

# Curriculum for Web Development

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Bachelor's Degree Programme in Web Development  
Professionsbachelor i webudvikling

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# 1. FRAMEWORK

This curriculum, covering the study programme for the bachelor degree in Web Development, hereinafter referred to as the study programme or the programme, is composed in compliance with the ministerial order no. 1162 of 10 July 2020: 'Bekendtgørelse om tekniske og merkantile erhvervsakademiuddannelser og professionsbacheloruddannelser' by the Danish institutions of higher education approved to offer the particular programme.

## *National parts and institution-specific parts of the curriculum*

The curriculum contains a national part, which has been stipulated conjointly with the institutions in the respective educational network, and an institutional part, which has been determined by Cphbusiness alone. The national part has been incorporated in this document and constitute the following subsections: 1.1, 3.2, 3.4 (including the number of examinations in the national educational elements), 5.4 and 6.1. The remaining parts are institution specific.

The national part has been co-created by all institutions offering the study programme, and they have committed themselves to ensuring national competence and qualifications. The national part of the curriculum has been approved by the national education network for business academies 1 August 2019.

The curriculum as a whole has been approved by Cphbusiness in compliance with the institution's internal approvals procedure on 20 August 2020.

## **1.1. Purpose and Objectives of the Study Programme**

The purpose of the study programme in Web Development is to qualify the graduate to be able to work independently as a web specialist when designing and constructing web applications, web architecture and internet communication in internal development departments of companies of all sizes or in major consultancy or software companies within the web area.

### *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.

## **1.2. Title, Duration and Certificate**

### *Title*

Upon completion of the programme, graduates are entitled to use the title Bachelor of Web Development (in Danish: professionsbachelor i webudvikling).

In agreement with the Danish Qualification Framework for Lifelong Learning, the programme is graded at level 6.

### *Duration and maximum length of study*

This programme amounts to 90 ECTS in total. 60 ECTS credits (European Credit Transfer System) corresponds to a full-time student's work for one year of study, cf. section 9 in ministerial order no. 1162 of 10 July 2020: 'Bekendtgørelse om tekniske og merkantile erhvervsakademiuddannelser og professionsbacheloruddannelser'. Study programmes that do not exceed 150 ECTS must be completed within the number of years corresponding to twice the nominal length of study. Study programmes consisting of 180 ECTS must be completed no later than the nominal length of study plus 2 years. Other programmes must be completed no later than 6 years after commencement, cf. section 6, subsection 2, in the ministerial order. This means that this study programme must be completed within 3 years after the student was enrolled.

The following three types of leave of absence are not included in the calculation of the maximum study time for the study programme: leave due to maternity leave or adoption (but maximum 52 weeks), compulsory military service (including service similar to compulsory military service) and training for and dispatchment similar to compulsory military service.

Under exceptional circumstances, Cphbusiness is entitled to grant exemptions from this rule.

### *Certificate*

Upon completion of the study programme, a certificate is issued to the student by Cphbusiness.

## **1.3. Commencement**

This curriculum is effective as of 1 August 2020 and is valid for students who are enrolled after this date.

## **1.4. Interim Provisions/Transitional Arrangements**

Students who were enrolled up to 1 August 2019 will complete the study programme according to the description below.

<b>Semester</b>	<b>Name of examination (internal/external)</b>	<b>Educational element</b>	<b>ECTS</b>	<b>Noted on the diploma</b>
<b>1<sup>st</sup> semester</b>	Development Environments 1  (internal)  <i>Development environments partial examination 1</i>	Development Environments	5	- One total grade (calculation based on the 4 partial examinations, each weighing ¼)

				<ul style="list-style-type: none"> <li>- One grade for each of the four partial examinations</li> </ul>
	Development Environments 2 (internal) <i>Development environments partial examination 2</i>			A passing grade must be obtained for each partial exam
	Backend 1 (internal) <i>Web programming partial exam 1</i>	Web Programming – Backend	10	<ul style="list-style-type: none"> <li>- One total grade (calculation based on the 3 partial examinations, each weighing 1/3)</li> </ul>
	Frontend (internal) <i>Web programming partial exam 2</i>	Web Programming – Frontend	10	<ul style="list-style-type: none"> <li>- One grade for each of the three partial examinations</li> </ul> A passing grade must be obtained for each partial exam
	User Experience 1 (internal) <i>User Experience partial exam 1</i>	User Experience	5	<ul style="list-style-type: none"> <li>- One total grade (calculation based on the 2 partial examinations, each weighing 1/2)</li> <li>- One grade for each of the two partial examinations</li> </ul> A passing grade must be obtained for each partial exam
<b>2<sup>nd</sup> semester</b>	Front end 2 (external)	Web programming Frontend (local	10	<ul style="list-style-type: none"> <li>- One total grade (calculation based on the 3 partial examinations, each</li> </ul>

