Curriculum
For
Bachelor’s Degree Programme in Software Development
Revised 01.08.2018

Copenhagen School of Design and Technology - KEA
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1. Curriculum framework

This is a translated version of the Danish curriculum. In case of any discrepancies between this curriculum and the Danish curriculum, the text in the Danish curriculum applies.

The following acts and ministerial orders apply to the programme:

- Danish (Consolidated) Act on Academies of Professional Higher Education
- Danish (Consolidated) Act on Academy Profession Programmes and Professional Bachelor Programmes
- Ministerial Order on Technical and Commercial Academy Profession Programmes and Professional Bachelor Programmes.
- Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the examination order)
- Ministerial Order on Admission to and Enrolment on Academy Profession Programmes and Professional Bachelor Programmes (the Admissions Order)
- Ministerial Order on the Grading Scale and Other Forms of Assessment of Study Programmes Offered under the Ministry of Higher Education and Science.

Name of the programme: Bachelor’s Degree Programme in Software Development

Title: The programme gives the graduate the right to use the title Bachelor of software development.

Purpose and business objective: The purpose of the Bachelor's degree programme in software development is to qualify the graduate to work as an IT specialist, focus being on IT integration and architecture, and to engage in professional cooperation on the development of large data-intensive distributed IT systems in IT companies, IT consultancy companies or IT development departments.

A top-up programme: The programme is organised as an independent top-up programme in the Academy Profession Degree Programme in information technology (Computer Science).

The programme is rated at 1 1/2 years (90 ECTS points) and placed at level 6 (Bachelor’s degree level) in the qualifications framework for lifelong learning.

1.1. Effective date

This curriculum will be effective from 1 August 2018 and apply to all students enrolled on the programme and all exams commencing on that date or later.

1.2. Transitional arrangements

No transitional arrangements.
1.3. The programme’s intended learning outcome:

Knowledge

The graduate has knowledge of:

- the strategic role of tests in system development,
- globalisation of software production,
- system architecture and its strategic significance for a company's business activities,
- applied theory and methodology as well as commonly used technologies within the domain and
- various types of database and their application.

Skills

The graduate is able to:

- integrate IT systems and develop systems that support future integration,
- use contracts as a management and coordination mechanism in a development process,
- assess and select database systems, as well as design, redesign and optimise databases,
- plan and manage development processes with many geographically dispersed project participants and
- identify connections between applied theory, methodology and technology and reflect on their suitability in various situations.

Competencies

The graduate is able to:

- manage planning, implementation and testing of major IT systems
- engage in professional cooperation on the development of large systems by applying commonly used methods and technologies,
- familiarise themselves with new technologies and standards in systems integration management,
- develop their own competency profile through practice, i.e. from being primarily a backend developer to performing tasks as a system architect and managing the establishment and realisation of a business architecture which is technologically appropriate for large systems.

2. Admission

Admission to the programme is in accordance with the rules of the admission order.

2.1. Academic criteria for the selection of candidates for the top-up degree programmes
Students who have completed the Computer Science programme automatically satisfy all the formal admission requirement for the bachelor’s degree programme in software development.

If there are more applicants than will be admitted to the programme, applicants will be prioritised based on the following criteria:

- Average grade of the qualifying education
- Grades and ECTS in programming and system development
- Relevant professional experience

3. Programme elements and modules

3.1. Sequencing of programme elements, internship and exams

Overview of the sequencing of programme elements

<table>
<thead>
<tr>
<th></th>
<th>Fifth and sixth sem.</th>
<th>Seventh sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing</td>
<td>10 ECTS</td>
<td></td>
</tr>
<tr>
<td>Databases for developers</td>
<td>10 ECTS</td>
<td></td>
</tr>
<tr>
<td>System integration</td>
<td>10 ECTS</td>
<td></td>
</tr>
<tr>
<td>Development of large systems</td>
<td>10 ECTS</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>20 ECTS</td>
<td></td>
</tr>
<tr>
<td>Internship</td>
<td></td>
<td>15 ECTS</td>
</tr>
<tr>
<td>Final professional Bachelor Project</td>
<td></td>
<td>15 ECTS</td>
</tr>
</tbody>
</table>

Overview of all the exams and their sequencing.
All programme elements complete with an exam.

