

Curric- ulum

Bachelor's Degree Programme in
Web Development

February 2020



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The curriculums of Zealand are divided in a national part and a local (institutional) part. In addition, some curriculums are supplemented with an elective course catalogue. All parts are to be found below.

The local part of the curriculum is stipulated by the individual institution. The national part of the curriculum is adopted by the programme's educational network, and the institutions listed below – each of them offers the study programme – have been involved in the preparation of this curriculum:

Business Academy Aarhus
Copenhagen Business Academy
Copenhagen School of Design and Technology (KEA)
International Business Academy (IBA)
University College of Northern Denmark (UCN)
Zealand Academy of Technologies and Business

In addition to the curriculums, all study programmes have an educational appendix attached, which is part of the primary ministerial order on technical and mercantile academy profession programmes and profession bachelor programmes (Danish title: Hovedbekendtgørelsen om tekniske og merkantile erhvervsakademiuddannelser og professionsbacheloruddannelser), see www.retsinfo.dk.

CURRICULUM

for

Professional Bachelor's Degree in Web Development (National part)

Revised 01.08.2019

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The national part of the curriculum for the Professional Bachelor's Degree in Web Development is issued in accordance with Section 18 (1) of the Executive Order on Technical and Mercantile Academy Profession Programmes and Professional Bachelor Educations ('bekendtgørelse om tekniske og merkantile erhvervsakademiuddannelser og professionsbacheloruddannelser'). This curriculum is supplemented by the institutional part of the curriculum, which is determined by the individual institution offering the educational programme.

It is compiled by the education network for professional bachelor's degrees in web development and approved by the boards of all the providers - or by the principal by order of the board - and after a hearing of the institutions' education committees and the education's chairmanship of the external examiners.

1. The programme's goals for learning outcomes

Knowledge

The student has development-based knowledge of:

- standards within web development,
- development environments for web development,
- broad development methods within web development, and can also reflect upon their practical application in the profession.

The student has an understanding of:

- web applications' role in society.

Skills

The student can:

- use methods and tools within web development to plan and develop applications based on specific development wishes,
- master a suitable programming language to implement these development wishes,
- evaluate and justify their choice of a suitable system for ensuring both data and application persistence,
- use the domain's theory and method to develop user experiences adapted to relevant target groups and assess user experiences based upon the domain's theory and method,
- use methods to develop user interfaces that exploit the special design and aesthetic potential of web technologies, and also assess and justify their value as a solution,
- use and master a suitable development environment in the implementation of the development process,
- communicate specialist problems and solution models to collaborative partners and users as well as peers and non-specialists.

Competencies

The student can:

- handle complex and development-oriented situations in web development,
- independently enter into a professional and interdisciplinary cooperation within web development with a professional approach and take responsibility within the framework of professional ethics,
- identify and structure their own learning needs and develop their personal skills and competencies in relation to web development.

2. The programme includes three national subject elements

2.1. Web Programming

Contents

The subject elements comprise the development and modelling of web applications, including architecture, robustness, internet and web protocols, use of debugging techniques and techniques for installation and maintenance. The subject area also includes data security, data storage, data modelling and exchange of data sources based on recognised standards.

Learning goals for Web Programming

Knowledge

The student has development-based knowledge of: practice, applied theory and development methods in:

- relevant internet and web protocols,
- data storage, modelling, exchange and security,
- quality assurance.

The student can understand and reflect upon:

- development methods in web development,
- web architecture and design patterns.

Skills

The student can:

- master all phases of development including planning, developing and implementing web applications based on specific development wishes, as well as evaluate practice-based and theoretical problems and select and justify relevant solution models in relation to the development of web applications,
- evaluate and justify the choice of a suitable programming language and relevant methods for the implementation of web applications,
- master a suitable programming language for the development of web applications,
- use and model data sources as well as justify proposals for solutions,
- implement and evaluate web user interfaces as well as justify and communicate solution proposals to collaborative partners and users,
- use relevant theories and methods for the quality assurance of all phases of development.

Competencies

The student can:

- handle complex web development and must be able to handle complex and development-oriented situations in web development,

- independently enter into professional and interdisciplinary cooperation with a professional approach and take responsibility within the framework of professional ethics in relation to web programming,
- identify and structure their own learning needs and develop personal skills and competencies in relation to web programming.

ECTS credits

The subject element web programming is worth 40 ECTS credits, comprising 20 ECTS credits in the national part and 20 ECTS credits in the local part.

Local subject elements of the programme are in the subject element web programming.

National and local subject elements can be tested in the same exam.

2.2. Development Environments

Contents

This subject element comprises tools and platforms for the development of web-based applications, as well as selection and justification of the choice. Focus is on normally used development tools (IDE and other platforms) as well as tools for version control and quality assurance.

Learning goals for Development Environments

Knowledge

The student has development-based knowledge of applied theory and methods:

- in development environments,
- in practice, methods and systems for version control.

The student can understand and reflect upon:

- types of and selection criteria for development platforms.

Skills

The student can:

- master version control in a development context,
- apply methods and tools for quality assurance in the development process, as well as evaluate and justify the choice of specific tools,
- apply methods and tools in development environments for the publication of web applications,
- communicate their choice of methods and tools used in the development process.

Competencies

The student can:

- methodically evaluate and handle development platforms and environments for a specific task in complex development-oriented situations,
- manage development platforms and environments in the development process of advanced web applications,
- independently enter into professional and interdisciplinary cooperation with a professional approach and take responsibility within the framework of professional ethics in relation to development environments.

ECTS credits

The subject element Development Environments is worth 10 ECTS points.

