

# Software Development

National section



Curriculum 2025



ERHVERVS  
AKADEMI  
SYDVEST

**CURRICULUM**  
for  
professional bachelor in software development

Valid from 15 January 2024

# Content

<b>1.</b>	<b>The programme objectives for learning outcomes .....</b>	<b>3</b>
<b>2.</b>	<b>The programme includes four national subject elements .....</b>	<b>3</b>
2.1	Development of large systems .....	3
2.2	Databases .....	4
2.3	System integration .....	5
2.4	Software quality .....	6
<b>3.</b>	<b>Internship .....</b>	<b>6</b>
<b>4.</b>	<b>Requirements for the bachelor project.....</b>	<b>7</b>
<b>5.</b>	<b>Rules on credit .....</b>	<b>7</b>
<b>6.</b>	<b>Commencement and transitional arrangements .....</b>	<b>8</b>

This national part of the curriculum for the professional bachelor's degree in software development is issued in accordance with § 22, paragraph 1 in the Ministerial Order for technical and commercial Academy Profession Programmes and Professional Bachelor Programmes. This curriculum is supplemented by the institutional part of the curriculum, which is set by the individual institution providing the education.

It has been prepared by the educational network for the professional bachelor's degree programme in software development and approved by all the awarding institutions.

# 1. The programme objectives for learning outcomes

## *Knowledge*

The student has knowledge of:

- software quality in software development
- system architecture and its strategic importance for the company's business
- applied theory and method as well as widely used technologies within the domain
- different types of databases and their use
- sustainable software development

## *Skills*

The student can:

- integrate IT systems and develop systems that support future integration
- use appropriate governance and coordination mechanisms in the development process
- assess and select database systems, as well as design, redesign and optimize the operation of databases
- plan and manage development processes with many geographically separated project participants
- identify connections between applied theory, method and technology and can reflect on their suitability in different situations
- manage the planning and implementation of quality assurance of major IT systems including testing
- contribute to the establishment and realization of a commercially as well as technologically appropriate architecture for large systems

## *Competencies*

The student can:

- engage professionally in collaboration on the development of large systems using widely used methods and technologies
- familiarise themselves with new technologies and standards for managing integration between systems
- independently acquire knowledge, skills and competencies in software development including software architecture

# 2. The programme includes four national subject elements

## 2.1 Development of large systems

The subject element contains and deals with the development of large-scale IT systems, where scalability is a central and important characteristic. The focus is on how key systems development methods handle issues related to scalability and the development of large distributed systems, including design, implementation and maintenance. We work with concepts, techniques and technologies for continuous quality assurance and delivery of software-based systems.

**Learning objectives:**

### *Knowledge*

The student has knowledge of:

- issues related to the development of distributed and large-scale IT systems, and how disciplined and agile development methods prescribe how these issues are handled
- the advantages, disadvantages and costs of using a system for continuous quality assurance and delivery of IT systems
- criteria for the design of interfaces to subsystems
- configuration and error reporting systems dedicated to the development of large distributed systems

### *Skills*

The student can:

- apply principles for the division of a system into subsystems, including designing and specifying subsystem requirements
- apply virtualization in software development
- apply version control principles to the development of large distributed systems
- use a system for continuous quality assurance and delivery
- apply architectural patterns dedicated to the development of large distributed systems

### *Competencies*

The student can:

- cooperate with major development organizations
- participate in globally distributed development
- customize development methods and processes related to development of large distributed systems

### **ECTS scope:**

Development of large systems has a scope of 10 ECTS credits.

## **2.2 Databases**

The subject element contains and deals with the selection and use of database types appropriately in relation to different application domains, including data-driven decision support. The focus is also on development towards large databases, including redesign and operation optimization.

### **Learning objectives:**

#### *Knowledge*

The student has knowledge of:

- different database types and the underlying models
- the storage organisation and query execution of a specific database system
- optimization possibilities of a specific database system – including advantages and disadvantages
- database-specific security issues and their solutions
- concepts and issues related to scaling and data complexity
- the specific issues raised by many simultaneous transactions, including in connection with distributed databases
- principles for accessing data from applications

#### *Skills*

The student can:

- analyse the use domain for the choice of database type
- transform logical data models into physical ones in different database types
- perform the optimization of databases
- manage simultaneous transactions in a specific database system
- use the facilities and programming options provided by a modern DBMS
- use up-to-date tools to access data

#### *Competencies*

The student can:

- familiarize yourself with various database technologies
- facilitate collaboration for data support of business objectives

#### **ECTS scope:**

Databases have a scope of 10 ECTS points.

