Faculty of Health, Science and Technology
Computer Science

Syllabus

Project in Automated Software Engineering

Course Code:	DVAD81
Course Title:	Project in Automated Software Engineering *Projekt inom automatiserad mjukvaruutveckling*
Credits:	4
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 2021-09-17, and is valid from the Spring semester 2022 at Karlstad University.

Prerequisites
Upper secondary level English 6 and 60 ECTS credits in Computer Science (including 15 ECTS credits in software engineering and program development methodology), or three years of professional experience in the information technology sector, or equivalent

Learning Outcomes
Upon completion of the course, students should be able to:
1. use concepts and techniques which are fundamental for the automatisation of software engineering,
such as for instance optimisation techniques, heuristics and metaheuristics, or machine learning,
2. plan and carry out the implementation of an automatisation project in a project team, and
3. evaluate and report the results of the project, orally and in writing.

Content
The course covers concepts and techniques of automatisation in software engineering in relation to an authentic scenario.

The course covers the following:
- implementation of optimisation techniques, heuristics and metaheuristics, and machine learning
- data collection aimed at the automatisation of software engineering activities
- techniques for evaluating the above, and
- the reporting of results of the evaluation

The course includes a number of lectures and workshops and projects completed in groups.

Reading List
See separate document.

Examination
Assessment is based on project reports 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 Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course. For Engineering students, one of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) 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.