2.3. User Experiences

Contents

The subject element comprises analysis, understanding of and reflection upon the user's experiences and needs in different use contexts.

The subject element includes the design of user interfaces and usability, and considerations about information architecture and instruments and the use of web media tools.

There is a focus on understanding and organising user experiences in relation to design and development.

Learning goals for User Experiences

Knowledge

The student has development-based knowledge of:

- practice, applied theory and methods of designing user experiences, and also reflect upon the web developer's practice in designing user experiences,
- information architecture,
- aesthetics and trends in interaction design.

The student can understand and reflect upon:

- the use of user survey methods.

Skills

The student:

- can use methods and tools to design user experiences for relevant target groups with the involvement of users,

- evaluate practice-based and theoretical problems in the design of user interfaces and select and justify relevant solution models,
- communicate practice-based and specialist problems in the design of user experiences and communicate central problems to collaborative partners and users.

Competencies

The student can:

- handle complex design processes based on analysis and planning,
- both independently and in groups, understand the design and organisation of user interfaces and user experiences for complex systems,
- identify and structure personal learning needs and develop personal skills and competencies in relation to the design of user experiences.

ECTS credits

The subject element User Experiences is worth 10 ECTS credits.

2.4. Exams in the national subject elements

National subject elements in the first year of study make up 40 ECTS credits. Two exams are held in the national subject elements plus an additional exam in the bachelor's project.

For the number of exams in the work placement, see section 3.

For a complete overview of all the programme's exams, please refer to the institution part of the curriculum, in that the national subject elements described in this curriculum can be tested together with subject elements laid out in the institution part of the curriculum.

3. Work placement

Learning goals for the programme's work placement

Knowledge

The student can:

- understand and reflect upon theories and methods and their practical application.

Skills

The student can:

- apply one or more of the subject area's methods and tools, and can also apply the skills related to employment in the subject area(s) or profession,
- evaluate theoretical and practical problems and also justify and select relevant solution models,
- communicate specialist problems and solution models to peers and non-specialists or collaborative partners and users.

Competencies

The student can:

- handle complex and development-oriented specialist situations in relation to the profession,
- identify personal learning needs and structure their own learning in different learning environments,
- independently participate in an expert and interdisciplinary collaboration with a professional approach.

ECTS credits

The work placement is worth 15 ECTS credits.

Number of exams

The placement is completed with one exam.

4. Requirements for the bachelor's project

The learning goals for the final examination project are identical to the programme's learning goals, which are listed above under item 1.

Together with the other exams and the placement exam, the final examination project documents that the programme's goals for learning outcomes have been achieved.

In the bachelor's project, the student must be able to document their ability to process, on an analytical and methodical basis, a complex and practice-oriented problem in relation to a specific task within the field of web development. The problem, which must be central to the programme and the profession, is formulated by the student, possibly in collaboration with a private or public sector company. The institution approves the problem.

For specific formatting requirements for the bachelor's project, please refer to the institutional part of the curriculum.

Exam in the final examination project

The final examination project concludes the course in the last semester, once all prior exams have been passed.

ECTS credits

The final examination project is worth 15 ECTS credits.

Exam format

The exam consists of both an oral and written test with an external examiner, where an overall individual grade is given according to the 7-point grade scale for the written project and the oral presentation.

For format etc. of the exam, see the institutional part of the curriculum.

5. Rules on credit

Passed programme elements are equivalent to similar programme elements taken at other educational institutions offering this programme.

The students are obliged to inform us of any completed educational elements from another Danish or foreign higher education programme or any employment which are likely to provide credit. In each individual case, the educational institution approves credit on the basis of completed educational elements and any employment that meets the objectives of the subjects, the educational part and placement part.

The decision is made on the basis of a professional evaluation.

For prior approval of study in Denmark or abroad, the student is obliged to document, upon completion of their studies, the completed educational elements of the approved study programme. In connection with prior approval, the student must consent to the institution collecting the necessary information at the end of the study programme.

Upon approval in accordance with the above, the educational element is regarded as completed if it has been passed according to the rules for the relevant programme.

6. Academic criteria for the selection of applicants for the top-up programme

Refer to the institutional part of the curricula.

7. Entry into force and transitional period

Entry into force

This national part of the curriculum enters into force on 01.08.2019 and is valid for students who are enrolled after 01.08.2019.

Transitional period

Students who are admitted up to 01.08.2019 will transfer to this curriculum from 01.08.2019; however, students enrolled on an earlier curriculum can complete their programme in accordance with that one.

CURRICULUM for PBA in Web Development

Local part – Zealand Institute of Business and Technology

Effective from 01/02/2020
January 2020 version

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1. The curriculum's reference to legal basis

The programme is governed by the following acts and orders

- Executive Order no. 786 of 8 August 2019: Executive Order on the Act on Academies of Professional Higher Education
- Executive Order no. 1343 of 10 December 2019: Executive Order on the Act on Academy Profession and Professional Bachelor Degree Programmes (the LEP Act)
- Executive Order no. 15 of 9 January 2020: Executive Order on Academy Profession and Professional Bachelor Degree Programmes (the LEP Order)
- Executive Order no. 18 of 9 January 2020: Executive Order on Tests and Exams in Vocational Further Education Programmes (the Examination Order)
- Executive Order no. 17 of 9 January 2020: Executive Order on Admission to Academy Profession and Professional Bachelor Degree Programmes
- Executive Order no. 114 of 3 February 2015: Executive Order on Grading Scale and Other Forms of Assessment
- Executive Order no. 21 of 9 January 2020: Executive Order on Admission to Technical and Vocational Academy Profession and Professional Bachelor Degree Programmes

The above may be subject to changes. Applicable acts and executive orders can be found at

www.retsinfo.dk

2. Admission to the degree programme

Students are admitted to this programme according to the provisions of the Executive Order on Admission to Academy Profession and Professional Bachelor's Degree Programmes.

