Programme syllabus

Bachelor's Programme in Simulation Technology and Virtual Design
Kandidatprogram, simuleringsteknik och virtuell design
180.0 credits

Valid for students admitted to the education from autumn 12 (HT - Autumn term; VT - Spring term).

This is a translation of the Swedish, legally binding, programme syllabus.

Programme objectives

Computer simulations concern the recreation of a phenomenon in a virtual computerized environment with the help of mathematical models in order to be able to understand or control the reality that is being modeled. This may mean building a computer model of an aeroplane that has yet to be manufactured in order to be able to examine its characteristics at an early stage in the design process, or using the computer to simulate weather systems and the effects of environmental disasters. New medical techniques can be tested in computerized models, for example new technology for pacemakers or mechanical heart valves could be tested in a virtual copy of a human heart. This is an exciting field and graduates of this program enjoy extensive opportunities to become an important part of an industrial sector where mathematical modeling and computer simulation play an increasingly important role. In addition, the development of computer games and animation technology also increasingly uses physics-based simulation technology.

The program prepares for work in society – national and international – as well as for further studies for a masters degree at KTH or elsewhere.

Besides the goals stated in the Swedish Higher Education Ordinance the following goals apply.

Knowledge and understanding

A Bachelor of Science from Simulation and virtual design shall

- Demonstrate knowledge and understanding of simulation technology and virtual design, including the scientific basis, adequate praxis and methods, in-depth knowledge within some part of the area, and orientation of current research and development work.
- Demonstrate broad knowledge and understanding of the role of mathematics in the technical development of society.
- Demonstrate good knowledge in mathematical modeling, simulation and visualization.
- Demonstrate good knowledge in programming mathematical models.
- Demonstrate knowledge of and understanding for what types of problems that can and should be treated by mathematical simulations and what types should not.

Skills and abilities

A Bachelor of Science from Simulation and virtual design shall

- Demonstrate ability to search, collect, evaluate and interpret relevant information for a problem and critically discuss this.
- Demonstrate ability to independently identify, formulate and solve problems and to carry out tasks within a given timeframe.
Demonstrate ability to verbally and in writing, explain and discuss information, problems and solutions in dialogue with different groups.

Demonstrate abilities that are needed to work independently within the field of the program.

Demonstrate ability to critically and – independently or together with practitioners in the field – identify problems suitable for modeling and simulation.

Demonstrate ability to creatively structure real-world problems.

Demonstrate ability to define and analyze mathematical models of complex systems and discuss limitations and merits of the models.

Demonstrate good ability to implement and simulate mathematical models of complex systems and evaluate the results of the simulations.

Demonstrate ability to see similarities in models and simulation techniques from different areas of science.

Demonstrate ability to seek and assimilate texts within applied mathematics and scientific computing.

**Ability to make judgements and adopt a standpoint**

A Bachelor of Science from Simulation and virtual design shall

- Demonstrate ability to make judgments in the light of relevant scientific, social and ethical aspects.
- Demonstrate insight of the role of knowledge in society and our responsibility of its use.
- Demonstrate an ability to identify his/her needs for additional knowledge and to continuously develop his/her skills.
- Analyze and consider economical, societal, environmental and ethical aspects of his/her work.
- Demonstrate ability to critically view mathematical models and simulations done by others to assess their viability.

**Extent and content of the programme**

The Bachelor of science program of Simulation and virtual design is composed of 180 ECTS credits, which, at normal study rate, corresponds to 3 years of full-time study (6 semesters). It is on the first level.

The programme is mainly given in Swedish, even though some courses may be given in English. Also literature in English may be used.

The program gives a solid foundation in mathematical modeling, scientific computation and programming and knowledge within some areas where modeling may be applied.

**Eligibility and selection**

In order to be accepted to the program Bachelor of Science in Simulation and virtual design basic eligibility requirements as well as the following requirements must be met: Mathematics E, Physics B, Chemistry A (according to the swedish school system). All with at least a grade of Godkänd (Passed)

Up to one third of the students may be admitted based on a voluntary admission test in mathematics and physics.

For eligibility requirements and selection, see the KTH admission policy

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/anttaging/1.27186?l=en_UK

**Implementation of the education**

**Structure of the education**

Study years 1–2 consist of mandatory courses. Study year 3 consists of mandatory courses and a specialization including a degree project.

**Academic year**

The KTH academic year is 40 weeks, divided into four periods. Each study period is followed by an examination period. There are also three re-examination periods.
For details about the structure of the academic year see http://www.kth.se/student/schema/1.1007?l=en_UK

Courses

The programme is course-based. Lists of courses are included in appendix 1.