## **2.3 System integration**

The subject element contains and deals with the technical integration of systems, including integrating existing systems in connection with the development of new systems, as well as being able to develop new systems that support future integration.

#### **Learning objectives:**

##### *Knowledge*

The student has knowledge of:

- business considerations for system integration
- storage, transformation and integration of data
- the concept of service and can understand its relationship with service-oriented architecture
- technologies that can be used to implement a service-oriented architecture
- technologies and tools for integration
- security related to integration

##### *Skills*

The student can:

- use heterogeneous systems in a service-oriented architecture
- design integrative systems and systems that use existing services
- transform or expand a system so that it can function in a service-oriented architecture
- use patterns that support system integration
- choose from different methods and technologies for integration
- translate elements of a business strategy into concrete requirements for the integration of systems
- assess the pros and cons of different approaches to integration
- assess security needs and use up-to-date methods and technologies to achieve the desired level of security

#### *Competencies*

The student can:

- acquire knowledge of the development within integration
- participate in the development and adaptation of methods and processes for integration

**ECTS scope:**

System integration has a scope of 10 ECTS credits.

## 2.4 Software quality

The subject element contains and deals with key methods and techniques for achieving software quality both in connection with new development and maintenance, including concepts and techniques for the design and construction of testable systems. Furthermore, design and implementation of systematic testing on larger systems, including the establishment of automated testing.

**Learning objectives:***Knowledge*

The student has knowledge of:

- essential test strategies and models and their role in system development
- ensuring software quality as an integral part of a development project
- different test types and their application

*Skills*

The student can:

- design testable systems
- ensure traceability between system requirements and software testing at all levels
- use different test forms
- apply different criteria and metrics for software testing
- apply techniques and tools for automating testing

*Competencies*

The student can:

- participate in the development and adaptation of methods and techniques for ensuring software quality
- collaborate with others in relation to software quality
- identify own learning needs in relation to software quality

**ECTS scope:**

Software quality has a scope of 10 ECTS credits.

## 3. Internship

**Learning objectives:***Knowledge*

The student has knowledge of:

- the daily operations of the internship company

*Skills*

The student can:

- apply versatile technical and analytical working methods related to employment within the profession
- assess practical issues and the establishment of solutions
- manage the structuring and planning of daily tasks in the profession
- disseminate practical issues and reasoned solutions

#### *Competencies*

The student can:

- handle development-oriented practical and professional situations in relation to the profession
- acquire new knowledge, skills and competences in relation to the profession
- engage in professional and interdisciplinary collaboration with a professional approach

#### **ECTS scope:**

Internship has a scope of 15 ECTS credits.

#### **Number of examinations:**

The internship ends with one exam.

## **4. Requirements for the bachelor project**

The Bachelor project documents together with the other exams and the internship exam that the education's goals for learning outcomes have been achieved. The bachelor project must also document the student's understanding of practice and central applied theory and method in relation to a practice-oriented problem. The problem must be based on a specific task within the field of education. The problem, which should be central to the education and the profession, is formulated by the student, possibly in collaboration with a private or public company. The institution must approve the problem statement.

#### **The exam of the bachelor project:**

The Bachelor project will complete the programme once all previous tests have been passed.

#### **ECTS scope:**

The Bachelor project has an extent of 15 ECTS credits.

#### **Exam form:**

The exam consists of a project and an oral part. The exam is with external censorship, and there is given an overall individual character after the 7-step scale of the project and the oral part.

## **5. Rules on credit**

Passed educational elements equates the corresponding educational elements of other educational institutions providing the education.

The student has a duty to inform about completed educational elements from another Danish or foreign higher education and about employment that is likely to give credit. The educational institution approves in each case merit on background of implemented educational elements and employment, which is commensurate with subjects, educational parts and internship parts. The decision shall be taken on the basis of professional judgement.