3. The structure of the study programme

Semester	National academic elements*	Local academic elements	Tests
6	Web Programming (20 ECTS)	Databases (10 ECTS) Frontend & Backend (10 ECTS)	Exam in Databases (external – Oral) Exam in Frontend & Backend (external – Oral)
	User Experiences (10 ECTS)	User Experiences (10 ECTS)	Exam in User Experiences (external – Oral)
7	Development Environments (10 ECTS)	Development Environments (10 ECTS)	Exam in Development Environments (external – Oral)
	Web Programming (20 ECTS)	Specialization part Elective module (10 ECTS) Specialization modules (10 ECTS in total)	Exam in elective module (external – oral) Exam in specialization modules (Internal – oral)
8	Internship (15 ECTS)	Internship (15 ECTS)	Internship exam (Internal – written)
	Bachelor project (15 ECTS)	Bachelor project (15 ECTS)	Exam in the Bachelor Project (External – Oral – Group + individual)

The programme is a full-time education programme estimated at 18 months of full-time studies. A student year is equivalent to one year of full-time study. One year of full-time study is equivalent to 60 ECTS credits (European Credit Transfer System). The programme thus totals 90 ECTS credits.

4. Local programme elements

The three national subject elements (Web Programming, Development Environments and User Experiences) are implemented through the following modules on the 6th and 7th semesters:

- Web Programming: Frontend & Backend (6th semester) + Databases (6th semester) + Specialization part (7th semester)
- Development Environments: Development Environments (7th semester)
- User Experiences: User Experiences (6th semester)

Reflections and peer reviews will be an integrated part of both 6th and 7th semesters.

The table in section 3 shows a graphical overview of the different modules on 6th, 7th and 8th semester of the education.

The specialization (local programme elements) must be within the educational element *Web Programming*. The focus is mainly on themes/topics related to Frontend tools & frameworks.

The specialization consists of one **elective** module (students' chosen elective with most votes) + two **specialization** modules (students' chosen elective with second and third most votes).

For information on internship, please see the section "Internship and rules on completion".

4.1. 6th semester – Databases

Learning objectives for the module (see also the national curriculum):

Knowledge

The student has knowledge about:

- Development-based knowledge about data storage, data modelling, data exchange and data security.

Skills

The student is able to:

- Use and model data sources.

Competencies

The student is able to:

- Select and use data sources for implementing relevant tasks in a web context, including explaining the choices.

ECTS credits

10 ECTS

4.2. 6th semester – User Experiences

Learning objectives for the module (see also the national curriculum):

Knowledge

The student will have acquired knowledge about:

- The development and trends of Human-Computer Interaction
- Processes for designing user experiences
- Information architecture
- Aesthetics and trends in interaction design
- Understanding & reflecting upon the use of user research methods

Skills

The student can:

- Assess user surveys and justify the design of a solution proposal to relevant target groups, based on the studies
- Apply relevant design principles and methods to design user interfaces for complex systems
- Apply the web media capabilities to the development of user interfaces
- Evaluate and justify issues related to user experiences and usability based on relevant methods
- Communicate key issues about the user experience to business partners and users
- Evaluate and justify the choice of instruments in the design of user interfaces

Competencies

The student can:

- Manage complex design processes based on analysis and planning
- Manage the design process for the design of user interfaces in complex systems independently and in groups.
- Identify his/her own learning needs and structure his/her own learning in different learning environments.

ECTS credits

10 ECTS

4.3. 6th semester – Frontend & Backend

Learning objectives for the module (see also the national curriculum):

Knowledge

The student:

- Has development-based knowledge about relevant internet and web protocols,
- Has development-based knowledge about quality assurance
- Can understand and reflect on development methods within web development
- Can understand and reflect on web architecture and design patterns

Skills

The student can:

- Master all phases in development including planning, developing and deploying web applications based upon concrete development requirements
- Assess and explain the choice of a suitable programming language and relevant methods for implementation of web applications
- Master a suitable programming language for development of web applications
- Implement and evaluate web user interfaces and justify and present solutions to partners and users
- Use methods for quality assurance

Competencies

The student can:

- Handle complex web development
- Participate in professional and interdisciplinary cooperation with a professional approach and take responsibility within the frames of a professional ethic
- Identify his/her own learning needs and structure his/her own learning in different learning environments.

ECTS credits

10 ECTS

4.4. 7th semester – Development Environments

Learning objectives for the module (see also the national curriculum)

Knowledge

The student:

- Has development-based knowledge about development environments
- Has development-based knowledge about methods and systems for version control
- Can understand and reflect upon types of and criteria for selecting development platforms

Skills

The student can:

- Master version control in a development context
- Use methods and tools for quality assurance in the development process, including analysing & explaining the choices
- Use methods for deploying web applications
- Present choices of selected methods and tools used in the development process

Competencies

The student can:

- Methodically evaluate and handle development platforms for a given task in complex development-oriented scenarios
- Manage development platforms and environments in the process of developing advanced web applications
- Participate in professional and multidisciplinary cooperation with a professional approach and take on responsibility within the framework of professional ethics
- Identify his/her own learning needs and structure his/her own learning in different learning environments.

ECTS credits
10 ECTS

4.5. 7th semester – Specialization

Learning objectives:

Knowledge

The student has knowledge about:

- the theory and practice of the chosen topics.