<table>
<thead>
<tr>
<th>Sequecing</th>
<th>Exam</th>
<th>90 ECTS distributed on the exams</th>
<th>Internal/External</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth semester</td>
<td>Testing</td>
<td>10</td>
<td>Internal</td>
<td>7-point grading</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Databases for developers</td>
<td>10</td>
<td>External</td>
<td>7-point grading</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Electives</td>
<td>10</td>
<td>Internal</td>
<td>7-point grading</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>System integration</td>
<td>10</td>
<td>Internal</td>
<td>7-point grading</td>
</tr>
</tbody>
</table>
Information about the time and place of the exams can be found on Fronter, the student intranet.

3.2. National programme elements

3.2.1. Learning objectives for the development of large systems

<table>
<thead>
<tr>
<th>Development of large systems</th>
</tr>
</thead>
</table>

**Scope:** 10 ECTS

**Content:** The purpose of this programme element is to qualify the student to develop large-scale IT systems with scalability as a key characteristic. The student must have knowledge of how key system development methods manage issues related to scalability and development of large distributed systems. The student must have knowledge of concepts, techniques and technologies for continuous integration and delivery of software-based systems. The student must be able to design, implement, and maintain large distributed systems in distributed development teams.

**Learning objectives:**

**Knowledge**

The student has knowledge of:

- issues related to the development of distributed and large-scale IT systems and the way disciplined and agile development methods prescribe how these issues should be managed
- advantages, disadvantages and costs of applying a system for a continuous integration and delivery of IT systems
- quality criteria for the design of subsystem interfaces
- configuration and error reporting systems for the development of large distributed systems.

**Skills**

The student is able to:

- apply techniques to divide a system into subsystems
- design and specify requirements for subsystems
- apply version control systems for the development of large distributed systems in a distributed development team
- use a system for continuous integration and delivery
* use architectural patterns for the development of large distributed systems.

Competencies

The student is able to:

- cooperate with large development organisations
- take part in globally distributed development
- adapt development methods and processes for the development of large distributed systems.

### 3.2.2. Learning objectives for Databases for developers

**Databases for developers**

<table>
<thead>
<tr>
<th><strong>Scope:</strong></th>
<th>10 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content:</strong></td>
<td>The purpose of this programme element is to qualify the student to select and use various types of database appropriately in relation to various domains. Furthermore, the student must be able to analyse and develop large databases, including redesigning and operational optimisation.</td>
</tr>
</tbody>
</table>

**Learning objectives:**

**Knowledge**

The student has knowledge of:

- various types of database and underlying models
- storage organisation and query execution of a specific database system
- possibility for optimising a specific database system – including pros and cons.
- database-specific security issues and solutions
- concepts and issues relating to data warehousing, including big data
- the specific issues raised by many simultaneous transactions, also in the case of distributed databases
- relational algebra (including its connection to execution plans).

**Skills**

The student is able to:

- transform logical data models into physical data models in various types of database
- implement database optimisation
- use parts of the management tool to help optimise and tune existing databases and include execution plans of a specific DBMS
- use a specific database system's tools to manage simultaneous transactions
- use the facilities and programming options provided by a modern DBMS
use an object relational mapping tool.

Competencies
The student is able to:

- analyse the domain for subsequent selection of a database type
- allocate responsibility for tasks in between application and DBMS during system development to ensure that the tasks are solved in the best possible way.

### 3.2.3. Learning objectives for System integration

<table>
<thead>
<tr>
<th>System integration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope:</strong> 10 ECTS</td>
</tr>
</tbody>
</table>

**Content:** This programme element must help develop the student’s competencies in technical system integration. Having completed the module, the student must be able to integrate existing systems in the development of new systems and develop new systems which will support future integration.

Learning objectives:

**Knowledge**
The student has knowledge of:

- business concerns in relation to system integration
- standards and standardisation organisations
- storage, transformation and integration of data resources
- the service concept and its coherence with service-oriented architecture
- technologies for the implementation of a service-oriented architecture.
- integration tools.

**Skills**
The student is able to:

- use an object-oriented system in a service-oriented architecture
- design a system that can easily be integrated with other systems and use existing services
- transform or extend a system so that it can operate in a service-oriented architecture
- use patterns that support system integration
- integrate generic systems and other systems
- choose between various methods of integration
- translate elements of a business strategy into specific requirements for system integration.

**Competencies**
The student is able to:
- choose between various integration techniques
- acquire knowledge of the development in standards for integration
- adapt an IT architecture that will take account of future system integration.

