

# Curriculum for Web Development

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Bachelor's Degree Programme in Web Development  
Professionsbachelor i webudvikling

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Head of Study Programmes, Lars Bogetoft



Director of Education, Gregers Christensen



Ole Gram-Olesen

President, Cphbusiness, Ole Gram-Olesen

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# 1. FRAMEWORK

This curriculum, covering the study programme for Web Development, hereinafter referred to as the study programme or the programme, is composed in compliance with the ministerial order no. 1521 of 16 December 2013 on academy profession programmes and bachelor programmes (*LEP-bekendtgørelsen*) by the Danish institutions of higher education approved to offer the particular programme.

## *Joint parts and institution specific parts of the curriculum*

Parts of the curriculum have been stipulated conjointly with these institutions in the respective education network, whilst others have been determined by Cphbusiness alone. The joint parts are incorporated in this document and constitute the following subsections: 3.2, 3.3, 3.5, 5.4 and 6.1. The remaining parts are institution specific.

The joint parts have been co-created by the institutions mentioned below, which have committed themselves to ensuring national competence and qualifications.

The joint parts of the curriculum have been imposed by:

### **Business Academy Aarhus**

[www.baaa.dk](http://www.baaa.dk)

### **IBA International Business Academy**

<http://www.iba.dk/study-at-iba>

### **Copenhagen Business Academy**

[www.cphbusiness.dk/english](http://www.cphbusiness.dk/english)

### **Lillebaelt Academy of Professional Higher Education**

[www.eal.dk/eal/International-58.aspx](http://www.eal.dk/eal/International-58.aspx)

### **Copenhagen School of Design and Technology**

[www.kea.dk/en/](http://www.kea.dk/en/)

### **University College of Northern Denmark**

[www.ucn.dk](http://www.ucn.dk)

### **EA Business Academy SouthWest**

[www.easv.dk/index.php/en/](http://www.easv.dk/index.php/en/)

### **Zealand Institute of Business and Technology**

<http://zibat.dk/>

The joint parts of the curriculum have been approved by the national education network for business academies in the summer of 2015.

The curriculum as a whole has been approved by Cphbusiness in compliance with the institution's internal approvals procedure on 24 August 2015.

## 1.1. Purpose and Objectives of the Study Programme

The purpose of the Bachelor's Degree Programme in Web Development is to qualify the graduate to independently act as a web specialist in design and construction of web applications, web architecture and internet communication in internal development departments in all sizes of companies or in major consultancy or software companies within the World Wide Web area.

### ***Learning objectives and outcomes***

The learning outcome includes the knowledge, skills and competences a Bachelor of Web Development will achieve from the programme, cf. the ministerial order no. 353 of 7 April 2015 on the Bachelor's Degree Programme in Web Development, appendix 1.

*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.*

### *Knowledge*

The graduate will possess knowledge of:

- the formal and de facto standardisation of the World Wide Web;
- World Wide Web standards as application platforms;
- development environments for web development;
- Content Management Systems;
- the role of web applications in society as well as their development; and
- widespread development methods within web development as well as be able to reflect on their suitability in different development situations.

### *Skills*

The graduate will be able to:

- plan and develop applications based on specific development requests;
- assess and select a suitable programming language for the implementation of development requests;
- assess and select a suitable database system to ensure data and application persistence;
- design user interfaces adapted to relevant target groups based on the theory and methods of the domain;
- design user interfaces that utilise the special design and aesthetic possibilities of the World Wide Web;
- document the functionality and development process of a project adapted to target group and project scope; and
- apply a suitable development environment in the implementation of the development process.

### *Competencies*

The graduate will be able to:

- handle complex and development-oriented situations within web development;
- take a professional approach to discipline-specific and interdisciplinary collaboration; and
- identify their own learning needs and structure their own learning in different learning environments.