Skills

The student is able to:

- select, describe and search for literature concerning a problem of his/her own choice within the context of Web Development
- discuss relevant processes and analytical approaches associated with the chosen topic(s)
- evaluate problems and outline solutions in relation to the chosen topic(s)
- communicate key results.

Competencies

The student is able to:

- familiarize himself/herself with new topics in the context of the theory and/or practices of the discipline *without the assistance* of others
- put the chosen topic(s) into a wider perspective and relate it/them to the other topics addressed during the education.

ECTS credits
20 ECTS

5. Internship and rules on completion

Contents, overall learning objectives, and scope of ECTS for the internship are described in the national part of the curriculum.

During the internship, the student works with professionally relevant issues and gains knowledge of relevant business functions. The connection between the theoretical teaching and the internship forms the basis for the student's internship goals.

The internship can be compared to a full-time job with the same requirements for working hours, efforts, engagement, and flexibility that the graduate is expected to meet in its first job.

The internship course is planned in a flexible and differentiated way and can form the basis for the student's final exam project.

Internship agreement

The student, the Business Academy, and company agree on the specific contents for the student's internship, based on the overall learning objectives for the internship.

The internship agreement must contain the individual learning objectives for the internship as well as of the task(s) the student is expected to complete for the company. This will then serve as a basis for the planning of the student's work during the internship.

Moreover, the internship agreement must contain an agreement on working hours and reporting.

The company

The company appoints a contact person in the company.

The company contributes with a specific and realistic issue/task(s) to be processed by the student.

The company will make information available to the student that may be relevant for the completion of the tasks.

The company continuously evaluates the student's activities during the internship period and will notify the student and the internship supervisor or the internship coordinator at the Business Academy if any problems occur.

The student

The student must actively look for relevant companies within the current subject area. The student is obliged to meet the internship agreement as the internship is a mandatory part of the study programme.

The Business Academy

The Business Academy provides a counsellor for the student. This counsellor is available to the company and the student to a limited extent.

The Business Academy will make one visit to the company during the internship. This visit may be arranged virtually, if the internship is abroad. This also applies if the number of internships or other important reasons make it difficult to visit all involved companies.

For further information on internships, please contact the internship coordinator of the study programme.

6. Teaching and work methods

The teaching includes lectures, classroom lessons, dialogues, exercises, presentations, cases, seminars, guest lecturers, projects and internships.

The instruction incorporates the latest knowledge and results from national and international research, experimental and development work within the disciplines relevant for the profession.

The instruction draws on practical experience and knowledge about key trends in the profession and methods to further develop the subject and carry out development work and a high standard of work in general.

In order to ensure optimum academic learning and personal development in each student, the Web Development programme applies various pedagogical approaches, with the main emphasis on dialogue, discussion and project work.

6.1. Reading texts in foreign languages

The teaching material used in the programme is in English and the teaching is conducted in English.

Knowledge of additional foreign languages is not required, beyond the requirements laid down in the Executive Order on Admission.

6.2. Differentiated instruction

The teaching is given a variable structure and offers lessons in class, guest lecturers, company visits, project work in groups and individualised work – often in a multidisciplinary context and always focusing on the usability aspect. In addition to academic skills, the different ways of learning help the students develop their abilities to work on their own and together with others.

7. Internationalisation

7.1 Studies abroad

The student may complete internship and Bachelor Project abroad but need an advance approval by the education institution.

A student who has obtained advance approval of a study period abroad is obliged to document the subjects completed during the approved study period at the end of the period. In connection with the advance approval, the student must grant the institution the right to collect the necessary information upon completion of the studies abroad.

If advance credits are awarded, the course is considered to have been completed, provided it was passed in accordance with the provisions applicable to the programme in question.

7.2. Agreements with international educational institutions on parallel courses

Information on partner institutions, international internships, credit transfer, and procedures is continuously published by Zealand.

8. Exams in this programme

The purpose of tests in the programme elements is to document to which degree the student fulfils the professional goals set by the programme and its elements. The mark of 02 is required to pass an exam. The student is entitled to sit each exam three times. A student cannot re-sit an exam once it has been passed. The student is responsible for familiarizing themselves with and comply with the business academy's rules for tests and exams. Registration for a programme element, semester etc. also counts as registration for the exams. This programme does not allow for withdrawal from exams.

Programme element may include one or more compulsory study activities which are defined and described by the course teacher and appear from the study plan. Compulsory activities must be completed and approved before the student can be accepted for the exam. If a student does not comply with the conditions, the student cannot sit for the exam and has used an attempt.

- The lecturer arranges compulsory study activities.
- The lecturer follows up on any students who do not attend or fail or for some other reason do not comply with the compulsory study activities. A student may re-submit answers to compulsory study activities once.

- The lecturer notifies the student counsellor and the programme manager of any assignments/conditions not complied with.

Compulsory study activities must be submitted/realised and approved for the student to be considered actively studying. If the assignment involves an oral presentation, the student has the duty to meet for this.

Answers for exams and compulsory study activity may be required to be submitted electronically. The regulations governing electronic submission can be found on the Intranet.

8.1. Exam descriptions

The degree programme comprises a number of different forms of exams that reflect the content and work methods used in the programme.

8.1.1 6th semester – exam in Databases

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

A condition for attending the exam is that the student has completed the compulsory study activities. The study activities are laid down in the semester plan by the course teachers.

Exam structure

The exam is an external, individual oral exam taking its point of departure in a question that the student draws at the exam.

The exam comprises 30 minutes of preparatory time, and the examination time is 30 minutes, including evaluation and awarding of grades.

The performance will be assessed according to the 7-point scale.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the module.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ECTS credits.

8.1.2 6th semester – exam in User Experiences

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

A condition for attending the exam is that the student has completed the compulsory study activities. The study activities are laid down in the semester plan by the course teachers.