By prior approval of study periods in Denmark or abroad, the student is obliged to document the approved study period completed educational elements. The student must in connection with the prior approval consent to the institution after completing the study period can obtain the necessary information. For approval according to the above, the educational element is considered to be completed if it has passed in accordance with the rules of the education in question.

## **6. Commencement and transitional arrangements**

This national part of the curriculum will be in effect on 15.01.2024.

The curriculum applies to all students on the programme from this date.

# Software Development

Institutional section



Curriculum 2025



ERHVERVS  
AKADEMI  
SYDVEST

## Table of contents

1.	Curriculum framework.....	3
1.1	Effective date and transition period.....	3
1.2	The graduates title in Danish and English .....	3
1.3	Scope of the programme .....	3
2.	The subject elements of the programme.....	4
3.	Overview of the programme .....	4
3.1.	National programme elements .....	4
3.2.	Local programme elements.....	5
4.	Teaching and working methods.....	5
5.	Exams and prerequisites .....	5
5.1.	Scope and criteria for examinations.....	6
5.1.1	The Study Start Test .....	6
5.1.2	Development of Large Systems.....	7
<b>5.1.3</b>	Databases for Developers .....	7
5.1.4	System Integration .....	8
5.1.5	Software Quality .....	8
6.	Internship.....	9
7.	Final bachelor project .....	10
8.	Educational elements completed abroad .....	11
9.	Credits for local and elective educational elements.....	11
10.	Participation requirements.....	11
11.	Study activity.....	12
12.	Exam terms and conditions.....	12
12.1	Use of aids.....	12
12.2	Special examination conditions .....	12
12.3	Re-examinations due to illness, failing or non-attendance.....	12
12.3.1	Re-examination due to illness .....	12
12.3.2	Re-examination due to failing or non-attendance.....	13
13.	Errors or omissions during the exam .....	13
14.	Cheating offences and disruptive behaviour .....	13
14.1	Using one's own work and that of others - plagiarism .....	14
14.2	Disciplinary procedures .....	14
15.	Complaints about examinations and appeal decisions.....	14

15.1	Complaints about exams .....	15
15.2	Appeal of decision .....	15
15.3	Complaints concerning legal matters.....	16
15.4	Re-assessment and re-examination .....	16
16.	Exemptions .....	17
	Appendix - Electives .....	18

# 1. Curriculum framework

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

This curriculum is based on:

- Applicable Ministerial Order on Academies of Professional Higher Education
- Applicable Ministerial Order on Academy Profession Programmes and Professional Bachelor Programmes
- Applicable Ministerial Order on Examinations and Tests on Professionally and Business Oriented Higher Education Programmes (the Examination Order)
- Applicable Ministerial Order on Grading Scale for Education Programs at the Ministry of Higher Education and Science (the Grading Scale Order)
- Applicable Ministerial Order on Technical and Commercial Academy Profession Programmes and Professional Bachelor Programmes
- Applicable Ministerial Order on Admission to and Enrolment on Academy Profession Programmes and Professional Bachelor Programmes (the Admissions Order).

All can be found here: <https://www.retsinformation.dk/>

## 1.1 Effective date and transition period

This institution-specific section of the curriculum takes effect on 01.08.2025 and applies to all students enrolled on the programme on this date or later.

Current students at the Academy will complete their studies according to the curriculum valid at the initiation of their studies. With the exception of students on leave, they will continue their studies according to the curriculum valid at the time of enrolment.

## 1.2 The graduates title in Danish and English

The programme gives the graduate the right to use the title Bachelor of Software Development. The Danish title is Professionsbachelor i softwareudvikling.

## 1.3 Scope of the programme

The scope of the programme is to qualify the graduate to be able to independently work as an IT specialist with focus on integration and architecture, and to participate in professional collaborations on the development of large data-intensive distributed IT systems in IT companies, IT consulting companies or internal IT development departments.

The programme is placed at level 6 in the qualification framework for higher education.

The programme corresponds to 90 ECTS-credits, which includes:

- ✓ Educational elements with a total scope of 60 ECTS-credits which are organized within the professional areas of the programme
- ✓ Internship with a total scope of 15 ECTS-credits
- ✓ Final examination project with a total scope of 15 ECTS-credits

## 2. The subject elements of the programme

The educational elements are organized within the following subject elements with a total scope of 60 ECTS-points and are mutually weighted in the ratio 1:1.