## **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*

With 60 ECTS credits (European Credit Transfer System) corresponding to one full-time year of study, cf. section 9 in the ministerial order no. 1521 of 16 December 2013 on academy profession programmes and bachelor programmes (*BEK nr. 1521 af 16/12/2013: Bekendtgørelse om erhvervsakademiuddannelser og professionsbacheloruddannelser*), the programme amounts to 90 credits in total.

Study programmes that do not exceed 120 ECTS shall be completed within the number of years corresponding to twice the nominal length of study, and the remaining programmes shall be completed no later than the nominal length of study plus two years, cf. section 5, subsection 2, in the ministerial order on academy profession programmes and bachelor programmes. This means that the Web Development programme must be completed within three years. Under exceptional circumstances, Cphbusiness is entitled to grant exemptions from this rule, cf. subsection 1.2. (further details about exemptions at Cphbusiness can be found in subsection 6.6.).

### *Certificate*

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

## **1.3. Commencement**

This curriculum is effective as of 1 August 2015, and the terms and conditions stated herein apply to students starting the programme in the autumn of 2015.

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

Students enrolled at an earlier point in time, and thus covered by curricula prior to the present, are entitled to complete their studies in line with the curricula they were cov-

ered by originally, but they may also choose to partake in educational elements offered in accordance with this curriculum. The last exams held in accordance with the curriculum from 2010 are held in December 2018.

Students covered by curricula prior to the present may however request that they be covered by this curriculum until their completion of the programme, provided that they meet the previously listed requirements regarding the maximum length of study, cf. subsection 1.2.

As regards the release of a new curriculum, or in the event of substantial alterations to the present, 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:

*(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. 935 of 25 August 2014 on academies of professional higher education (the Academy Profession Act) (*Erhvervsakademiloven*)
- Act no. 1147 of 23 October 2014 on academy profession programmes and professional bachelor programmes (*LEP-loven*)
- Ministerial order no. 1521 of 16 December 2013 on academy profession programmes and bachelor programmes (*LEP-bekendtgørelsen*)
- Ministerial order no. 1519 of 16 December 2013 on examinations (the Examination Order) (*Eksamensbekendtgørelsen*)
- Ministerial order no. 248 of 13 March 2015 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*)
- Ministerial order no. 353 of 7 April 2015 on the Bachelor's Degree Programme in Web Development (*Uddannelsesbekendtgørelsen*)

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 a qualifying examination as well as fulfilment of the programme specific entry requirements. The entry requirements are stipulated in

the order on admission and enrolment on academy profession programmes and bachelor programmes in force, and should doubts arise from the formulations used in this subsection, the formulations in the order apply.

Admission to the programme requires a diploma from the academy profession degree programme in Computer Science, the academy profession degree programme in Multimedia Design and Communication or another Danish or foreign degree on a level equivalent to these.

## **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.

Provided that the number of eligible applicants, cf. subsection 2.1., exceeds the number of spaces available, Cphbusiness may specify additional selection criteria on the grounds of which applicants are accepted as long as spaces are available.

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 attend and 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 compulsory educational elements equivalent to 40 ECTS credits, electives equivalent to 20 credits, an internship equivalent to 15 credits and a bachelor project equivalent to 15 ECTS credits.

Educational Elements		1 <sup>st</sup> year	2 <sup>nd</sup> year
Key subject areas	Web Development (bridging course) <i>either</i> <ul style="list-style-type: none"> <li>Back end programming (10 ECTS)</li> </ul> <i>Or</i> <ul style="list-style-type: none"> <li>Front end programming (10 ECTS)</li> </ul>	10 ECTS	
	Development environments (10 ECTS)	10 ECTS	
	Databases (10 ECTS)	10 ECTS	
	Interface Design (10 ECTS)	10 ECTS	
Electives		20 ECTS	
Internship			15 ECTS
Bachelor's degree project			15 ECTS
<b>In total</b>	(90 ECTS)	<b>60 ECTS</b>	<b>30 ECTS</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 according to the subsection on examinations in this curriculum, cf. chapter 5, and where the outcome of the assessment is either 'passed' or at a minimum the grade 02, the educational element concerned is perceived as passed. For more information on examinations, please read chapter 5.