	<i>Web programming partial exam 3</i>	educational element)		weighing 1/3)  - One grade for each of the three partial examinations  A passing grade must be obtained for each partial exam
	User Experience 2 (external)  <i>User Experience partial exam 2</i>	User Experience	5	- One total grade (calculation based on the 2 partial examinations, each weighing 1/2)  - One grade for each of the two partial examinations  A passing grade must be obtained for each partial exam
	Development Environments 3 (internal)  <i>Development environments partial examination 3</i>	Development Environments	5	- One total grade (calculation based on the 4 partial examinations, each weighing ¼)  - One grade for each of the four partial examinations
	Development Environments 4 (internal)  <i>Development environments partial examination 4</i>			A passing grade must be obtained for each partial exam

	Elective (internal)	Elective	10	One grade
<b>3<sup>rd</sup> semester</b>	Internship examination (internal)	Internship	15	One grade
	Examination in bachelor project (external)	Bachelor project	15	One grade

As regards the release of a new curriculum, or in the event of substantial alterations to the present curriculum, transitional arrangements will be laid down in the new curriculum.

## 1.5. Legal Framework

The legal framework that applies to this study programme is constituted by the latest versions of the following acts and ministerial orders:

*(The following are English translations of Danish texts published in the Danish Official Gazette (Lovtidende). In the event of a discrepancy between the translated version and the Danish version, the latter is valid)*

- Act no. 786 of 8 August 2018 on academies of professional higher education (the Academy Profession Act) (*Erhvervsakademiloven*)
- Act no. 1343 of 10 December 2019 on academy profession programmes and professional bachelor programmes (*LEP-loven*)
- Ministerial order no. 1162 of 10 July 2020 on technical and commercial academy profession programmes and bachelor programmes
- Ministerial order no. 18 of 9 January 2020 on examinations (the Examination Order) (*Eksamensbekendtgørelsen*)
- Ministerial order no. 152 of 26 February 2020 on admission and enrolment on academy profession programmes and bachelor programmes (*Adgangsbekendtgørelsen*)
- Ministerial order no. 114 of 3 February 2015 on the grading scale and other forms of assessment (the Grading Scale Order) (*Karakterbekendtgørelsen*)

The respective acts and orders can be obtained through *Retsinformation* at [www.retsinfo.dk](http://www.retsinfo.dk) (in Danish).

## 2. ADMISSION TO THE PROGRAMME



## 2.1. Entry Requirements

Admission to the programme requires an AP Degree in Computer Science or an AP Degree in Multimedia Design and Communication or degrees similar to these. English corresponding to Danish level B is also a requirement for admission.

## 2.2. Eligibility for Admission

In order to become eligible for admission to the programme, applicants must meet the entry requirements stated in subsection 2.1. If these are fulfilled, the applicant is qualified for, however not guaranteed, admission to the programme.

Cphbusiness specifies additional criteria for the selection of applicants, if the number of eligible applicants exceeds the vacancies on the study programme.

The additional selection criteria will be published at Cphbusiness' website taking due account of the time limits provided by the Ministry of Higher Education and Science.

# 3. PROGRAMME CONTENT

## 3.1. Programme Structure

As a prerequisite for completing the study programme, students must pass educational elements equivalent to a total workload of 90 ECTS credits. A full-time semester encompasses educational elements, including the internship, corresponding to 30 ECTS credits.

The programme comprises of educational elements equivalent to 60 ECTS credits, consisting of national elements (40 ECTS) and local educational elements including electives (in total 20 ECTS), an internship equivalent to 15 ECTS credits and a bachelor project equivalent to 15 ECTS credits.