**Development process:** The subject element contains design, implementation, maintenance and quality assurance of large, distributed IT systems, where scalability is a central and important characteristic. Focus is on system development methods, techniques and technologies for continuous integration and delivery, including the work in distributed development teams as well as in quality assurance through design and implementation of tests of larger systems, including automated testing and techniques for the design and construction of testable system.

**System interaction:** The subject element contains technical integration of systems, including integration of existing systems, integration of existing systems in the development of new systems as well as the development of new systems which support future integration. More specifically the subject element includes different types of databases, the selection and use of databases based on different application domains, including analysis and development towards large datasets, as well as redesign and optimization of databases.

## 3. Overview of the programme

1st Year		2nd Year
Databases for Developers 10 ECTS	Software Quality 10 ECTS	INTERNSHIP 15 ECTS
System Integration 10 ECTS	Elective Educational elements 20 ECTS	
Development of Large Systems 10 ECTS		BACHELOR PROJECT 15 ECTS

### 3.1. National programme elements

Appears in the national part of this curriculum.

### 3.2. Local programme elements

In addition to the national part of this curriculum, the programme includes 20 ECTS local elements, organized as elective elements. Electives appear in the catalogue on Moodle – recent electives appear in the appendix to this curriculum.

## 4. Teaching and working methods

At EASV, we believe that business competencies are best developed when learning is driven by practical challenges and real-world issues. Further we believe that working to create real value is what inspires and motivates our students and strengthens their commitment.

Our way of teaching at EASV is based 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.

## 5. Exams and prerequisites

Time Frame	Exam	ECTS credits	Internal/external	Evaluation
Within the first 2 month of studying	The Study Start Test	-	Internal	Approved/Not approved
1st Year	Databases for Developers	10	Internal	7-point grading
1st Year	Development of Large Systems	10	External	7-point grading
1st Year	Software Quality	10	Internal	7-point grading
1st Year	System Integration	10	External	7-point grading
1st Year	Elective Educational elements	20	Internal	7-point grading
2nd Year	Internship	15	Internal	7-point grading
2nd Year	Bachelor final project	15	External	7-point grading

Information about time and place for the examinations will be posted on Moodle.

Joining the semester, the education element, etc. is also a registration for the corresponding exams. The student has three attempts for each exam, except for the Study Start Test where the student has two

attempts. If the student has used all assigned attempts, the student cannot continue the study programme, and the enrolment will consequently be cancelled according to the rules in the Admissions Order.

All examinations are to be submitted/presented in understandable English or Danish. Students with other native languages can seek exemption from the fact that formulation and spelling skills can influence the evaluation of the final examination project or any exam for which the curriculum specifies that such skills are included in the evaluation. Application for the exemption should be sent to the head of department at least four weeks prior to the examination.

### **Prerequisites for the exam**

In order to sit the exam, there may be one or more prerequisites that must be met. Prerequisites are described in the following at each exam.

Prerequisites can be several different things, e.g. submission of a written project, participation in class, a presentation, etc.

Note that if one or more of the prerequisites is not met the student will not be allowed to sit the exam and will have used one exam attempt.

## **5.1. Scope and criteria for examinations**

In the following, exams in each of the national compulsory elements is described, including:

- Prerequisites for taking the exam
- Exam form
- Assessment criteria
- Formal requirements if a written product is included, including requirements for individualization in group projects

### **5.1.1 The Study Start Test**

According to the Executive Order on Examinations, the student must participate in and pass a study start test in order to continue on the study programme. The purpose of the study start test is to clarify: whether the student has actually started the programme.

The study start examination is held no later than two months after the commencement of the study programme.

#### **Test form**

The study start test is an individual, written test, based on the student's reflection on prior knowledge and motivation for the study programme.

#### **Assessment criteria**

The study start test is internally assessed and is assessed with "Approved" or "Not approved".

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 in the second attempt, the student cannot continue on the study programme and his/her enrolment will consequently be cancelled.

### **5.1.2 Development of Large Systems**

#### **Prerequisites for the exam**

Two compulsory assignments must be completed and approved in order to qualify for the exam.