### 3.2. Key Subject Areas

The programme covers a number of overarching subject areas to which the educational elements are related. The subject areas comprise educational elements corresponding to 40 ECTS credits. The contents of the subject areas as well as the distribution of ECTS credits have been determined collaboratively by the institutions of higher education approved to offer the particular programme. The subject areas include the following:



<b>Web Development (bridging course), back end programming</b>
<b>Scope:</b> 10 ECTS
<b>Content:</b> The purpose of this core area is to develop students' competencies to develop contemporary web applications using programming paradigms and taking advantage of current, standardised protocols and the possibilities of the client/server model.
<b>Learning objectives:</b> <i>Knowledge</i> The graduate will possess knowledge of: <ul style="list-style-type: none"><li>• design patterns</li><li>• fundamental protocols of the World Wide Web</li><li>• the advantages and limitations of client/server architecture</li></ul> <i>Skills</i> The graduate will be able to: <ul style="list-style-type: none"><li>• create web-based programs</li><li>• apply basic programming principles</li><li>• use web APIs</li><li>• document program structures</li></ul> <i>Competencies</i> The graduate will be able to: <ul style="list-style-type: none"><li>• analyse a development request with a view to constructing a web-based application</li><li>• select and apply suitable programming technologies for developing web-based applications — mainly focusing on the server side</li></ul>

<b>Web Development (bridging course), front end programming</b>
<b>Scope:</b> 10 ECTS
<b>Content:</b> The purpose of this core area is to develop students' competencies to develop contemporary web applications using programming paradigms and taking advantage of current, standardised protocols and the possibilities of the client/server model. Furthermore, students should develop an understanding of basic design and visual communication. This core area should also enable students to design simple user interfaces using aesthetic and communicative principles.
<b>Learning objectives:</b> <i>Knowledge</i> The student will possess knowledge of: <ul style="list-style-type: none"><li>• fundamental protocols of the World Wide Web</li><li>• advantages and limitations of client/server architecture</li><li>• particular characteristics, weaknesses and strengths of different media</li><li>• communication strategies</li></ul> <i>Skills</i> The student will be able to: <ul style="list-style-type: none"><li>• program and implement a dynamic web application</li><li>• master basic design principles</li></ul>

- apply theories on user friendliness and the skills to plan and conduct user tests
- document program structures

#### *Competencies*

The student will be able to:

- analyse a development request with a view to constructing a web-based application
- select and apply suitable programming technologies for developing web-based applications — mainly focusing on the client side

### Development Environments

**Scope:** 10 ECTS

**Content:** The purpose of this core area is to develop students' competencies in making a qualified choice of and applying a given development environment.

#### **Learning objectives:**

##### *Knowledge*

The student will possess knowledge of:

- integrated development environments (IDE) and their advantages and limitations
- common programming languages in a web context
- quality assurance and version control of applications in a web context
- types of content management systems and frameworks and their suitability in a web context
- criteria for selection of Content Management Systems or frameworks
- selection of relevant database technology for developing applications in a web context

##### *Skills*

The student will be able to:

- apply Content Management Systems or frameworks for developing applications in a web context
- use an integrated development environment when developing applications in a web context

##### *Competencies*

The student will be able to:

- select a Content Management System or framework for developing applications for a given development assignment

### Databases

**Scope:** 10 ECTS

**Content:** The purpose of this core area is to develop students' competencies in analysing and applying relevant data-processing models.