Educational elements	1st year	2nd year	ECTS
National educational elements			40
Web Programming: Frontend Development 1+ Backend Development/Databases 1 (Total 20 ECTS)	X		20
Development Environments (Total 10 ECTS)	X		10
User Experiences 1+2 (Total 10 ECTS)	X		10
Local educational elements			20
Local educational element:	X		5

Web Programming – Python			
Local educational element: Web Programming – Frontend	X		5
Elective	X		10
Internship and bachelor project			30
Internship		X	15
Bachelor project		X	15
<b>Total</b>	<b>60</b>	<b>30</b>	<b>90</b>

The sum of all educational elements and other study activities may not exceed the prescribed ECTS credits.

All educational elements, including the bachelor project, are assessed and evaluated. When the outcome of the assessment is either 'passed' or at least the grade 02, the educational element concerned is seen as passed. For more information on examinations, please read chapter 5.

### 3.2. National Educational Elements

The programme covers a number of national educational elements corresponding to 40 ECTS credits. Learning goals, ECTS scope, content and number of examinations for the national educational elements have been determined collaboratively by the institutions of higher education offering the study programme.

<b>Web Programming: Frontend Development 1+ Backend Development/Databases 1</b>
<b>Timing:</b> 1 <sup>st</sup> semester
<b>Scope:</b> 20 ECTS
<p><b>Contents:</b></p> <p>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.</p>
<p><b>Learning objectives:</b></p> <p><i>Knowledge</i></p> <p>The student has development-based knowledge of: practice, applied theory and development methods in:</p> <ul style="list-style-type: none"> <li>• relevant internet and web protocols</li> <li>• data storage, modelling, exchange and security</li> </ul>

- 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.

### **About organisation of the subject element:**

Web programming is conducted and examined as two different disciplines: Frontend Development and Backend Development. The same learning objectives apply, but within to professionally two essentially different areas.

The learning objectives are distributed as follows:

### **Web Programming - Front End Development 1**

#### *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.

### *Skills*

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.

## **Web Programming - Backend Development/Databases 1**

### *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.

## **Development Environments**

**Timing:** 2nd semester

**Scope:** 10 ECTS

### **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 objectives:**

#### *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.

### **User Experiences 1+ 2**

**Timing:** 1st and 2nd semester

**Scope:** 10 ECTS

#### **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 objectives:**

##### *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.

### **About organisation of the subject element:**

As this educational element is conducted over two semesters, the distribution of learning objectives in each semester is listed below:

### **User Experiences 1**

#### *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

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
- 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.

## User Experiences 2

### *Knowledge*

The student has development-based knowledge of:

- aesthetics and trends in interaction design.

### *Skills*

The student can:

- 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.

## 3.3. Local educational elements and electives

In addition to the national educational elements, the programme consists of a number of local educational elements, including electives. Electives provide an opportunity for students to adjust their education in relation to their interests and future career paths. The electives all concern web programming.

Below the local educational element that apply to all students is described, and in the Electives Catalogue for the programme, descriptions of electives can be found.

<b>Python</b>
<b>Timing:</b> 1 <sup>st</sup> semester
<b>Scope:</b> 5 ECTS
<b>Contents:</b> The course ensures that knowledge is gained in two fundamentally different programming languages, in order to be able to make a professional choice of language and implementation of web applications. Python it is a language with a growing occurrence which is now often met in companies.
<b>Learning Objectives:</b>



### *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.

## **Webprogramming Frontend Development 2**

**Timing:** 2<sup>nd</sup> semester

**Scope:** 5 ECTS

**Contents:** The subject focuses on the development, deployment and documentation of web frontend solutions, including development of user interfaces, technologies for data storage and methodical project documentation.

**Learning Objectives:**

*Knowledge*

The student has development-based knowledge of:

- Current frontend technologies and frameworks
- Relevant data storage solutions
- Current UX standards

*Skills*

The student can:

- Apply frontend solutions based on current standards
- Implement appropriate data storage concepts
- Develop appropriate user interfaces based on current UX standards

*Competencies*

The student can:

- Argue for and document choice and implementation of relevant frontend technologies and data storage solutions
- Argue for and document design and development of user interfaces

### 3.4. Internship

The bachelor’s degree programme in web development includes both theory and practical experience with the purpose of supporting the students’ continuous learning process and contributing to the fulfilment of the learning objectives specified for the study programme. During the internship, students are faced with professionally relevant issues and become familiarised with relevant job functions. The student actively and independently seeks a placement with one or more private or public companies, and Cphbusiness ensures that the internship settings are satisfactory.