In addition, it may be required by the teacher that the student completes minimum 50% of a specified number of weighted online activities.

#### **Exam form**

This examination is an individual external oral exam based on a written synopsis discussing a topic of interest, relevant for the course. The exam lasts for 30 minutes including assessment. It is assessed externally according to the 7-pointscale.

#### **Assessment criteria**

The evaluation criteria for the examination are based on the learning objectives of the educational element. Grading is based on an overall assessment of the oral presentation and examination, and not on the written synopsis itself.

#### **Formal requirements**

The synopsis must contain theoretical as well as practical parts covering issues related to the chosen topic.

### **5.1.3 Databases for Developers**

#### **Prerequisites for the exam**

There are 2 compulsory assignments that must be completed and approved by the teacher to be qualified to do the exam.

In addition, it may be required by the teacher that the student completes minimum 50% of a specified number of weighted online activities.

#### **Exam form**

This examination is an individual internal oral exam based on a written synopsis discussing a topic of interest, relevant for the course. The exam lasts for 20 minutes including assessment. It is assessed internally according to the 7-pointscale.

#### **Assessment criteria**

The evaluation criteria for the examination are based on the learning objectives of the educational element. Grading is based on an overall assessment of the oral presentation and examination, but not on the written synopsis itself.

#### **Formal requirements**

The synopsis must contain theoretical as well as practical parts covering issues related to the chosen topic.

#### **5.1.4 System Integration**

##### **Prerequisites for the exam**

There are 2 compulsory assignments that must be completed and approved by the teacher to be qualified to do the exam.

In addition, it may be required by the teacher that the student completes minimum 50% of a specified number of weighted online activities.

##### **Exam form**

This examination is an individual external oral exam based on a written synopsis discussing a topic of interest, relevant for the course. The exam lasts for 30 minutes including assessment. It is assessed externally according to the 7-pointscale.

##### **Assessment criteria**

The evaluation criteria for the examination are based on the learning objectives of the educational element. Grading is based on an overall assessment of the oral presentation and examination, but not on the written synopsis itself.

##### **Formal requirements**

The synopsis must contain theoretical as well as practical parts covering issues related to the chosen topic.

#### **5.1.5 Software Quality**

##### **Prerequisites for the exam**

There are 3 compulsory assignments that must be completed and approved by the teacher to be qualified to do the exam.

In addition, it may be required by the teacher that the student completes minimum 50% of a specified number of weighted online activities.

##### **Exam form**

This examination is an individual internal oral exam based on a written synopsis discussing a topic of interest, relevant for the course. The exam lasts for 20 minutes including assessment. It is assessed internally according to the 7-pointscale.

##### **Assessment criteria**

The evaluation criteria for the examination are based on the learning objectives of the educational element. Grading is based on an overall assessment of the oral presentation and examination, but not on the written synopsis itself.

##### **Formal requirements**

The synopsis must contain theoretical as well as practical parts covering issues related to the chosen topic.

## 6. Internship

The learning objectives for the internship appear in the national part of this curriculum. The internship corresponds to 15 ECTS-credits.

### Requirements and expectations

The internship allows the student to work with relevant issues and gain knowledge about relevant job functions.

During the internship the student are linked to one or more companies. The internship can be organized flexibly and differentiated and can form the basis for the student's final examination project.

The relation between theoretical learning and actual practice forms the basis for the student's objectives for the internship period.

Based on the learning objectives for the internship (see the national section of the Curriculum), the student, the internship company and the school supervisor collaborate to identify specific objectives for the internship period.

This then forms the basis for organizing the student's work during the internship period.

The internship can be compared to a full-time job, with demands regarding working hours, work to be done, involvement and flexibility that correspond to those that the students can expect to meet in their first job. If, for documented health reasons, the student cannot complete an internship for 37 hours per week, the student can apply for a dispensation to organize the internship period appropriately.

### Prerequisites for the exam

- The student must have actively participated in the internship,
- internship report, on which the examination and the evaluation are based, must meet the requirements cf. below,
- the internship report must be handed in on time, cf. the exam schedule available on Moodle,
- and the student must have completed the evaluation of the internship (questionnaire).

### The Examination and assessment criteria

This examination is an individual internal exam based on the internship report.