### 3.2.4. Learning objectives for Testing

**Testing**

**Scope:** 10 ECTS

**Content:** The purpose of this programme element is to qualify the student to plan and conduct tests. The student must have an understanding of the significance of testing in methodologies for system development. The student must be able to design and conduct systematic testing of major systems, including the establishment of automated testing. In addition, the student must master concepts and techniques for the design and construction of testable systems.

**Learning objectives:**

**Knowledge**

The student has knowledge of:

- key test strategies and models as well as their role in system development
- testing as an integral part of a development project
- various types of test and their application.

**Skills**

The student is able to:

- ensure traceability between system requirements and tests at all levels
- use Black Box as well as White Box testing techniques
- apply different criteria for test coverage
- apply techniques for verification and validation
- apply techniques and tools for automated testing
- construct a system to manage tests and debugging in development projects.

**Competencies**

The student is able to:

- define, plan and conduct tests in a development project appropriate to the quality requirements of the project
- plan and manage the implementation of internal and external testing of software systems
- design testable systems.
3.3. Local programme elements
The local programme elements are worth 20 ECTS. The local programme elements are offered as electives at KEA. See section 3.4.

3.4. Electives
Electives are offered in a multiple of 5 ECTS up to 20 ECTS. The electives give the student the possibility of immersion or specialisation by supplementing or elaborating on themes already included in the programme. Electives may contain theoretical and practical activities across disciplines and professions.

Electives may be completed at KEA or at another Danish or foreign educational institution. The educational institution who offers a given elective is responsible for agreements, level, assessment, etc. of the programme element. KEA must approve the elective.

The elective may also be completed as an individually organised course outside Denmark after approval by KEA in accordance with the KEA’s current guidelines.

The electives, their contents, ECTS scope, learning objectives and exams have been described in the electives catalogue.

3.5. Internship
During the internship, the student will be working with relevant issues within the core areas of the programme and obtain knowledge of relevant business functions. The student will be working with one or more companies. The internship can be organised flexibly and may form the basis of the student's final bachelor project.

Based on the below learning objectives for the internship, the student and the supervisor/contact person will jointly determine concrete outcomes for the internship which will then be the guidelines for the organisation of the student’s work during the internship period.

The internship is considered a full-time job with the demands on working time, efforts, commitment and flexibility which a graduate in software development is likely to encounter in their first job.

<table>
<thead>
<tr>
<th>Internship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope:</strong> 15 ECTS</td>
</tr>
</tbody>
</table>

**Content:** The internship is organised so as to contribute to the student’s developing practical competencies in combination with the programme’s other elements. The purpose of the internship is to enable the student to apply the methods, theories and tools acquired during the course of the
study programme in the implementation of specific practical assignments within software development.

<table>
<thead>
<tr>
<th>Learning objectives:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
</tr>
<tr>
<td>The student has knowledge of</td>
</tr>
<tr>
<td>• the daily operation of the entire internship company.</td>
</tr>
<tr>
<td><strong>Skills</strong></td>
</tr>
<tr>
<td>The student is able to:</td>
</tr>
<tr>
<td>• apply versatile technical and analytical working methods related to employment in the industry</td>
</tr>
<tr>
<td>• assess practice-oriented issues and suggest solutions</td>
</tr>
<tr>
<td>• manage the structuring and planning of daily work tasks in the profession</td>
</tr>
<tr>
<td>• communicate practice-oriented issues and well-argued solutions.</td>
</tr>
<tr>
<td><strong>Competencies</strong></td>
</tr>
<tr>
<td>The student is able to:</td>
</tr>
<tr>
<td>• address development-oriented practical and professional situations in relation to the profession</td>
</tr>
<tr>
<td>• acquire new knowledge, skills and competencies in relation to the profession</td>
</tr>
<tr>
<td>• participate in professional and interdisciplinary cooperation with a professional approach.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of exams:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

3.6. Rules for the completion of the internship
The initiative to apply for an internship must come from the student. KEA offers the student guidance during the process.

The internship is organised jointly by the student, the internship company and KEA.

The internship company is approved by KEA and an internship contract is concluded.

See also the general rules on internship on KEA’s website.

3.7. Teaching and learning methods
Teaching in Software development is a dynamic, interactive process that focuses on active student participation. Teaching is based on relevant business practices and relates practice to theory. Issues
from various types of business in the IT industry will be drawn upon. Students take responsibility for their own learning, and together with the teachers, they contribute constructively to the learning process.

