



Faculty of Health, Science and Technology
Computer Science

Syllabus

Methods in Computer Science

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| Course Code: | DVAD12 |
| Course Title: | Methods in Computer Science <i>Datavetenskapliga metoder</i> |
| Credits: | 7.5 |
| Degree Level: | Master's level |
| Progressive Specialisation: | Second cycle, has only first-cycle course/s as entry requirements (A1N) |

Major Field of Study:
DVA (Computer Science)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2022-02-01, and is valid from the Autumn semester 2022 at Karlstad University.

Prerequisites

60 ECTS credits in Computer Science, and upper secondary level English B, or equivalent

Learning Outcomes

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

1. explain procedures and methods in computer science,
2. apply one or several research methods in computer science in a project,
3. plan research activities in a project,
4. conduct evaluations for the purpose of analysing research results,
5. identify relevant literature, journals, conferences, and research groups,
6. collect and classify information and carry out a literature study,
7. structure a research article in conformity with disciplinary standards,
8. critically review their own results and the results of others based on relevant scientific and societal aspects, and

9. demonstrate the ability to make considerations based on ethical aspects and copyright.

Content

The course provides an introduction to research methods (qualitative, quantitative, experimental, etc.) used in computer science. Research questions, hypotheses, and different data collection methods (observations, interviews, replicability etc.) and analytical methods are studied. Argumentation and presentation techniques and the structure of research documents (conference papers, journal articles, or dissertations) are treated, as well as ethical issues related to different research methods (plagiarism, copyright, patent, questioners, etc.) and the need for critical review of the results of scientific methods (our own or those of others).

Instruction is in the form of lectures, seminars, presentations, and group discussions.

Reading List

See separate document.

Examination

Assessment is based on individual hand-in assignments and oral presentations.

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 Pass with Distinction (5), Pass with Some Distinction (4), Pass (3) or Fail (U) 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.