The assessment criteria will be the learning objectives for the internship.

Evaluation is graded according to the 7-point grading scale based on an overall assessment of the written internship report and the oral presentation.

The student will present relevant parts of the internship report in approximately 10 minutes, followed by an examination dialogue where all parts of the internship can be included. The exam lasts for 20 minutes including evaluation.

The presentation can be held via video conference if approved by the head of department.

The exam is held at the 3rd semester after the internship. Further information regarding time and place and about handing in the internship report can be found on Moodle.

### **Requirements for the internship report**

The following internship report requirements apply:

- Front page with student name, internship company, and internship period
- Introduction, including main issues and approaches
- Description of specific jobs done during the internship
- Reflection of the learning outcome
- Conclusion
- Bibliography (including all sources referred to in the report)
- Appendix: Statement from the internship company and the student's diary/internship log (optional)
- Other Appendices (including only those documents that are central to the report) (optional)

The maximum number of pages for the internship report is 10 standard pages. A standard page is defined as 2400 characters, including spaces and footnotes, but excluding the front page, table of contents, bibliography and appendices. Appendices are not included in the grading evaluation.

The internship report is submitted in English or Danish for Software Development.

## **7. Final bachelor project**

The final bachelor project and the internship exam together with the other exams must document that the learnings objectives of the programme are met.

Requirements regarding the final bachelor project as well as learning objectives can be found in the national section of this curriculum.

The examination is held at the end of 3rd semester. Further information regarding time and place for the examination can be found on Moodle.

### **Prerequisites for the exam**

Failure to submit the written project correctly means that the student will not be allowed to attend the exam, the student will use one exam attempt.

The examination in the final project cannot be held until the internship exam and all other exams in the education have been passed.

### **The exam and organization**

This examination is an individual external oral exam, based on the final project report.

The student presents relevant parts of the final project report in approximately 15 minutes, followed by an examination dialogue. The exam lasts for 30 minutes including assessment.

### **Assessment criteria**

The evaluation criteria for the examination are based on the learning objectives for the final project in the national section of the Curriculum.

Formulation and spelling skills can influence the evaluation of the final examination project.

### **Requirements for the written report**

The minimum number of pages is 15 standard pages. The maximum number of pages for the final project report is 50 standard pages. A standard page is defined as 2400 characters, including spaces and footnotes, but excluding the front page, table of contents, bibliography and appendices. Appendices are not included in the grading evaluation.

The examination will be in Danish or English for Software Development.

## **8. Educational elements completed abroad**

The student can – with pre-approval – obtain credit for any of the educational elements that the student complete abroad. In such cases the student must, after completion of the studies abroad, document the educational elements that have been completed. In connection with pre-approval the student must agree that the school is entitled to secure any necessary information about the educational elements.

With prior acceptance of credits, the specific educational element will be considered completed if the student has passed the course according to existing and relevant rules for the programme.

## **9. Credits for local and elective educational elements**

Any elective and local educational element that has been passed is considered to be equivalent to the corresponding educational element offered by other educational institutions offering the education.

The student is to apply for prior approval if credit is wished for educational elements that are not included in the education.

## **10. Participation requirements**

In order for the teaching methods to work and to achieve the learning objectives the student has participation requirements in the form of handing in/presenting assignments/projects etc.

Handing in/presenting assignments/projects etc. can be expressed as exam prerequisites that must be met before the student can take part in the exam. Prerequisites are described in section 5.

If a student does not comply with the participation requirements, the study programme will provide help and guidance.

## **11. Study activity**

At EASV the student must be academically active to remain enrolled in the study programme. At EASV lack of study activity is defined as *the student not having passed any of the exams in the study programme for a continuous period of 1 year.*

Lack of study activity will imply the enrolment to be cancelled according to the rules of the Admissions Order.

## **12. Exam terms and conditions**

Joining the semester, the education element, etc. is also a registration for the corresponding exams

Deregistration from an exam is only possible under special circumstances such as illness (documented with a medical certificate), death in the family or exceptional circumstances that affect the student's well-being. Exemption can be granted if the student is an elite athlete, and on that basis needs to deregister from the exam. Deregistration shall be provided to the head of department no later than at the start of the exam or as soon as possible thereafter. Written documentation must be provided before any dispensation can be granted for the used exam attempt.

