Faculty of Medicine

VMFP08, Medicine Meets Geopolitics: Threats and Opportunities from Emerging Biotechnologies, 7.5 credits

Säkerhetspolitiska aspekter av medicinsk vetenskap: risker och möjligheter med framtida bioteknik, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Master's Programmes Board on 2024-03-12. The syllabus comes into effect 2024-03-12 and is valid from the spring semester 2025.

General information

The course is offered as a freestanding course.

Language of instruction: English

Main field of study	*Specialisation*
Biomedicine	A1N, Second cycle, has only first-cycle course/s as entry requirements
Audiology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Speech and Language Pathology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Nursing	A1N, Second cycle, has only first-cycle course/s as entry requirements
Reproductive, Perinatal and Sexual Health	A1N, Second cycle, has only first-cycle course/s as entry requirements
Occupational Therapy	A1N, Second cycle, has only first-cycle course/s as entry requirements
Biomedical Laboratory Science	A1N, Second cycle, has only first-cycle course/s as entry requirements
Physiotherapy	A1N, Second cycle, has only first-cycle course/s as entry requirements

Radiography	A1N, Second cycle, has only first-cycle course/s as entry requirements
Medicine	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

An increasing number of academics are expected after graduation to work on assignments relating to issues in international security and defence. The course is intended to provide an introduction to the interface between security policy and medical science.

Knowledge and understanding

On completion of the course, the student shall be able to:

- define different types of inter-state and intra-state conflicts and give current examples of such conflicts in the spectrum from grey-zone conflict to full-scale war,
- explain the roles of healthcare and medical research in civilian and military defence, including the organisational and legal basis of these roles,
- give an account of how current geopolitical conflicts impact disease panorama, healthcare and medical research,
- give an account of the ways in which medical research and biomedical innovations can fall within the scope of the concept of strategic technology,
- give examples of how biomedical technology and research can be abused in geopolitical power struggles, including examples from the information domain,
- give an account of various types of medical intelligence threats including cyber attacks, as well as countermeasures (information security) in healthcare and research,
- give an account of national and international laws and conventions that regulate the interface between healthcare, medical research and conflict including dual use technologies, strategic use of medical information and data, and conventions against chemical and biological weapons,
- give an account of how human rights can be impacted by abuses of biomedical technology and research in current geopolitical conflicts.

Competence and skills

On completion of the course, the student shall be able to:

- carry out evidence-based evaluation of the risks and opportunities associated with new biotechnologies regarding health and human rights in the context of international conflict,
- write a general research plan in the area of strategic biotechnology, taking into consideration information security and regulatory frameworks regarding dual use areas and international conventions,
- analyse dilemmas regarding prioritisation that arise in healthcare and medical research during an inter-state or intra-state conflict and discuss solutions for such dilemmas taking into consideration current regulatory frameworks and human rights.

Judgement and approach

On completion of the course, the student shall be able to:

- reflect on ethical dilemmas that arise in healthcare and medical research during an inter-state or intra-state conflict.

Course content

The course is designed to offer an interdisciplinary understanding of the interplay between security policy and medical science, particularly in the light of contemporary challenges, such as the Covid pandemic and conflicts in Europe where healthcare has become a target for disinformation and direct attacks. The students will explore how the changed international security landscape influences medical research with a focus on data protection, innovation and the risks of dual use technologies that can be employed for both civilian and military purposes. An increasing number of professionals are expected to engage in work related to international security and civil/military defence after graduating. The course provides students with support to actively engage in their own learning in order to obtain the necessary knowledge for future professional roles in this critical field.

Course design

The course is designed using interactive learning methods in which the students are encouraged to participate actively and contribute to an inclusive learning environment. We use a hybrid model that facilitates both physical and digital participation to meet the needs of students who combine studies with employment or are enrolled in another study programme. The course structure includes an initial seminar to establish the framework and a final seminar in which students can share their insights.

During the course, the students engage in a mixture of self-study, online activities and interactive sessions, planned for the late afternoon to maximise accessibility. We strive to minimise traditional lectures in favour of more engaging forms of learning in which the students can apply theoretical knowledge on real scenarios in dialogue with, and under the supervision of, experts in the field. Guest lecturers from government agencies and several different universities are involved in panel discussions with one another and with the students, who prepare questions in advance. Experts also participate as points of reference in problem-solving group discussions on real-life cases. This approach promotes the deeper understanding and critical thinking that are required to meet the complex challenges in the borderland between security policy and medical science.

Individual written assignments are also included as part of the course portfolio.

Assessment

Examination in writing takes place in four parts during the course.

- Written exam with multiple-choice questions, 2 credits, Fail/Pass
- Course portfolio, 5.5 credits, Fail/Pass
  Individual written assignments regarding risk evaluation of strategic technology, design of research projects and dilemmas concerning prioritisation and ethical issues.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Grades

Grading scale includes the grades: Fail, Pass

Entry requirements

The following entry requirements apply:

- general entry requirements and Bachelor's degree of at least 180 credits including an independent project (degree project) of at least 15 credits
- a grade of Pass in English B/English 6 from Swedish upper secondary school or equivalent