Various teaching methods are employed to ensure optimum professional learning and personal development. The emphasis is on dialogues, discussions and project work.

3.8. Guidelines for differentiated teaching
Teaching is organised as a mix of classroom teaching, guest lectures, company visits, project work in groups and individual work – most often with interdisciplinary issues and always from an application-oriented starting point. The different types of learning, together with the academic content, will also help develop the student's ability to work independently and together with others.

The programme always seeks to set clear objectives for all the learning activities.

3.9. Reading of texts in foreign languages
The teaching materials of the programme are in English, and all the teaching is in English equivalent to B-level English. No further knowledge of foreign languages is required.

4. Internationalisation

4.1. Education abroad
Upon approval by the programme of an application for a pre-approved credit transfer, each individual programme element may be completed abroad.

In case of pre-approval of a period of study abroad, the student is obliged, after completing the period of study, to document the programme elements completed during the approved period of study. Upon obtaining the pre-approval, the student must consent to KEA’s requesting the necessary information after the student has completed the period of study.

If a credit transfer is granted, programme elements are deemed to have been completed if they have been passed in accordance with the rules applicable to the programme.

4.2. Agreements with foreign educational institutions on parallel courses
No Double Degree agreements exist.

5. Exams in the programme

5.1. Programme exams
All programme elements complete with an exam. For an overview of the exams, see the table in section 3.1.

The student must make themselves familiar with all the exam formalities in the exam folder in Fronter. It is the responsibility of the student to ensure that registration for an exam is correct and, to be informed of the deadlines and the exam dates and other relevant conditions of a given exam. Submission is electronic via Wiseflow.
If a student has been prevented from sitting an exam and subsequent re-exams, for reasons which have been documented, they will not be able to take the exam until the next ordinary exam period.

Commencement of a semester is automatic registration for its associated exams. It is not possible to unregister programme exams, cf. the Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes, section 5(4). For more information on exams, see section 5.1.3.

The programme may grant an exemption from the time frames for when an exam must be passed on the grounds of documented illness, leave or exceptional circumstances.

### 5.1.1. Exam forms
The exams are usually individual overall assessments of the quality and degree to which the learning objectives have been achieved.

The oral exams may be one of the following:

- Oral presentation by the student based on a question related to the syllabus
- Oral presentation by the student based on a report and/or product prepared in a group
- Oral presentation by the student based on a report and a product prepared in a group

The student is awarded one aggregate grade as an overall assessment of their written and the oral performance.

<table>
<thead>
<tr>
<th>Sequencing</th>
<th>Exam</th>
<th>ECTS</th>
<th>Exam form</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth semester</td>
<td>Testing</td>
<td>10</td>
<td>Oral presentation by the student based on a question related to the syllabus.</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Databases for developers</td>
<td>10</td>
<td>Oral presentation by the student based on a report and a product prepared in a group</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>System integration</td>
<td>10</td>
<td>Oral presentation by the student based on a question related to the syllabus.</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>Development of large systems</td>
<td>10</td>
<td>Oral presentation by the student based on a report and a product prepared in a group</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Fifth and sixth semester</td>
<td>Electives</td>
<td>In total 20 (multiple of 5)</td>
<td>Oral, based on questions in the syllabus. Unless otherwise stated in the description of the programme element</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Internship exam</td>
<td>15</td>
<td>Written. Report assessment.</td>
<td>7-point grading scale</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Final Exam Project</td>
<td>15</td>
<td>Oral presentation by the student based on a report and a product prepared in a group</td>
<td>7-point grading scale</td>
</tr>
</tbody>
</table>

### 5.1.2. Mandatory activities and number of pages in projects
In addition to the submission of a report or product, certain mandatory activities may have to be completed before the student can take part in an exam. In general, there is one mandatory activity for every 5 ECTS points, except for the internship and the final exam project. Submission of an assignment, a presentation, active participation in the teaching, etc. are all examples of mandatory activities.

Failure to perform a mandatory activity means that the student cannot take part in the exam and that one exam attempt will have been used.

The mandatory activities for a given programme element will appear from the description of the programme element at the beginning of each semester.

Mandatory semester activities must be submitted via Fronter. Reports and products for a given exam must be submitted via Wiseflow.