#### **Learning objectives:**

<p><i>Knowledge</i></p> <p>The student will possess knowledge of:</p> <ul style="list-style-type: none"> <li>• at least one widely-used modelling language for data modelling</li> <li>• distributed databases and their prevalence and use in web contexts</li> <li>• describing problems concerning data exchange and the use of data formats in developing in web contexts</li> </ul> <p><i>Skills</i></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> <li>• apply data models for development and maintenance in web contexts</li> <li>• apply complex database queries</li> <li>• apply transactions</li> <li>• embed business logic in the database layer</li> <li>• use data formats for data integration</li> </ul> <p><i>Competencies</i></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> <li>• analyse and select the tasks that would be suitably placed in the database layer and those that should be placed in the application layer</li> <li>• analyse and select a database technology/technologies that will resolve a given development task in a web context suitably</li> </ul>
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<p><b>Interface Design</b></p>
<p><b>Scope:</b> 10 ECTS</p>
<p><b>Content:</b> The purpose of this core area is to develop students' competencies to enter complex usage scenarios and independently take part in the design process concerning the design of complex user interfaces.</p>
<p><b>Learning objectives:</b></p> <p><i>Knowledge</i></p> <p>The student will possess knowledge of:</p> <ul style="list-style-type: none"> <li>• common interface design development methods</li> <li>• human-computer interaction</li> <li>• communication theory</li> </ul> <p><i>Skills</i></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> <li>• create convenient user interfaces adapted to relevant target groups based on the theory and methods of the relevant subject area</li> <li>• apply design methods pertaining to visual design, interaction design and information architecture when designing user interfaces, including prototyping</li> <li>• work on the development of communications solutions across platforms and media</li> </ul> <p><i>Competencies</i></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> <li>• analyse choices of devices and effects in user interfaces and situate these choices in a context</li> </ul>

- manage design processes based on analysis and planning
- take part in complex usage situations and independently manage
- the design process when designing complex user interfaces

### 3.3. Compulsory Educational Elements

The key subject areas cover a range of education elements that correspond to 40 ECTS credits. This part of the curriculum has been determined collaboratively by the institutions of higher education approved to offer the particular programme, and these educational elements are mandatory. The compulsory educational elements are all concluded with an examination and include the following:

1. Web Development (bridging course),
  - a. Back end programming (10 ECTS) *or*
  - b. Front end programming (10 ECTS)
2. Development Environments (10 ECTS)
3. Databases (10 ECTS)
4. Interface Design (10 ECTS)

The four compulsory educational elements are equivalent to the four key subject areas of study, have the same name, contents, are worth the same number of ECTS credits and have the same learning objectives.

The four compulsory educational elements are all finalised by examination.

*Diagrammatic outline of educational elements*

Educational elements distributed on years of study	1 <sup>st</sup> year	2 <sup>nd</sup> year	E C T S
<b>Key Subject Areas and Compulsory Educational Elements</b>			<b>40</b>
<b>Web Developmetn (bridging course)</b>			<b>10</b>
Backend programming <i>or</i> Frontend programming	10		10
<b>Development Environments</b>			<b>10</b>
Development Environments	10		10
<b>Databases</b>			<b>10</b>
Databases	10		10
<b>Interface Design</b>			<b>10</b>
Interface Design	10		10
<b>Elective Educational Elements</b>			<b>20</b>
Electives	20		20
<b>Internship and Bachelor Project</b>			<b>30</b>
Internship and project		15	15
Bachelor project		15	15
<b>I alt</b>	<b>60</b>	<b>30</b>	<b>90</b>

### 3.4. Elective Educational Elements: Electives

In addition to the compulsory elements, the programme comprises elective study activities corresponding to 20 ECTS credits. Information on the available electives is available in the the Electives Catalogue.

### 3.5. 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 fulfillment of the learning objectives specified for the study programme. During the internship, students are faced with professionally relevant issues, just as they 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.

Internship
3 <sup>rd</sup> semester
<b>Scope:</b> 15 ECTS
<b>Content:</b> The internship is organised in order to contribute, in combination with the other elements of the study programme, to the student's development of practical competencies. The purpose of the internship is to enable the student to apply the methods, theories and tools acquired during the course of the study programme in the solution of specific, practical tasks in web development.
<p><b>Learning objectives:</b></p> <p><i>Knowledge</i> The student will possess knowledge of:</p> <ul style="list-style-type: none"> <li>• daily operations in the whole of the internship host company</li> </ul> <p><i>Skills</i> The student will be able to:</p> <ul style="list-style-type: none"> <li>• apply versatile technical and analytical working methods related to the occupation</li> <li>• evaluate practical problems and propose possible solutions</li> <li>• structure and plan daily tasks relevant to the occupation</li> <li>• communicate and convey practical problems and issues and well-argued solution proposals</li> </ul> <p><i>Competencies</i> The student will be able to:</p> <ul style="list-style-type: none"> <li>• manage the practical and discipline-related situations of the occupation</li> <li>• acquire new knowledge, skills and competencies related to the occupation</li> </ul>