The course goals, prerequisites, contents and examination requirements are found in the course syllabus in the Course and program directory on the KTH student web. The programme consists of compulsory, conditionally elective and elective courses. The compulsory courses are defined in course lists for each study year.

Elective courses can be chosen from KTH’s course selection for Master of Science in Engineering programmes. Courses from other universities can be recognized for credit, if the degree requirements are fulfilled.

For elective courses, the following restrictions apply:

- Elective courses can not be taken in study year 1
- Only in exceptional cases can elective courses be taken in study year 2
- The number of credits that can be chosen per semester can be limited.
- Elective courses may not overlap a course already taken to a considerable extent.
- Higher education preparation courses may not be counted as elective course.
- Courses on lower levels within a subject than the programme courses may not count as elective courses.

Grading system

Courses in the first and the second cycle are graded on a scale from A to F. A-E are passing grades, A is the highest grade. The grades pass (P) and fail (F) are used for courses under certain circumstances.

Conditions for participation in the programme

Semester enrollment

At the start of each semester the student is required to make a study enrollment for the next semester at My pages.

The study enrollment is required for taking new courses and for study results to be registered.

Approved leave from studies

Approved leave from studies means that the student does not participate in the education during at least one study period. The student has the right to return to the education at a time agreed upon, and has the right to participate in the examination of non-finished courses.

Application for an approved leave is done according to instructions from the SCI program office. When the student decides to return to the education, he/she is required to re-enroll to the studies.

Approved leave from studies is not granted during study year 1. Exceptions may be made if there are extraordinary reasons.


Selection of courses

The application for admission to a course is done according to instructions from the SCI school no later than

- May 15th for the fall semester
- November 15th for the spring semester

Applications made after this date are only granted if there are vacancies in the courses. Applications to language courses with prerequisites should be preceded by a qualification test.
In a few courses, the number of participants is limited. Selection is done by the school responsible for the course.

A student may only take courses that are included in the study plan.

Course registration

The student must register with the school responsible for the course at the start of each course, and also report to the school responsible for the course if the studies are discontinued.

Registration to a course requires formal acceptance to the course (by the school responsible for the course). Applications should be according to instructions from the SCI school.

Conditions for being promoted to the next level

The following promotion requirements apply in order to participate in the next level of the education.

Requirements for promotion from study year 1 to study year 2:

A total of at least 45 ECTS credits from study year 1 must be completed.

Requirements for promotion from study year 2 to study year 3:

A total of at least 90 ECTS credits from study years 1 and 2 must be completed whereof at least 50 higher education credits from study year 1.

Students who do not fulfill these requirements must – in cooperation with the SCI program office – make an individual study plan for continued studies.

Please see the KTH regulations: http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/1.27217?l=en_UK

Recognition of previous academic studies

Credits for studies at another university can be transferred. An application form can be found on the KTH Student pages.

The application form is submitted to the SCI program office.

For in-depth information about the KTH policy for credit transfer, see http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/prestationer/1.27200?l=en_UK

Studies abroad

Studies abroad in the form of exchange studies is normally done during study years 4–5. Students at the bachelor program Simulation and virtual design do, however, have the opportunity to study one or two semesters abroad through agreements that KTH has with universities within and outside the EU.

Degree project

A degree project of 15 ECTS credits (first cycle) is done during study year 3 and must be made in connection to the selected specialization. To be allowed to begin the work at least 120 credits, of which 105 credits from the deck block, must be completed before 20th of December.

KTH comprehensive rules and guidelines for degree projects of 15 ECTS credits for Degree of Bachelor of Science 180 ECTS credits, and grading of the project are found in the KTH regulations.

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/1.27211?l=en_UK

Degree

Application for graduation: Students must apply for Degree of Bachelor of Science.

Instructions for the application are available on the KTH student web.
**Conditions for the Degree of Bachelor of Science 180 ECTS credits:** The Degree of Bachelor of Science is received if the student applies for graduation after the completion of the 3rd study year and fulfills the national degree requirements and has completed all courses within the program corresponding to 180 ECTS credits, including

- courses of at least 25 ECTS credits within mathematics-natural sciences,
- courses of at least 90 ECTS credits (including 15 ECTS credits from the degree project) with successive progression in the main field of education.

