

## Research Ethics in Science and Technology, 2,5 credits

### *Forskningsetik inom naturvetenskap och teknik, 2,5 hp*

<b>Course Code/Codes</b>	50NT002.
<b>Subject Area</b>	Science and Technology
<b>School/equivalent</b>	School of Science and Technology
<b>Valid from</b>	2019-05-24
<b>Approved</b>	2019-05-28
<b>Revised</b>	
<b>Approved by</b>	Peter Johansson (Head of School)
<b>Translation to English, date and signature</b>	

## 1 Course content

The course provides an overview of the ethical issues associated with research in natural sciences and engineering. This includes the philosophical, moral and ethical considerations in research. The course includes:

- What is considered good research practices and professionalism
- Ethics in scientific publication
- Ethics of animal and human studies and ethical permits
- Ethical and legal aspects of handling of personal data
- Intellectual property
- Research misconduct and cheating and the responsibility for reporting
- Regulations and legislations associated with research

## 2 Outcomes

### 2.1 The course in relation to the doctoral programme

The course shall primarily refer to the following intended learning outcomes for third-cycle courses and study programmes as described in the Higher Education Ordinance, i.e. the doctoral student shall demonstrate:

#### *Competence and skills*

- the capacity to review and assess new and complex phenomena, issues and situations autonomously and critically (part of outcome 3)
- the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively (part of outcome 4)

#### *Judgement and approach*

- intellectual autonomy and disciplinary rectitude (part of outcome 9)

- the ability to make assessments of research ethics (part of outcome 9)

The intended learning outcomes are listed in the same order as in the general syllabus for the programme.

## **2.2 Intended course learning outcomes**

To obtain a passing grade, the doctoral student shall demonstrate:

- the ability to judge what is ethical and what is unethical in research.
- the ability to assess when ethical permits are required in research.
- an ability to determine how to handle various types of research materials and information in an ethical manner.
- an understanding of the responsibility for reporting scientific misconduct and how to do so.
- familiarity with regulations and legislature in selected research topics.

## **3 Reading list and other teaching material**

The following course readings and teaching material will be used on the course:

Vetenskapsrådet, Good Research Practices (Swedish and English)  
Public reports of current ethical issues and case reports.  
Additional teaching material will be provided.

## **4 Teaching formats**

Teaching on the course takes the following format:

- Lectures
- Seminars
- Individual and group assignments

## **5 Examination**

### **1.**

The course is assessed through an examination consisting of the components listed below. The individual components are not graded separately but together they provide the basis for assessment and grading.

- written and oral group assignments
- final individual oral and written assignment

*For examinations consisting of several examination components, the following applies:* If during the course it is concluded that a doctoral student is unable to complete a certain examination component, the examiner may set a substitute assignment provided that circumstances do not reasonably allow for the course component to be completed at a later date during the run of the course.

## **6 Grades**

Examinations on third-cycle courses and study programmes are to be assessed according to a two-grade scale with either of the grades 'fail' or 'pass' (local regulations).

The grade shall be determined by a teacher specifically nominated by the higher education institution (the examiner) (Higher Education Ordinance).

To obtain a passing grade on examinations included in the course, the doctoral student is required to demonstrate that he/she attains the intended course learning outcomes as described in section 2.2. Alternatively, if the course consists of multiple examinations generating credit, the doctoral student is required to demonstrate that he/she attains the outcomes that the examination in question refers to in accordance with section 5.

A student who has failed an examination is entitled to a retake.

If an examination consists of several examination components, and a student fails an examination component, the examiner may, as an alternative to a retake, set a make-up assignment with regard to the examination component in question.

A doctoral student who has failed an examination twice for a specific course or course element is entitled, upon his/her request, to have another examiner appointed to determine the grade.

## **7 Admission to the course**

### **7.1 Admission requirements**

To gain access to the course and complete the examinations included in the course, the applicant must be admitted to a doctoral programme at Örebro University.

### **7.2 Selection**

Selection between applicants who have been admitted to doctoral programmes at Örebro University and who otherwise meet the admission requirements as listed above is made according to the following order of precedence:

- 1) Research students in the School of Science and Technology
- 2) Research students at Örebro University

If no other selection criteria are specified in this section, priority shall be given to applicants with a lower number of course credits left before the award of their degree over applicants with a higher number of remaining course credits. Should two or more students have equal number of credits, selection will be done through the drawing of lots. This also applies within any selection groups listed unless otherwise stated.

### **7.3 Other applicants than doctoral students admitted at Örebro University**

Other applicants than doctoral students admitted at Örebro University may be given access to the course on the grounds of provisions for and/or agreements regarding contracted courses, joint degrees, national graduate schools or cooperation in other respects with other universities.

Any decisions on what such other applicants may be given access to the course are made separately and on the basis of the provisions and/or agreements that occasion the student to apply for the course.

For participation in the course in other respects, the same provisions shall apply as for doctoral students admitted to Örebro University.

## **8 Transfer of credits for courses, study programmes and other experience**

Provisions on the transfer of credits can be found in the Higher Education Ordinance and on the university's webpage.

## **9 Other information**

- The language of instruction may be in English and Swedish.
- The literature may be in English or Swedish.

The research students admitted to the course have a right to receive tuition for the duration of the time specified for the course to they were accepted. After that, the right to receive tuition expires.

## **Transitional provisions**