<table>
<thead>
<tr>
<th>Sequencing</th>
<th>Exam</th>
<th>ECTS</th>
<th>No. of mandatory activities</th>
<th>Report</th>
<th>Group size</th>
<th>Report - no. of pages</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth semester</td>
<td>Testing</td>
<td>10</td>
<td>2</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Databases for developers</td>
<td>10</td>
<td>2</td>
<td>Yes</td>
<td>2-4 stud.</td>
<td>No. of stud. 2 Max 25</td>
<td>Yes</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>System Integration</td>
<td>10</td>
<td>2</td>
<td>No</td>
<td>-</td>
<td>No. of stud. 2 Max 25</td>
<td>Yes</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>Development of large systems</td>
<td>10</td>
<td>2</td>
<td>Yes</td>
<td>2-4</td>
<td>No. of stud. 2 Max 25</td>
<td>Yes</td>
</tr>
<tr>
<td>Fifth and sixth semester</td>
<td>Electives exams</td>
<td>In total 20 (multiple of 5)</td>
<td>4</td>
<td>No. Unless explicitly stated in the description of the programme element</td>
<td>-</td>
<td>No. Unless explicitly stated in the description of the programme element</td>
<td>No</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Internship exam</td>
<td>15</td>
<td>0</td>
<td>Yes</td>
<td>-</td>
<td>Max 5 pages</td>
<td>No</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Final exam project</td>
<td>15</td>
<td>0</td>
<td>Yes</td>
<td>1-2 stud.</td>
<td>Max 20 pages + 10 pages per student</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5.1.3. Exam organisation
For information on the use of materials and aids and duration of an exam, see the following table.

<table>
<thead>
<tr>
<th>Sequencing</th>
<th>Exam</th>
<th>ECTS</th>
<th>Materials and aids</th>
<th>Duration of the exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth semester</td>
<td>Testing</td>
<td>10</td>
<td>None</td>
<td>30 min</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Databases for developers</td>
<td>10</td>
<td>None</td>
<td>30 min</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>System integration</td>
<td>10</td>
<td>None</td>
<td>30 min</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>Development of large systems</td>
<td>10</td>
<td>None</td>
<td>30 min</td>
</tr>
<tr>
<td>Fifth semester</td>
<td>Electives exams</td>
<td>10 (multiple of 5)</td>
<td>None</td>
<td>5 ECTS = 20 minutes 10 ECTS = 40 minutes</td>
</tr>
<tr>
<td>Sixth semester</td>
<td>Electives exams</td>
<td>10 (multiple of 5)</td>
<td>None</td>
<td>5 ECTS = 20 minutes 10 ECTS = 40 minutes</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Internship exam</td>
<td>15</td>
<td>None</td>
<td>-</td>
</tr>
<tr>
<td>Seventh semester</td>
<td>Final exam project</td>
<td>15</td>
<td>None</td>
<td>30 min</td>
</tr>
</tbody>
</table>

5.1.4. Exams with external co-examiner
See table in section 3.1

5.2. Programme exams and their placement
See table in section 3.1

5.3. First-year exam
Not relevant for this programme.

5.4. Requirements for written assignments and projects
Project reports which constitute the written part of an exam must, as a minimum, contain
- Cover page with title, student name and date of birth, name of class and date
- Table of contents
- Problem formulation/statement
- Main chapters
- Conclusion
- Bibliography (including all sources referenced in the project)
- Appendices (only appendices essential to the report)
- All pages must be paginated
- When a product is also to be handed in (in the form of a code): Attach source code, and specify path to version control server, if any, where source code and executable code for the product can be retrieved.
A standard page is 2,400 characters incl. spaces and footnotes. Front page, table of contents, bibliography and appendices are not included in the number of pages submitted. Appendices will not be assessed. Each individual figure or diagram counts 800 characters.

For the maximum number of pages for each project, see section 5.1.2.

5.4.1. Formal requirements for the internship report

One internship report must be submitted. The internship report must, as a minimum, contain
- Cover page with name, date of birth, internship company, institution, internship period and class name and date
- Table of contents
- Problem formulation/statement
- Main chapters
- Conclusion
- Bibliography (including all sources referenced in the project)
- Appendices (only appendices essential to the report)
- All pages must be paginated
- Company reference and log

The internship report must make up no more than five standard pages.

A standard page is 2,400 characters incl. spaces and footnotes. Front page, table of contents, bibliography, log and appendices are not included in the number of pages submitted. Appendices will not be assessed. Each individual figure or diagram counts 800 characters.