Exam structure

The exam is an external, individual oral exam.

The exam takes its point of departure in the student's presentation of one of the semester projects, followed by a dialogue where all learning objectives for the module can be touched upon.

The examination time is 30 minutes, including evaluation and awarding of grades.

The performance will be assessed according to the 7-point scale.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the module.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ECTS credits.

8.1.3 6th semester – exam in Frontend & Backend

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

A condition for attending the exam is that the student has completed the compulsory study activities (including the project work covering Frontend & Backend).

Exam structure

The exam is an external, oral exam taking its starting point in the group project work.

The examination starts with a group presentation, where the group presents the result of the project work. After the presentation each student draws a question and is examined in the question. The students will be given all questions for the exam as a minimum one month before. The exam comprises 15 minutes for the group presentation, 20 minutes for individual examination and 5 minutes for evaluation and awarding of grade.

The performance will be assessed according to the 7-point scale with 40% to the group based work (project + presentation) and 60% to the individual examination part.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the module.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ECTS credits.

8.1.4 7th semester – exam in Development Environments

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

A condition for attending the exam is that the student has completed the compulsory study activities. The study activities are laid down in the semester plan by the course teachers.

Exam structure

The exam is an external, individual oral exam taking its point of departure in a question that the student draws at the exam.

The exam comprises 30 minutes of preparatory time, and the examination time is 30 minutes, including evaluation and awarding of grades.

The performance will be assessed according to the 7-point scale.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the module.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ETCS credits.

8.1.5 7th semester – exam in Specialization

8.1.5.1 Elective module

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

- the student has completed the compulsory study activities in the elective module

Exam structure

The exam is an external, individual oral exam taking its point of departure in a question that the student draws at the exam. The exam comprises 30 minutes of preparatory time, and the examination time is 30 minutes, including evaluation and awarding of grades.

The performance will be assessed according to the 7-point scale.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the specialization.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ETCS credits.

8.1.5.2 Specialization modules

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

- the student has completed the compulsory study activities in **both** specialization modules
- the student has handed-in a project, where the topic is related to at least one of the specialization modules. The project consists of a synopsis (written part) and a product (code/programming).

Exam structure

The exam is an individual, **internal**, oral exam taking its starting point in the project work handed-in by the student. The examination starts with a presentation, where the student presents the project work. After the presentation the student is questioned in an examination dialogue. The exam comprises 10 minutes for the presentation, 15 minutes for examination dialogue and 5 minutes for evaluation and awarding of grade.

The performance will be assessed according to the 7-point scale with 33% to the project work (synopsis + product) and 67% to the oral part.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the specialization.

Formal requirements for the synopsis:

- Introduction
- Problem formulation
- Planning (time schedule)
- Outline (answer(s) to the question(s) in the problem formulation)
- Conclusion
- Literature list
- Appendix (max 5 pages)

The synopsis can be no more than 10 standard pages plus any programs and a running system.

A standard page contains 2400 characters including spaces and footnotes. Cover page, table of contents, literature list and appendix are not included.

Examination language

English or Danish depending on the student's preferences.

ECTS credits

The exam totals 10 ETCS credits.

8.1.6 8th semester – Internship exam

Pre-conditions to enter exam

The student must meet the following conditions to attending the exam:

- the student has handed-in an internship contract
- the student has handed-in an internship plan

- the student has handed-in an Internship report

Examination structure and contents

The exam is an internal, individual written exam based on an internship report assessed according to the 7-point scale.

The internship report will be assessed by the student's internship tutor in consultation with an internal examiner.

A single mark will be given based on an assessment of the written product.

Formal requirements

The internship report should contain the below:

- An **Internship plan** with the assignments you have been doing the internship period
- A **cover page** stating your own name, the names of your internship company and your educational institution and the internship period
- A short **description of the company**, this includes:
 - A description of the type of company, its organisation
 - The number of employees in the company, your position in the organisation and a description of the roles and functions of your department
- Your **expectations** of the internship:
 - What you expect to achieve from your internship – at the academic and the personal level.
- A description of the **learning objectives you seek to fulfil** – divide into the three below categories:
 - **Knowledge:** You must have knowledge about the day-to-day operations of the company, such as:
 - The company's IT strategy
 - The company's systems development method
 - The tools used by the company
 - The company's work flow
 - **Skills:** Based on the tasks you were asked to work with during the internship, you are to describe problems/aspects individually and specify how you solved or addressed the problems/aspects and propose solutions. See also under the item "Description of specific tasks". Provide examples of how you during your internship managed to structure and plan daily tasks using for example a Scrum Board.
 - **Competencies:** This is where you describe any new knowledge you have acquired during your internship and how you acquired it. This could be through the use of videos, articles, courses and other means. How was your collaboration with the company? This could be the collaborative spirit and approach in the team you were part of, participation in meetings with customers or clients to name a few examples. Did you ever have to make a presentation of the work you did in the company, for example at staff meetings.
- **Description of specific tasks:** (it might be too cumbersome to describe all of them but preferably at least two or three tasks). Reflect on the three learning objectives you set up. Describe what you achieved.
- **Reflection on the three learning objectives you set up:** Discuss whether you achieved the knowledge, skills and competencies you defined for the three learning objectives.
- **Reflection on the completion of the scheduled internship:** Did the internship live up to your academic and personal expectations.
- **Conclusion:** A general conclusion to the report as a whole.

Compulsory appendices: Internship plan, the company's recommendation and the logbook.

The internship report can be maximum 10 standard pages plus appendices. One standard page contains 2400 characters including spaces and footnotes. Cover page, table of contents, literature list and appendices are not included. Appendices are not subject to assessment; although the presence of an internship plan, the company's recommendation and the logbook is verified.

