ÖREBRO UNIVERSITET

**Course syllabus**
Third-cycle courses and study programmes

This is a translation of a Swedish document. In the event of a discrepancy, the Swedish-language version shall prevail.

# Oldies but Goldies: Seminal Works in Computer Science, 4 credits

## *Gamla Guldkorn: Banbrytande Verk inom Datavetenskap, 4 högskolepoäng*

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| **Course Code/Codes** | 50DT068 |
| **Subject Area** | Computer Science |
| **School/equivalent** | School of Science and Technology |
| **Valid from** | 2025-01-10 |
| **Approved** | 2025-01-22 |
| **Revised** | |
| **Approved by** | Head of School |
| **Translation to English, date and signature** | 2025-01-20<br>DKO |

# 1 Course content

This course is dedicated to exploring foundational and seminal research publications in computer science. Doctoral students will select classic publications considered seminal within their field, analyze their significance, and present them to the rest of the class.

The presentations will focus on:

- The scientific context of the publication at the time of its publication.
- Today's relevance of the publication.
- The influence of the publication on subsequent research both inside and outside the academia.

The course encourages critical analysis and discussion to appreciate how considered publications shaped the trajectory of computer science development and its interactions with other scientific disciplines.

# 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:

Knowledge and understanding:

- Broad knowledge and systematic understanding of the research field (part of outcome 1).
- Familiarity with research methodology in general (part of outcome 2).

Competence and skills:

- The capacity for scholarly analysis and synthesis (part of outcome 3).
- The ability to review and evaluate research and other qualified tasks (part of outcome 4).

Judgement and approach:

- Specialized insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used (outcome 10).

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:

- Knowledge of the history of computer science and how the field has evolved (relates to outcomes 1 and 2).
- Ability to critically analyze and evaluate seminal research publications and their historical and contemporary significance (part of outcome 3).
- Capacity to identify and articulate research contributions with scientific rigor (part of outcome 4).
- Insight into the impact of seminal publications on the advancement of science and their broader societal implications (outcome 10).

## 3 Reading list and other teaching material

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

- The course does not prescribe specific literature. Each doctoral student will select a scientific publication of their choice from the canon of computer science under the guidance of the course instructors.

## 4 Teaching formats

Teaching on the course takes the following format:

The course takes the form of a series of doctoral student-led seminars.

## 5 Examination

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:

- A guided self-study for each doctoral student about a specific topic agreed with the instructors, leading to an oral presentation at the seminar and a written report.
- A group discussion during each seminar, where each doctoral student must show understanding of the presented topic via active participation.

## 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 an examinator specifically nominated by the higher education institution (Higher Education Ordinance).

To obtain the passing grade on examinations included in the course, a doctoral student is required to demonstrate that he/she attains course’s intended learning outcomes (Section 2.2). Alternatively, if the course consists of multiple examinations generating credit, a 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 doctoral student who has failed an examination is entitled for a re-examination.

If an examination consists of several components, and a student fails one or several of the examination components, the examinator may, as an alternative to a re-examination, set a make-up assignment with regard to the examination component(s) 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 examinator 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.

Moreover, to participate in the course and its examination, applicants must be admitted to doctoral studies in computer science or a related field.

## 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:

- Doctoral students who are deemed as having a greater immediate need for the course in terms of their doctoral thesis project.

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 is English