5.5. Requirements for the final bachelor's degree project

The bachelor project must document the student's understanding of and ability to reflect on the practice of the profession as well as their application of theories and methods in relation to a practice-oriented problem. The identified problem, which must be central to the programme and the profession, is formulated by the student, possibly in cooperation with a private or public company. The educational institution must approve the problem statement.

<table>
<thead>
<tr>
<th>The Bachelor Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope:</strong> 15 ECTS</td>
</tr>
<tr>
<td><strong>Content:</strong> In the Bachelor project, the student must demonstrate their ability to manage a complex and practical problem in relation to a specific task in the field of IT based on an analytical and methodical approach.</td>
</tr>
<tr>
<td><strong>Learning objectives:</strong> The final Bachelor project must demonstrate that the programme’s graduation level has been achieved, cf. section 1.3 of this document.</td>
</tr>
<tr>
<td><strong>Assessment:</strong></td>
</tr>
</tbody>
</table>

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The exam consists of an oral and a written exam with an external co-examiner. The student is awarded an individual overall grade according to the 7-point grading scale for the written project and the oral performance.

Formal Requirements:

Project reports that make up the written part of the exam must, as a minimum, contain:
- Cover page with title, student name and date of birth, name of class and date
- Table of contents
- Problem formulation/statement
- Main chapters
- Conclusion
- Bibliography (including all sources referenced in the project)
- Appendices (only appendices essential to the report)
- All pages must be paginated
- When a product is also to be handed in (in the form of a code): Attach source code, and specify path to version control server, if any, where source code and executable code for the product can be retrieved.

A standard page is 2,400 characters incl. spaces and footnotes. Front page, table of contents, bibliography and appendices are not included in the number of pages submitted. Appendices will not be assessed.
Each individual figure or diagram counts 800 characters.

5.5.1. How important are writing and spelling skills in terms of the assessment?
Students’ spelling and writing skills are included in the assessment of the final exam project. The assessment is an overall assessment of the academic content and students’ spelling and writing skills. Students who can demonstrate a relevant specific impairment may apply for exemption from the requirement that spelling and writing should be included in the assessment. The application must be sent to the head of the programme at the relevant school no later than four weeks before the exam takes place.

5.6. Use of materials and aids
Any restriction on the use of materials and aids will appear from the description of the individual exam. See 5.1.3.

5.7. Special exam conditions
Examinees with physical or mental impairments and examinees with corresponding difficulties may be granted specific exam conditions where this is necessary to give them equal status to other examinees in the exam situation.

Special exam conditions must, however, not change the standard level of the exam.
Examinees with a non-Danish background are allowed to bring a dictionary to exams where materials and aids are not allowed.

The granting of special exam conditions, including extra time, will be decided by the programme head on the basis of a specific assessment. An application for the granting of special exam conditions must be in writing and submitted to the head of programme no later than three months before the exam is to be held. Documentation of impairment must be attached to the application.

5.8. Make-up exams
Re-exam: Students who fail an exam have another two attempts.

The re-exam will be held immediately after the first exam attempt.

A student is entitled to sit a re-exam based on the same project, a reworked project or a completely new project. KEA offers advice on the pros and cons of the three methods in relation to the individual student's assignment. The re-exam has the same purpose as the ordinary exam.

A re-exam due to documented illness or other documented reason(s), will be held as soon as possible.

5.9. Examination language
Exams are held in English.

If a student would like to take an exam in a different language, a written application must be submitted to the programme head no later than 3 months before the exam is to be held, and there must be very good grounds for wanting this.

5.10. Commencement of studies exam
The commencement of studies exam will be held within the first two months of the fifth semester.

The student must pass the commencement of studies exam in order to continue their studies. The exam aims to clarify whether the student has actually started on the programme and to demonstrate active enrolment.

The exam is assessed as pass/fail. If a student does not pass the exam, they have the opportunity to sit a re-exam. If the re-exam is not passed, the student cannot continue their studies and will be disenrolled automatically.

The usual complaint rules do not apply to the commencement of studies exam.

5.11. Use of own and others’ written work (plagiarism)
Projects and other material in connection with exams must be drawn up by the students themselves.

If students unlawfully use other people's work as their own (plagiarism) or use their own previously assessed work without references, they will be expelled from the exam.