Assessment criteria

The assessment criteria for the exam = the learning objectives for the internship. See section 3 in the national part of the curriculum.

Examination language

English or Danish depending on the student's preferences.

Scheduled for

The exam will take place once the internship has been concluded. Details about time and place and about submission of the internship report can be found on the Intranet.

ECTS credits

The exam totals 15 ECTS credits.

8.1.7 8th semester – exam in the Bachelor Project

The general formal requirements for the final exam project is described in chapter 4 of the national part of the curriculum. Further requirements are detailed below.

Prerequisites for sitting this exam

The student must meet the following conditions to sit for the exam:

- The students must have passed all exams in the programme prior to this.
- The written project must fulfil the formal requirements, cf. below.

Failure to submit the written project correctly, which constitutes the written part of the exam, has the effect that the student cannot sit the exam and has used one attempt.

Examination structure and contents

The exam is an external, oral group exam based on a written group project.

A single mark according to the 7-point scale will be given based on a general assessment of the project (report + product) and the oral presentation.

The group can comprise no more than four students.

The project group will be given 10 minutes for each participant for the presentation, up to no more than 30 minutes. Following this the individual members of the group will be subjected to individual examination. Each student is allocated 20 minutes including evaluation and awarding of grades.

Formal requirements

The project report constitutes the written part of this exam. As a minimum this report must comprise:

- Cover page with title, name of group members, name of supervisor, word count (number of characters including spaces)
- Table of contents
- Introduction and problem formulation
- Methods, theories and tools (quick overview, where the **purpose** of each method, theory, tool is listed)

- Analysis
- Design
- Implementation (where the technical / coding part of the project is explained)
- Conclusion
- Literature list
- Appendices (only appendices of key importance to the report will be accepted).

Project reports written by a single student may total 40 standard pages as a maximum; reports written by several students may total an additional 20 standard pages per student.

A standard page contains 2400 characters including spaces and footnotes. Cover page, table of contents, literature list and appendices are not included. Appendices are not subject to assessment.

Assessment criteria

The assessment criteria are the learning objective of the exam = the learning objectives of the Main Exam Project, cf. section 4 of the national part of the curriculum.

Examination language

English or Danish depending on the student's preferences.

The importance of spelling and writing skills for the assessment

Spelling and writing skills are included in the assessment of the Bachelor Project. The assessment reflects an overall assessment of the academic content as well as writing and spelling ability. However, the academic content has priority in this overall assessment.

Students who can document a relevant disability can apply for an exemption from the requirement that spelling and writing skills are included in the assessment. Applications must be sent to <https://www.zealand.dk/for-studerende/blanketter/form-dispensation/> at the latest four weeks before the exam.

ECTS credits

The exam totals 15 ECTS credits.

8.2. Special exam arrangements

Student may apply for special exam arrangements if warranted by physical or mental impairment.

Applications must be sent to <https://www.zealand.dk/for-studerende/blanketter/form-dispensation/> at the latest four weeks before the exam.

Exemptions from the date of application may be granted in the event of sudden health issues. A medical certificate, a statement from for example a body dealing with speech, hearing or sight impairment, dyslexia, or other forms of documentation must be enclosed with the application certifying serious health issues or specific relevant functional impairment.

The applications for permission to bring other aids for an exam must be sent to <https://www.zealand.dk/for-studerende/blanketter/form-dispensation/> at the latest four weeks before the exam.

8.3. Re-examination

8.3.1 Re-examination due to illness

A student who was prevented from sitting an exam due to documented illness or other documented reasons is allowed re-examination as soon as possible. If the exam is scheduled for the final exam period of the programme, the student will be given an opportunity to sit the exam within the same exam period or immediately after. The student is automatically registered for the re-exam when this is due to illness.

Information about time and place of illness exams can be found on the department communication platform.

Illness must be documented by a medical certificate (any costs for getting this documentation is covered by the student). The educational institution must receive the medical certificate at the latest eight workdays after the exam has taken place. A student who is taken acutely ill during an exam must document that he/she was ill on the day concerned.

If illness is not documented as laid down above, the student has used one attempt at sitting the exam.

8.3.2 Re-examination

In the event of failure to pass an exam (including non-attendance without a documented reason), a new exam must be held as soon as possible and as far as possible when this exam is held again, possibly as a make-up exam. The student is automatically registered for the re-exam, as long as he/she has further attempts.

It is up to the student to find out when the re-exam will take place.

Information about time and place of re-exams can be found on the department communication platform.

The programme manager may grant exemptions from the continued registration procedure if warranted by unusual circumstances, including documented disability.

8.4. Cheating at exams

When handing in a written answer, students must sign to confirm that the answer was completed without undue assistance.

8.4.1 Using one's own work and that of others – plagiarism

Cheating in exams through plagiarism comprises instances where a written answer is presented as if completely or partially produced personally by the student(s), also if the answer:

- comprises identical or almost identical repetitions of the wording or work of others, without clearly stating the source (see the institution's requirements to written work).
- comprises major pieces of text with wording so close to that of another piece of writing or similar wording etc. that when comparing the texts, it is possible to determine that the text pieces could not have been written using any other sources
- comprises the use of words or ideas of others without referencing these originators in an appropriate manner
- re-uses text and/or key ideas from the student's own previously assessed answers without stating source.

The programme manager will be notified if during or after an exam there is the presumption that a student:

- has received or given unauthorised help,
- has presented the work of another person as the student's own (plagiarism), or

- has used the student's own previously assessed work or parts thereof without referring to it (plagiarism).