**Degree name:** Teknologie kandidatexamen Degree of Bachelor of Science

Information on degree requirements in the KTH regulations:

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en_UK

Appendix 1 - Course list

Appendix 2 - Programme syllabus descriptions
Appendix 1: Course list

Bachelor's Programme in Simulation Technology and Virtual Design (TSVDK), Programme syllabus for studies starting in autumn 2012

**General courses**

**Year 1**

**Mandatory courses (60.0 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD1345</td>
<td>Fundamentals of Programming and Computer Science</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DH1600</td>
<td>Communication in Engineering Sciences</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DN1230</td>
<td>Applied Linear Algebra</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1532</td>
<td>Computational Mathematics in Several Variables</td>
<td>15.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1625</td>
<td>Calculus in One Variable</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SG1130</td>
<td>Mechanics I</td>
<td>9.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SI1135</td>
<td>Classical Physics</td>
<td>6.0</td>
<td>First cycle</td>
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</table>

**Recommended courses**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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</thead>
<tbody>
<tr>
<td>DD1301</td>
<td>Computer Introduction</td>
<td>1.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1611</td>
<td>Introductory Course in Mathematics I</td>
<td>1.5</td>
<td>First cycle</td>
</tr>
</tbody>
</table>

_Repitition of high school math during the introductory weeks; can not be included in the program_

**Supplementary information**

Students are recommended to take the course SF1611 Introduction to mathematics I during the introduction weeks.
Year 2

Mandatory courses (60.0 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>DD1346</td>
<td>Object-Oriented Program Construction</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DH2323</td>
<td>Computer Graphics and Interaction</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF1536</td>
<td>Simulations with Differential Equations</td>
<td>9.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1538</td>
<td>Project Course in Simulation Technology</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1662</td>
<td>Discrete Mathematics</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1811</td>
<td>Optimization</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1901</td>
<td>Probability Theory and Statistics</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SG1140</td>
<td>Mechanics II</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SI1335</td>
<td>Introductory Simulation Physics</td>
<td>6.0</td>
<td>First cycle</td>
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Year 3

Mandatory courses (22.5 credits)

<table>
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<tr>
<th>Course code</th>
<th>Course name</th>
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<th>Edu. level</th>
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<tbody>
<tr>
<td>SA103X</td>
<td>Degree Project in Simulation Technology and Virtual Design, First Cycle</td>
<td>15.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF2565</td>
<td>Program Construction in C++ for Scientific Computing</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

Year 5

Career Computer Science (ALDA)

Year 1

Year 2

Year 3

Mandatory courses (21.0 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD1396</td>
<td>Parallel and Concurrent Programming in Introduction to Computer Science</td>
<td>3.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD2440</td>
<td>Advanced Algorithms</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH1620</td>
<td>Human-Computer Interaction, Introductory Course</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
</tbody>
</table>
### Course code | Course name                                              | Credits | Edu. level  
--- | --------------------------------------------------------- | ------- | ----------- 
DH2620 | Human-Computer Interaction, Introductory Course          | 6.0     | Second cycle

### Optional courses

| Course code | Course name                                              | Credits | Edu. level  
--- | --------------------------------------------------------- | ------- | ----------- 
DD1368 | Database Technology                                      | 6.0     | First cycle
DD2257 | Visualization                                            | 7.5     | Second cycle
DD2380 | Artificial Intelligence                                  | 6.0     | Second cycle
DH2413 | Advanced Intelligence and Interaction                    | 9.0     | Second cycle
DH2641 | Interaction Programming                                  | 9.0     | Second cycle
DH2650 | Computer Game Design                                     | 6.0     | Second cycle
IK2218 | Protocols and Principles of the Internet                | 6.0     | Second cycle

### Supplementary information

*one of DH1620 and DH2620 has to be studied. If DH2641 is studied among the elective courses DH1620 has to be studied.

### Career visualization, HCI, Graphics and Computer Games (ALMD)

#### Year 1

#### Year 2

#### Year 3

### Mandatory courses (25.5 credits)

| Course code | Course name                                              | Credits | Edu. level  
--- | --------------------------------------------------------- | ------- | ----------- 
DD2257 | Visualization                                            | 7.5     | Second cycle
DH1620 | Human-Computer Interaction, Introductory Course          | 6.0     | First cycle
DH2320 | Introduction to Visualization and Computer Graphics       | 6.0     | Second cycle
DT2350 | Human Perception for Information Technology               | 6.0     | Second cycle
### Optional courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD2429</td>
<td>Computational Photography</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2321</td>
<td>Information Visualization</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2408</td>
<td>Evaluation Methods in Human-Computer Interaction</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2413</td>
<td>Advanced Graphics and Interaction</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2641</td>
<td>Interaction Programming</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2650</td>
<td>Computer Game Design</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2660</td>
<td>Haptics</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2140</td>
<td>Multimodal Interaction and Interfaces</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SG2804</td>
<td>Biomechanics of Human Movement</td>
<td>7.0</td>
<td>Second cycle</td>
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### Career Scientific Computing (ALTB)