Students may also be expelled after the exam.
Expulsion from an exam due to cheating means that any grade already awarded will be withdrawn, and the student will have used one exam attempt. In the case of repeated plagiarism, the student will be permanently expelled.

For information about plagiarism, see www.stopplagiat.nu

5.12. Exam cheating and disruptive behaviour during exams
Cheating at exams will be handled in accordance with the rules set out in the Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the Examination Order).

Students who cheat at an exam will be expelled from the exam.

If cheating occurs under aggravating circumstances, the student may be expelled from the programme for a shorter or longer period. With expulsion for cheating under aggravated circumstances, a written warning will be given stating that repetition could lead to permanent expulsion from the programme.

Cheating includes:
– Obtaining unlawful help during the exam
– Providing unlawful help to other students during the exam
– Using other people's work as one's own (plagiarism – see www.stopplagiat.nu), see also section 5.11
– Using own previously assessed work without references, see also section 5.11
– Using materials and aids not permitted for the exam in question

Expulsion from an exam due to cheating means that the awarded grade will be withdrawn, and the student will have used one exam attempt.

If students exhibit disruptive behaviour during an exam, KEA may expel them from the exam. In less serious cases, the institution will give the student a warning.

6. Other rules governing the programme

6.1. Rules on compulsory attendance
The teaching methods of the study require that student should perform all the mandatory activities, including submission/presentation of assignments/projects.

The mandatory activity may also be a precondition for taking the exams in the programme.

In addition, attendance may be mandatory for some of the programme elements.

Mandatory activities and mandatory attendance as prerequisites for an exam will appear from the description of the individual exam.

To retake an entire semester, a student must be granted an exemption. Exemption to re-take a semester is based on an individual assessment by the student counsellor and the head of programme and only when there are compelling personal reasons.
6.2. Credit transfer
On a case-by-case basis or by recourse to the rules of the curriculum, KEA approves credit transfers based on completed programme elements and job experience comparable to subjects, programme elements and internships. The decision is based on an academic evaluation.

6.3. Credit transfer of subjects covered by the common part of the curriculum
There are no such agreements.

6.4. Credit transfer of subjects covered by the institution-specific part of the curriculum
There are no such agreements.

6.5. Criteria for the assessment of active enrolment
The student must take part in student activities, compulsory projects and tasks (mandatory activities), tests and exams in accordance with the conditions described in this curriculum and in applicable laws and regulations. KEA evaluates active enrolment on an ongoing basis.

Active enrolment requires that student participates in

- Project start-up meetings
- Mandatory meetings with supervisor/teacher
- Project work, including submissions via Fronter or Wiseflow
- Project presentations and assessments
- Tests and exams as described in this curriculum
- A number of assignments for each semester. These assignments—mandatory activities—must be approved before the student can sign up for the exams in the semester in question.

Students who cannot participate in study activities due to documented illness or other acceptable reasons, must immediately contact the Administration for Software development. The Administration will inform the student about the necessary procedures, including the provision of a medical certificate. The student must pay all the costs.

6.6. Disenrolment due to insufficient study activity
Enrolment on the programme may be terminated for students who have not passed at least one exam within a consecutive period of at least one year.

6.7. Exemption rules
KEA may, due to exceptional circumstances, grant exemptions from the rules in this curriculum laid down solely by KEA or together with the educational institution offering the programme.

6.8. Complaints
Complaints regarding exams will be handled in accordance with the rules set out in Chapter 10 of the Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the Examination Order).

When should a complaint be submitted? Complaints relating to examinations and grading must be submitted within two weeks of the assessment (grade) being announced.
**How should a complaint be submitted?** Complaints must be submitted individually and in writing to KEA at kvalitet@kea.dk stating the reasons for the complaint. Complaints submitted jointly by several students may be rejected.

**What may the complaint concern?** A complaint may concern the basis for examination, the examination process or the assessment (grade).

**What may the complaint result in?** If a student complaint is successful, they will be offered a new assessment (for written exams) or a re-exam (for oral exam). A grade cannot be changed administratively. A grade will only be changed if the new examiners award a different grade according to their professional assessment. The new grade may be higher or lower than the original grade.

**Who handles the complaint?** Complaints are normally handled by KEA Kvalitet. This does not, however, apply to complaints concerning the basis for examination if the exam is organised by the Danish Agency for Higher Education. In such cases, the complaint is forwarded to the Danish Agency for Higher Education together with KEA’s opinion.