8.4.2 Investigation of cheating offences in exams, including plagiarism

Postponement of the exam

If the cheating concerns plagiarism in a written report and/or answer which is used in the assessment of a subsequent oral exam, the programme manager postpones the exam, if the issue cannot be resolved before the date set for the exam.

Form and content of the report

Reporting must be made without undue delay. The report must be accompanied by a written description of the breach, comprising information that can identify the individuals reported on in addition to a brief summary and the documentation substantiating the matter. In the event of repeated offences, involving one or more people, this must be stated.

When reporting on plagiarism, the plagiarised parts must be marked with clear reference to the sources of the plagiarised content. Similarly, the plagiarised text must be marked in the source text.

Involving the student – hearing of the party(-ies)

The programme manager decides whether the hearing of the student should be oral, in writing or a combination thereof.

For the oral hearing, the student is summoned to an interview with the purpose of clarifying the matter in order to present the documentation substantiating the presumed cheating in the exam to the student and to hear their point of view. The student has the right to be accompanied by a person of own choice.

For the written hearing, the documentation substantiating the presumed cheating in the exam is forwarded in order to ask the student to make a written statement of the student's point of view.

8.4.3 Sanctions for cheating offences and disruptive behaviour during exams

If the clarification of the matter confirms the presumed cheating offence to the programme manager and the action has or would have affected the assessment, the programme manager expels the student from the exam.

If the cheating offence or disruptive behaviour is less serious, the educational institution will initially issue a warning.

Under aggravating circumstances, the programme manager can expel the student for long or short periods of time. In such cases the student receives a written warning to the effect that repeated offences may lead to permanent expulsion.

Expulsion according to the above terms will lead to cancellation of any grades that may have been granted for the exam concerned, and the exam will count as one attempt.

The student cannot sit a re-examination and cannot sit the exam until the exam is scheduled on ordinary terms as part of the degree programme.

Under aggravating circumstances, the programme manager may decide to expel the student from the educational institution for a short or long period of time. In such cases the student receives a written warning to the effect that repeated offences may lead to permanent expulsion.

During a period of expulsion, the student may not attend classes or exams.

The programme manager may grant an exemption.

8.4.4 Complaints about sanctions on account of cheating, plagiarism or interruption of an exam

The decisions that an attempt at the exam has been used and expulsion due to a cheating offence at an exam are final and complaints cannot be brought before a higher administrative authority.

Complaints about legal aspects (such as incapacity, hearing, complaints instructions, correct or incorrect interpretation of the Examination Order etc.) can be lodged with the Danish Agency for Science and Higher Education. The complaint is forwarded to Zealand via the complaints system at <https://www.zealand.dk/exam-appeals/>, for the attention of the programme manager. The manager makes a statement which the applicant must be allowed time to comment on, normally one week. The educational institution forwards the complaint, the statement and any comments that the applicant may have made to the Danish Agency for Science and Higher Education. Complaints must reach the educational institution at the latest two weeks from the day that the complainant was notified of the decision, cf. chapter 10 of the Examination Order.

9. Other rules for the study programme

9.1. Credits

Credit transfer agreements for the national subject elements are stated the national part of the curriculum.

9.1.1 Credit transfer arrangements for programme elements covered by the local part of the curriculum

Passed academic elements are equivalent to the corresponding academic elements at other educational institutions offering this programme as well as other programmes.

The student may apply for preliminary approval of credit transfer if the student has completed academic elements awarding credit.

9.2 Termination of enrolment

The Executive Order on Admission (see section 1) describes when a student's enrolment with a programme can be terminated, including a not passed initial assessment test/first year exam and exhausted examination attempts. Zealand's supplementary rules are detailed below.

Enrolment with the studies may be terminated for students who have passed less than 45 ECTS credits per year of studying. A student has three attempts to pass the exams.

Enrolment with the studies may be terminated for students who have not passed any exams for a consecutive period of at least 12 months. Periods when the student has not participated in any exams due to leave, giving birth, adoption, documented illness or conscription will not be included. Upon request the student must produce documentation substantiating these circumstances. The programme may make exemptions from these provisions in the event of unusual circumstances. Applications for exemptions complaint should be submitted to the programme manager.

The student receives a written warning from Zealand before the enrolment is terminated. In that connection the student is made aware of the rules above. It will further appear from the letter that the student has fourteen days to submit their comments (hearing of the party) and documentation for periods of leave, giving birth, adoption, documented illness or conscription. The letter also states a deadline for applying for exemption.

If the student fails to react within the stipulated deadline, their enrolment is terminated.

If the student pleads that enrolment should not be terminated, the termination awaits the programme manager's final decision.

The student may complain to Zealand about the decision within two weeks of receiving the decision. The complaint is sent to Zealand via the complaints system at <https://www.zealand.dk/eksamensklager/>. The complaint has no delaying effect.

If the decision is maintained, the business academy will make a statement which the student may comment on, normally within a deadline of one week. The educational institution forwards the complaint, the statement and any comments that the applicant may have made to the Danish Agency for Science and Higher Education. The Agency informs the student of the final decision after having dealt with the complaint. Decisions of the Agency cannot be lodged with any other administrative body.

9.3. Complaints

The student is recommended to ask the student counsellor for guidance on the complaints procedure and how to prepare a complaint. The rules governing complaints concerning exams are found in the Examination Order.

The Examination Order differentiates between complaints about:

- the scope of the examination etc., the examination procedure and/or the assessment and
- complaints about legal matters.