- take a professional approach to professional and multidisciplinary collaboration with others

**Assessment:** The internship is finalised by the Internship Exam.

### 3.5.1. Rules Regarding the Internship

#### *Requirements for the parties involved*

The hosting company, offering the internship, provides a contact person who must be at the student's disposal for the duration of the internship. The contact person and the student must draw up an internship agreement in collaboration, and this agreement, which must be in writing, 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 should afterwards be submitted 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 entire duration of the internship and in addition hereto the examiner on the report.

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

Upon completion of the internship period, both the student and the hosting company will have to participate in an evaluation of the internship period. The student must complete the evaluation in order to attend the exam.

#### *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
<p>The student and hosting company cooperate during the internship</p> <p>The contact person and the internship supervisor support the student for the duration of the internship</p>		
(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)

The internship is unpaid.

### 3.6. Teaching and Working Methods

At Cphbusiness, various teaching methods are practised. Among these are lectures, cases, assignments, practical and theoretical exercises, laboratory work, oral presentations, homework/study assignments, excursions/field trips, etc. The teaching may be thematised, just as it may be divided into different courses.

The purpose of the varied teaching methods is that students, by means of the selected teaching modes, acquire knowledge, skills and competences within the programme's key subject areas, and that students apply these in accordance with the programme's learning objectives.

### 3.7. 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 5.9.

## 4. INTERNATIONALISATION

### 4.1. Study Abroad

All full-time studies at Cphbusiness shall 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 Web Development programme includes:

- The internship
- The elective educational elements

Educational elements taken abroad can be approved for credit transfer provided that they are compatible with and meet the requirements regarding contents and level stipulated in the subsections regarding the internship and credit transfer.

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.

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. As part of the pre-approval process, students shall concur that Cphbusiness has the right to obtain 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.

## 5. EXAMINATION AND ASSESSMENT

### 5.1. General Rules Regarding the Exam

The latest versions of the ministerial orders no. 1519 of 16 December 2013 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) apply to examinations at Cphbusiness. In addition, the Cphbusiness rules and regulations regarding examination in effect at the time in question apply to examinations.



## 5.2. Description of Assessment of Educational Elements

In the following, an overview of the examinations at the Web Development programme is provided. Requirements and details on the specific examinations, including dates, form and materialities, the use of aid during examination, etc., are available in the local documents published at the institution's Intranet.

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

*Diagrammatic outline of the connection of the examinations, the educational elements and the structure of the study programme*

Semester	Name of examination (internal/external)	Educational element	ECTS	Noted on the final diploma
1 <sup>st</sup> year	Web Development (bridging course)	Backend programming <i>or</i> Frontend programming	10	One grade
	Development Environments	Development Environments	10	One grade
	Databases	Databases	10	One grade
	Interface Design	Interface Design	10	One grade
	Electives Exam	Elective Educational Element	20	One grade for each elective
2 <sup>nd</sup> year	Internship Exam	Internship	15	One grade
	Bachelor's Project	Bachelor's project	15	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 obligatory study activities approved in order to attend the exam and continue their studies, cf. the Examination Order section 9 and section 5, subsection 2.

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

In order to take some of the exams, students must submit a number of mandatory learning activities. In case the mandatory learning activity is not submitted, the student cannot take 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 submit the mandatory learning activity, as it is the prerequisite for taking 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 the Web Development programme can be found in the local documents relevant to 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 9.