The internship is unpaid.

<b>Internship</b>
<b>Timing:</b> 3 <sup>rd</sup> semester
<b>Scope:</b> 15 ECTS
<b>Learning objectives:</b>
<i>Knowledge</i>
The student can:
<ul style="list-style-type: none"> <li>• understand and reflect upon theories and methods and their practical application.</li> </ul>
<i>Skills</i>

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.

**Assessment:** The internship is completed with 1 exam with assessment after the 7 point grading scale.

### **3.4.1. Rules Regarding the Internship**

#### *Requirements for the parties involved*

The hosting company, offering the internship, provides a contact person who must be available to the student for the duration of the internship. The contact person and the student must jointly draw up an internship agreement. This agreement must be in writing and should outline the types of tasks and assignments the student will face during his/her internship. The internship agreement must take into account not only the learning objectives of the internship stipulated in this curriculum but also the student's prior knowledge, training and qualifications. The internship agreement must be submitted afterwards for approval at Cphbusiness.

Close contact will be established between the student and one of the Cphbusiness appointed internship supervisors, who will act as the student's sparring partner for the duration of the internship and in addition the report examiner.

A manual describing the internship process in detail is available through Cphbusiness.

Upon completion of the internship period, both the student and the hosting company will have to participate in an electronic evaluation of the internship period. The

student must complete the evaluation in order to attend the exam.  
The internship is unpaid.

### *Roles and responsibilities of the parties involved*

<b>Student</b>	<b>Company</b>	<b>Cphbusiness</b>
Seeks a placement with a company	Provides a contact person	Ensures satisfactory internship settings  Appoints a Cphbusiness internship supervisor
The student and hosting company collaboratively draw up an internship agreement that takes into account the learning objectives of the internship		Discusses the internship agreement with the student  Approves the submitted internship agreement, provided that it meets Cphbusiness' demands
The student and hosting company cooperate during the internship  The contact person and the internship supervisor support the student for the duration of the internship		
(Writes an internship report)		
Participates in an evaluation of the internship	Participates in an evaluation of the student and the internship	
(Attends the exam)		(Conducts the exam)

## **3.5. Teaching and Working Methods**

At Cphbusiness, our learning approach is that business competencies are best developed when the study activities of the study programme put practice and concrete issues at the heart of learning. Further, we believe that that it is the work of creating value in practice that drives the motivation and commitment of our students.

Cphbusiness uses an education model that focuses on:

- Facilitating a motivating and engaging learning environment based on practice
- Transposing and disseminating relevant knowledge from research and industry in a concrete practice
- Supporting students' active participation and study intensity through relevant study activities

- Involving students' knowledge and work experience as a resource so that students are co-creators of learning
- Supporting learning through ongoing dialogue and a common feedback culture
- Flexible work, involving digital learning activities, focusing on using our resources and improving student learning outcomes, independent of time and place.

There are several different forms of teaching and working at Cphbusiness that support student learning. For example: lectures, case work, small assignments, practical and theoretical exercises, laboratory work, oral presentations, homework, excursions, etc.

Teaching is structured in one or more learning flows per semester.

The purpose of the various forms of working is for students to acquire knowledge, skills and competencies within the subject areas of the study programme, through the chosen approach, and to apply these in accordance with the learning objectives of the study programme.

### **3.6. Language of Instruction**

Web Development is an English taught programme, and all teaching is in English. In some cases, students may be able to take electives in Danish, and students are free to enter into an internship agreement with a company in which the spoken language is Danish.

Educational elements taught in English are examined in English, cf. subsection 5.6.

## **4. INTERNATIONALISATION**

### **4.1. Study Abroad**

All full-time studies at Cphbusiness must be organised in a manner that allows students the opportunity to take at least one of the study programme components abroad within the nominal length of study.

The possibility of studying abroad pertaining to the programme includes:

- The internship
- Bachelor project

Educational elements taken abroad can be approved for credit transfer if they are compatible with and meet the requirements regarding contents and level stipulated in this curriculum.

Students wishing to study abroad have to apply for credit transfer before the period is initiated in due time to receive a pre-approval of credit transfer. The decision as to whether the educational elements can be approved for credit transfer rests on Cphbusiness' evaluation of the contents and standards offered by the educational institution or host company.

