, and is valid from the Spring semester 2024 at Karlstad University.

Prerequisites

Nursing licence issued by the National Board of Health and Welfare and a nursing degree of at least 180 ECTS credits (including a degree project of at least 15 ECTS credits) or a Bachelor degree in nursing (including a degree project of at least 15 ECTS credits), at least one year full-time work experience as a licensed nurse, plus upper secondary level Swedish 3 or Swedish as a second language 3 and English 6 or A, or equivalent

Learning Outcomes

Upon completion of the course, students should be able to:

- describe and analyse pathophysiological processes and give arguments for examinations and treatments of patients with imminent or manifest respiratory failure,
- describe and analyse pathophysiological processes and give arguments for examinations and treatments of patients with with imminent or manifest circulatory failure,
- describe and analyse pathophysiological processes and give arguments for examinations and treatments of patients with with imminent or manifest kidney failure,

- give an account of pharmacokinetics and pharmacodynamics on the basis of the most common pharmacological treatments in intensive care,
- give an account of receptor-pharmacology on the basis of the most common pharmacological treatments in intensive care, and
- give an account of pain physiology, pain analysis and pain treatment in intensive care.

Content

The course includes Medical Science (12 ECTS cr).

Instruction is in the form of lectures, field studies, simulation, study assignments and follow-up seminars. Students study individually and in groups and on-campus instruction is provided. The course is partly net-based using different types of information and communication technologies. All instruction has an emphasis on the research and evidence-based knowledge in the field.

Pathophysiology in breathing, circulation, and kidneys are studied along with related diagnosis, examination and treatment connected to failure on these organs. Also studied are the pharmacokinetics, pharmacodynamics and receptor pharmacology related to pharmacological treatment as well as pain physiology and pain management. Antimicrobials are studied from an intensive care perspective.

Reading List

See separate document.

Examination

Assessment is based on individual written exams and mandatory seminars.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades Fail (U), Pass (G), or Distinction (VG) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.

Required course for the Specialist Nursing programme: Intensive care.