



HÖGSKOLAN I GÄVLE

Software Engineering - Development and Maintenance of Software 15 cr

Programvaruteknik - utveckling och underhåll av programvara 15 hp

Set by Faculty of Engineering and Sustainable Development

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| Version | Set at | Valid from |
| | 6/7/16 | HT2016 |

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| Level | G1F |
| Education level | First cycle |
| Course identifier | DVG320 |
| Credits | 15 cr |
| Main field of study | Computer Science |
| Subject group | Computer Technology |
| Disciplinary domain | Technology 100.0 % |

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| Learning outcomes | After completion of the course the student shall be able to <ol style="list-style-type: none">1. use and explain conditions, concepts, models, theories and principles in software engineering2. use and apply techniques, methods, and development-, production- and testing tools that are common practice for quality and efficiency in software development3. in collaboration with others, reflect on and apply the theories and models for assessment and management of quality, testing, risk, economics, efficiency and maintenance in the planning and implementation of software projects. |
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| Course content | Concepts, models, methods, tools and practices in software engineering, The concepts of product, product development and life cycle Planning and management of software projects: project- and development models Methods for planning, analysis, design, testing for different parts/types of software systems Measurement and evaluation of the quality and efficiency of code and development process Agile methods and thinking Risk assessment and risk management Tools for configuration and version control |
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Reengineering, maintenance and administration of code
Environments for development, test and production.

Teaching Lectures, tutorials and laboratory sessions and, if possible, guest lecturers from industry. In addition, the students apply and deepen their knowledge by conducting assignments individually or in pairs, as well as a practical product development project in group.

Prerequisites Object-Oriented Design and Programming 7.5 credits or equivalent.

Examination Written examination, written report and written and oral presentation of assignments and project.

Grade A, B, C, D, E, Fx, F

Limitations Reexamination of the product development project is conducted when the course is given the next time.

Other regulations Criteria for final grade will be handed out at the beginning of the course.

Sustainable environment A minor part of the course content deals with sustainable development.

Module

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| 0010 | Written Examination | 5 cr | Grade: AF |
| 0020 | Product development project | 5 cr | Grade: AF |
| 0030 | Assignments/laboratory work | 5 cr | Grade: UG |