As part of the pre-approval process, students must consent to Cphbusiness obtaining information relevant to the final credit transfer following the period of study abroad. A pre-approved educational element will be regarded as successfully completed if the student has passed the element in accordance with the regulations in effect at the hosting educational institution. When the period abroad is completed, students who have received a pre-approval of credit transfer have to document that they have successfully completed the pre-approved educational elements.

## 5. EXAMINATION AND ASSESSMENT

### 5.1. General Rules Regarding the Exam

The latest versions of the ministerial orders on examinations and grading apply to examinations at Cphbusiness (at the time of preparation of this curriculum: no. 1500 of 2 December 2016 on examinations (the Examination Order) and no. 114 of 3 February 2015 on the grading scale and other forms of assessment (the Grading Scale Order)). In addition, the Cphbusiness regulations and programme specific documents concerning examinations in effect at the time in question apply to examinations.

### 5.2. Description of Assessment of Educational Elements

An overview of the examinations for Web Development is provided below. Requirements and details on the specific examinations, including dates, form and materials, the use of aids during examination, etc., are made public to the students in examination catalogues on the Learning Management System.

Each examination, which may test several educational elements concurrently, will appear with one grade on the final diploma.

*Diagrammatic outline of the links between the examinations and the educational elements and the structure of the study programme*

Semester	Name of examination (internal/external)	Educational element	ECTS	Examination format	Noted on the diploma

<b>1<sup>st</sup> semester</b>	Backend 1 +- Python (internal) <i>Web Programming partial exam 1</i>	Web Programming - Backend 1 Python	15	Oral test	<ul style="list-style-type: none"> <li>- One total grade (calculation based on the 3 partial examinations, each weighing according to their ECTS weight)</li> <li>- One grade for each of the three partial examinations</li> </ul> <p>All partial examinations must be passed (02)</p>
	Frontend 1 (internal) <i>Web Programming partial exam 2</i>	Web Programming - Frontend 1	10	Oral test	
<b>2<sup>nd</sup> semester</b>	Front end 2 (external) <i>Web Programming partial exam 3</i>	Web programming Frontend 2 (local educational element)	5	Project with oral examination	<ul style="list-style-type: none"> <li>- One total grade (calculation based on the 3 partial examinations, each weighing according to ECTS weight)</li> <li>- One grade for each of the three partial examinations</li> </ul> <p>All partial examinations must be passed (02)</p>
	User Experience (external) <i>Development Environments and User Experience partial exam 1</i>	User Experience	10	Oral test	

	Development Environments (internal) <i>Development Environments and User Experience partial examination 2</i>	Development Environments	10	Oral test	each weighing according to ECTS weight)  - One grade for each of the two partial examinations  All partial examinations must be passed (02)
	Elective (internal)	Elective	10	Oral test	One grade
<b>3<sup>rd</sup> semester</b>	Internship examination (internal)	Internship	15	Oral test	One grade
	Examination in bachelor project (external)	Bachelor project	15	Oral examination based on bachelor project	One grade

### 5.3. Other Requirements for Completion of Activities

Besides the examinations mentioned above, students are required to attend and have a number of mandatory study activities approved in order to attend the exam and continue their learning, cf. the Examination Order section 10 and section 5, subsection 3.

#### 5.3.1. Mandatory Learning Activities: Requirements for Participation and Submission of Assignments

In order to attend some of the exams, students must have a number of mandatory learning activities approved. If the mandatory learning activity is not approved, the student cannot attend the exam, which counts as an attempt at the exam. The student is automatically signed up for the re-examination; however, the student must still pass the mandatory learning activity, as it is a prerequisite for attending the exam. The mandatory learning activities vary, depending on the educational elements. Examples of mandatory learning activities include requirements for participation, presentations, assignments, etc. The mandatory assignments for Web Development can be found in the examination catalogue for the study programme.



### 5.3.2. The Study Start Test

Cphbusiness conducts study start tests on all full-time study programmes. A student must fulfil the study start test requirement in order to remain enrolled at the study programme, cf. the Examination Order section 10.