<b>Study start test</b>
<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 catalogue for examinations and other test for the particular programme
<b>Assessment:</b> Approved/Not approved
<b>Admission requisite:</b> None
<b>Consequences of not passing:</b> If the student does not fulfill the study start test requirements in the first attempt, it is possible to participate in a "re-examination". This new test must be conducted no later than three months after the commencement of the study programme. If the new test is not approved, the student cannot continue on the study programme and his/her enrolment will consequently be cancelled, cf. the ministerial order about exams section 9.
<b>Specific for the study start test:</b> The study start test is not covered by the regulations about examination complaints, cf. the ministerial order about examinations section 9, subsection. 4. Cphbusiness can grant exemptions from the appointed time required to fulfill the study start test requirement. Exemptions can be granted in cases of serious illness, child birth or unusual circumstances. Such cases must be documented.

### 5.4. The Bachelor Project

The bachelor project concluding the programme must document the students' abilities to understand and analyse a practice-based problem related to their respective fields of study by means of relevant theory and methodology. Thus, central subjects from the programme should be covered by the project, and a problem statement, which must be key to not only the programme but also the respective type of industry/profession, has to be formulated by the student and if desired in cooperation with a private or public company. Cphbusiness will subsequently approve the problem statement.

The bachelor project is conducted as an external examination, which, together with the internship report and other programme examinations, should document that the programme's learning objectives 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 (the internship report as well as all other programme examinations). For more information about the bachelor project, see this curriculum section 5.1., the catalogue for examinations and other test for the particular programme and the manual for the bachelor project.

<b>Bachelor project</b>
<b>Timing:</b> 3 <sup>rd</sup> semester
<b>Scope:</b> 15 ECTS
<p><b>Purpose:</b> The bachelor's degree project is to demonstrate that the student has achieved the expected level of graduate competence, cf. appendix 1 in the ministerial order on the Bachelor's Degree Programme in Web Development.</p>
<p><b>Learning Objectives:</b></p> <p><i>Knowledge</i> The graduate will possess knowledge of:</p> <ul style="list-style-type: none"> <li>• the formal and de facto standardisation of the World Wide Web</li> <li>• the World Wide Web's standards as a platform for applications</li> <li>• development environments for web development</li> <li>• Content Management Systems</li> <li>• the role of web applications in society and its development, and</li> <li>• common development methods in web development, and graduates should be able to reflect on the suitability of such methods for different development scenarios</li> </ul> <p><i>Skills</i> The graduate will be able to:</p> <ul style="list-style-type: none"> <li>• plan and develop applications based on specific development requests</li> <li>• evaluate and select a suitable programming language for the performance of development requests</li> <li>• evaluate and select a suitable database system to ensure data and application persistence</li> <li>• create user interfaces adapted to relevant target groups based on the theory and methods of the relevant subject area</li> <li>• create user interfaces that make use of the World Wide Web's particular possibilities in terms of design and aesthetics</li> <li>• prepare documentation – adapted to the target audience and to the extent of the project – of the functionality and development process of a project, and</li> <li>• use a suitable development environment to perform the development process</li> </ul>

### *Competences*

The graduate will be able to:

- handle complex situations aimed for progression in web development
- take a professional approach to disciplinary and multidisciplinary collaboration with others.
- identify their learning needs and structure their learning in different learning environments

### **Assessment:**

- External exam, graded with on single, joint grade according to the 7-point grading scale

### **About the exam:**

A project report and if required a product must be handed in.

The project report constitutes the written part of the exam.

The project report must not exceed 20 standard pages + 20 standard pages per student.

Front page, table of contents, bibliography and appendix are not included in the required number of pages. Appendices are not included in the assessment.

A standard page is 2,400 characters, including spaces and footnotes.

## 6. OTHER RULES

### **6.1. Credit Transfer and change of study programme**

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.

An educational element transferred from a stay 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 educations, presumed to be transferable. Cphbusiness handles all applications for credit transfer according to these rules.

#### *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 of admission and enrolment section 36, subsection 2. A change of study programme can only take place if the the receiving institution has spaces

available at the relevant level of the study programme.

## **6.2. 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.