The two types of complaints are treated differently. All complaints are sent to Zealand via the complaints system at <https://www.zealand.dk/exam-appeals/>

9.3.1 Complaints about the scope of the examination etc., examination procedure and assessment

A student can submit a written complaint, stating their reasons, within two weeks after the assessment was communicated in the usual way, concerning:

- the scope of the examination, including questions asked, work submitted etc., and the exam relative to the objectives and demands of the programme
- the examination procedure
- the assessment.

The complaint may concern all exams, including written, oral and combinations thereof, and practical or clinical exams.

The original examiners (the internal examiner(s) and the external examiner, if applicable) of the exam concerned, must be presented with the complaint immediately. The educational institution must be able to form its decision in relation to academic issues based on the statement from the examiners. Normally, the educational institution allows two weeks to make the statements.

Immediately when the examiners' statements are available, the complainant is given an opportunity to comment on the statements, normally within one week.

The educational institution makes decisions regarding complaints based on the academic opinion presented by the examiners and the complainant's comments on the opinion. The decision, which must be in writing, stating reasons, may involve:

- an offer for a new assessment (re-assessment) – although only written exams
- an offer for a new exam (re-examination)
- the decision is not in favour of the student.

If the decision is to offer re-assessment or re-examination, the programme manager appoints a review panel. Re-assessment applies only to written exams where material is available for assessment, partly because the review panel cannot make a (re-)assessment of an oral exam that has already been held and because the notes made by the original examiners are personal and cannot be divulged. If the decision is to offer re-assessment or re-examination, the applicant must be told that re-assessment or re-examination may lead to a lower mark. Within a period of two weeks after the decision has been communicated, the student must accept the offer. Acceptance cannot be cancelled. If the student does not accept within this period of time, there will be no re-assessment or re-examination.

Re-assessments or re-examinations must take place as soon as possible. For re-assessments the documentation of the matter must be made available to the review panel: The question(s), the answer(s), the complaint, the statements made by the original examiners with the complainant's comments and the educational institution's decisions. The review panel notifies the educational institution of the outcome of the re-assessment and encloses a written statement with the reasons and the actual assessment. Re-assessments or re-examinations may produce lower grades. If the decision is to offer re-assessment or re-examination, this decision applies to all students if the exam suffers from the same defects as those referred to in the complaint.

If the due date of the deadline for complaints (two weeks/14 calendar days) is on a public holiday, the due date will be the first workday following the public holiday. Exemptions from the deadline can be made in the event of unusual circumstances.

9.3.2 Appeal

As regards academic issues, appeals may be lodged against the educational institution's decision with an appeals panel. The activities of the appeals panel are governed by the Public Administration Act, this also includes incapacity and confidentiality.

The appeal is sent to Zealand via the complaints system at <https://www.zealand.dk/exam-appeals/>. Appeals must be lodged at the latest two weeks after the student was informed of the decision. The requirements as above for complaints (in writing, stating reasons etc.) also apply to appeals. The appeals panel consists of two authorised external examiners, who are appointed by the chairman of the external examiners, a lecturer authorised to conduct examinations and a student studying the subject area (the degree programme), both of which are appointed by the programme manager.

The appeals panel makes decisions based on the material that the educational institution used for its decision and the student's appeal, with reasons stated for the appeal.

The appeals panel considers the appeal and the decision may result in:

- an offer for re-assessment by new reviewers, although only written exams
- an offer for a new exam (re-examination) by new examiners
- the decision is not in favour of the student.

If the decision is to offer re-assessment or re-examination, the applicant must be told that re-assessment or re-examination may lead to a lower mark. Within a period of two weeks after the decision has been communicated, the student must accept the offer. Acceptance cannot be cancelled.

If the student does not accept within this period of time, there will be no re-assessment or re-examination.

Re-assessments or re-examinations must take place as soon as possible. For re-assessments the documentation of the matter must be made available to the review panel: The question(s), the answer(s), the complaint, the statements made by the original examiners with the complainant's comments and the educational institution's decisions. The appeals panel must reach a decision at the latest two months – for summer exams three months – after the appeal has been submitted. Decisions of the appeals panel are final. This means that the matter cannot be brought before a higher administrative authority as regards the academic aspects of the complaint.

9.3.3 Complaints about legal matters

Complaints about legal aspects of decisions made by the review panel in connection with reassessments or re-examinations or about decisions of the appeals panel can be brought before Zealand via the complaints system at <https://www.zealand.dk/exam-appeals/>. The deadline for submitting of complaints is two weeks from the day the decision has been communicated to the complainant. The business academy will then make a decision.

Complaints about legal aspects of decisions made by the educational institution pursuant to the rules laid down by the Examination Order (such as incapacity, hearing, correct or incorrect interpretation of the Examination Order etc.) can be submitted to Zealand via the complaints system at <https://www.zealand.dk/exam-appeals/>. The educational institution issues a statement and the complainant must be given normally one week for commenting. The educational institution forwards the complaint, the statement and any comments that the applicant may have made to the Danish Agency for Science and Higher Education. Complaints must be submitted to the institution not later than two weeks from the day when the decision was communicated to the applicant.

Also see section 9.2 regarding complaints relating to termination of enrolment.

9.4. Exemption rules

The educational institution may grant an exemption from the provisions of the national part of the curriculum when warranted by unusual circumstances. The institutions work together to ensure uniform exemption practices.

When special conditions warrant it, the educational institution may grant an exemption from rules in the curriculum defined by the educational institution concerned or other educational institutions.

10. Finance

All expenses for activities expected to be carried out by the student are to be borne by the student, unless otherwise provided.

11. Commencement and transitional agreements

This curriculum is effective for students commencing the study programme as per 01/02/2020

Students who commenced the study programme before 01/02/2020 complete the programme in accordance with the curriculum under which they were enrolled.