Study start test
<b>Timing:</b> The study start test must be conducted no later than two months after the commencement of the study programme
<b>Form:</b> Details about the study start test are described in the examination catalogue for the particular programme
<b>Assessment:</b> Approved/Not approved
<b>Admission requirements:</b> None
<b>Consequences of not passing:</b> If the student does not fulfil the study start test requirement in the first attempt, the student has another attempt, which must be conducted no later than three months after the commencement of the study programme. If the student does not fulfil the test using on the second attempt, the student cannot continue on the study programme and his/her enrolment will consequently be cancelled, cf. the ministerial order about on exams examinations section 10 and the ministerial order on enrolment section 37, subsection 1, number 3.
<b>Specific for the study start test:</b> The study start test is not covered by the regulations about on examination complaints, cf. the ministerial order about on examinations section 10, subsection 4. Cphbusiness can grant exemptions from the appointed time required to fulfil the study start test requirement. Exemptions can be granted in cases of serious illness, childbirth or unusual circumstances. Such cases must be documented.

### 5.4. The Bachelor Project

The bachelor project must document the students' ability to understand and analyse a practice-based problem related to their respective fields of study by means of relevant theory and methodology. The project, and the student should therefore cover central subjects from the programme, possibly in cooperation with a private or public company, formulates a problem statement (which must be key to not only the programme but also the respective type of industry/profession). Cphbusiness will subsequently approve the problem statement.

The examination in the bachelor project is conducted as an external examination, which, together with the internship report and other programme examinations, should document that the learning objectives of the programme and requirements are met. The examination comprises a written part and an oral part that result in a single joint grade. The examination can only take place after the student has passed all other educational elements. For more about the bachelor project examination, consult the manual on the bachelor project.

<b>Bachelor Project</b>
<b>Scope:</b> 15 ECTS
<b>Timing:</b> By the end of 3 <sup>rd</sup> semester
<p><b>Purpose:</b> 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 student, possibly in collaboration with a private or public sector company, formulates the problem, which must be central to the programme and the profession. The institution approves the problem.</p>
<p><b>Learning objectives:</b> The learning objectives for the final examination project are identical to the programme's learning objectives, which are listed above in paragraph item 1.1</p>
<p><b>Assessment:</b> The bachelor project concludes the final semester of the programme, once all prior exams have been passed. 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.</p>

### 5.4.1. Importance of Verbal and Writing Skills

The students' spelling and communication skills are included in the assessment of the bachelor project, regardless of the language in which the bachelor project has been written. Nevertheless, the project's content and relevance are decisive; cf. the ministerial order on examinations, section 35, subsection 4.

### 5.5. Aids during Examination

In general, all forms of aid are allowed during examinations, unless stated otherwise in the examinations catalogue for the particular programme.

### 5.6. Examination Language

The examination language is equivalent to the language of instruction, i.e. if the language of instruction is English, the examination will be conducted in English. Where the examination language is Danish, the student may choose to conduct the examination in Swedish or Norwegian, unless the purpose of the examination is to demonstrate the student's proficiency in Danish, cf. the ministerial order on examinations, section 18.

## 6. OTHER RULES

### 6.1. Credit Transfer

In some cases, Cphbusiness may be able to transfer credits for educational elements, or parts hereof, completed at other educational institutions, provided that the elements in question correspond to elements included in this curriculum.

Cphbusiness bases the decision about a possible credit transfer on an assessment of the element's content, level etc.

A subject element transferred from a study abroad is considered completed, if the element is passed in accordance with the rules of the particular study programme. Students are obliged to notify Cphbusiness of any previously passed educational elements at a higher educational level, which includes both Danish and foreign higher education courses, presumed to be transferable. Cphbusiness handles all applications for credit transfer according to these rules.

### 6.2 Change of study programme

Change of study programme at the same or another educational institution is regulated by the rules of the study programme receiving the student.

Changing to the same study programme at another institution cannot take place until the student has passed examinations corresponding to the first year of study at the programme receiving the student unless special circumstances apply, cf. the ministerial order on admission and enrolment section 36, subsection 2. A change of study programme can only take place in case of vacancies on the study programme on the the receiving institution.

### 6.3 Exemptions from the Curriculum

Under special circumstances, Cphbusiness is entitled to grant exemptions from rules stipulated in this curriculum. Students have to submit a request for exemption, which must specify and document the reasons for exemption. Cphbusiness will subsequently process the request and notify the student of the decision once it is made.