#### Year 1

#### Year 2

#### Year 3

### Mandatory courses (22.5 credits)

<table>
<thead>
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<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>DD2257</td>
<td>Visualization</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2524</td>
<td>Matrix Computations for Large-scale Systems</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2561</td>
<td>The Finite Element Method</td>
<td>7.5</td>
<td>Second cycle</td>
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### Optional courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>DD1396</td>
<td>Parallel and Concurrent Programming in Introduction to Computer Science</td>
<td>3.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DH2321</td>
<td>Information Visualization</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EL1000</td>
<td>Automatic Control, General Course</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>EQ1100</td>
<td>Signals and Systems, part II</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>EQ1220</td>
<td>Signal Theory</td>
<td>7.5</td>
<td>First cycle</td>
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</tbody>
</table>
### Supplementary information

*SG2224 can be read instead for student who wants to study towards numerical fluid mechanics.

### Career Engineering Mathematics/Financial Mathematics (ALTM)

#### Year 1

#### Year 2

#### Year 3

#### Mandatory courses (22.5 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>SF2701</td>
<td>Financial Mathematics, Basic Course</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2940</td>
<td>Probability Theory</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2950</td>
<td>Applied Mathematical Statistics</td>
<td>7.5</td>
<td>Second cycle</td>
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#### Optional courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>SF2942</td>
<td>Portfolio Theory and Risk Management</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2943</td>
<td>Time Series Analysis</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2955</td>
<td>Computer Intensive Methods in Mathematical Statistics</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2980</td>
<td>Risk Management</td>
<td>7.5</td>
<td>Second cycle</td>
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Master, Computer Science (CSC)

Year 1

Year 2

Year 3

Mandatory courses (16.5 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>DD1352</td>
<td>Algorithms, Data Structures and Complexity</td>
<td>9.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD2352</td>
<td>Algorithms and Complexity</td>
<td>7.5</td>
<td>Second cycle</td>
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Optional courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
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<tbody>
<tr>
<td>DD1350</td>
<td>Logic for Computer Science</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1361</td>
<td>Programming Paradigms</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1368</td>
<td>Database Technology</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1396</td>
<td>Parallel and Concurrent Programming in Introduction to Computer Science</td>
<td>3.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD2257</td>
<td>Visualization</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2413</td>
<td>Advanced Graphics and Interaction</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2620</td>
<td>Human-Computer Interaction, Introductory Course</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2641</td>
<td>Interaction Programming</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2650</td>
<td>Computer Game Design</td>
<td>6.0</td>
<td>Second cycle</td>
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Supplementary information

*one of the courses has to be studied.
Master, Human-Computer Interaction (HCI)

Year 1

Year 2

Year 3

Mandatory courses (6.0 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
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<tbody>
<tr>
<td>DH2620</td>
<td>Human-Computer Interaction, Introductory Course</td>
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Optional courses

<table>
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<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DD1361</td>
<td>Programming Paradigms</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1368</td>
<td>Database Technology</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1396</td>
<td>Parallel and Concurrent Programming in Introduction to Computer Science</td>
<td>3.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD2352</td>
<td>Algorithms and Complexity</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2380</td>
<td>Artificial Intelligence</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2320</td>
<td>Introduction to Visualization and Computer Graphics</td>
<td>6.0</td>
<td>Second cycle</td>
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<td>DH2641</td>
<td>Interaction Programming</td>
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<td>DH2660</td>
<td>Haptics</td>
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<td>DT2350</td>
<td>Human Perception for Information Technology</td>
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Master, Applied and Computational Mathematics (TBM)

Year 1

Year 2

Year 3

Mandatory courses (6.0 credits)

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<th>Edu. level</th>
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<td>SF1633</td>
<td>Differential Equations I</td>
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## Optional courses

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<tr>
<td>DD2257</td>
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<td>DH2413</td>
<td>Advanced Graphics and Interaction</td>
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<td>EL1000</td>
<td>Automatic Control, General Course</td>
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<td>EL1820</td>
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<td>SF2524</td>
<td>Matrix Computations for Large-scale Systems</td>
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<td>SI1140</td>
<td>Mathematical Methods in Physics</td>
<td>9.0</td>
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Appendix 2: Specialisations

Bachelor's Programme in Simulation Technology and Virtual Design (TSVDK),
Programme syllabus for studies starting in autumn 2012

Career Computer Science (ALDA)

Career visualization, HCI, Graphics and Computer Games (ALMD)

Career Scientific Computing (ALTB)

Career Engineering Mathematics/Financial Mathematics (ALTM)

Master, Computer Science (CSC)

Master, Human-Computer Interaction (HCI)

Master, Applied and Computational Mathematics (TBM)