### **12.1 Use of aids**

Any rules for restrictions in the use of aids will be made clear in the specifications for the individual examination.

### **12.2 Special examination conditions**

The student can apply for special examination conditions when warranted by physical or mental impairment. The application should be submitted to the head of department at least four weeks prior to the date of the examination. An exemption from this deadline can be given in the case of suddenly occurring health issues.

The application must be accompanied by a medical certificate, a statement from e.g. an institute dealing with speech, hearing or sight impairment or dyslexia, or other forms of documentation certifying serious health issues or relevant functional impairment.

### **12.3 Re-examinations due to illness, failing or non-attendance**

#### **12.3.1 Re-examination due to illness**

If the student has not been able to sit an examination due to documented illness or other unforeseen circumstance, the student is given the opportunity to sit a re-examination as quickly as possible. In the case of an examination taking place at the end of the last examination period, the student is given the opportunity to sit the examination in the same examination period or immediately thereafter.

This examination can be identical to the next ordinary examination. It is the student's responsibility to investigate when the re-examination will be held.

Information about time and place for these re-examinations can be found on Moodle.

Illness must be documented by a medical certificate received by the institution three days at the latest after the examination has been conducted. If the student becomes acutely ill during an examination the student must document illness on the day in question.

If illness is not documented according to the above rules, the examination will count as one examination attempt spent.

Any costs for the medical certificate are the responsibility of the student.

### **12.3.2 Re-examination due to failing or non-attendance**

By not passing or by not attending the examination, the student is automatically registered to sit the re-examination, provided that the student has not spent all three examination attempts. The re-examination can be identical with the next ordinary examination.

It is the student's responsibility to investigate when the re-examination will be held. Information about time and place for these re-examinations can be found on Moodle.

## **13. Errors or omissions during the exam**

If errors and omissions are brought to attention during the exam, the head of department decides how the error or the omission can be remedied.

In the case of serious errors or omissions, or where it must be considered to be the most correct way to remedy the error, the head of department may cancel the exam in question and arrange a re-examination. In the case of a cancelled exam the assessment lapses.

In the case of other significant errors or omissions and extraordinary exam may be offered. The offer is given to all affected students. The student may choose to keep their original assessment even if they have participated in the extraordinary exam.

## **14. Cheating offences and disruptive behaviour**

During any exam the student must behave considerately and follow the instructions given by the examination supervisor, examiner or censor.

Cheating on exams will be dealt with according to the rules in the existing Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (The examination order).

It is referred to as cheating offences when the student:

- plagiarizes cf. section 14.1,
- counterfeits,
- conceals or misleads about own efforts or results,
- takes part in an unauthorized collaboration,
- receives or tries to receive help during the exam, or helps other students when it is not a group exam,
- uses unauthorized aids,
- has wrongfully obtained prior knowledge of the examination assignment,
- provides wrongful attendance information, or
- seeks to circumvent, disable or otherwise obstruct the intent of EASV's use of monitoring programs.

When submitting written material, the student must verify by signature that the material has been produced without undue assistance.

### **14.1 Using one's own work and that of others - plagiarism**

Cheating in exams through plagiarism comprises instances where a written answer appears to be completely or partially produced personally by the examinee or examinees, but:

1. Comprises identical or almost identical rendering of the wording or work of others, without clearly identifying this using quotation marks, italics, indentation or other clear indications stating the source of the material, cf. the educational institution's requirements to written work on Moodle.
2. Comprises major pieces of text with choice of words or formulations so close to that of another piece of writing that it is possible to determine through comparison that the text could not have been written without using the source in question.
3. Comprises the use of words or ideas of others without giving reference to the source in an appropriate manner.
4. Re-uses text and/or central ideas from own previously assessed answers (self-plagiarism) without observing the provisions laid down in items 1 and 3 above.

### **14.2 Disciplinary procedures**

Cheating or disruptive behaviour during an exam will result in the student not having the exam assessed and one examination attempt will be counted as used.

The student may also receive a written warning. Aggravating circumstances or repeated offences could lead to temporary or permanent expulsion.

## **15. Complaints about examinations and appeal decisions**

Complaints about examinations will be dealt with according to the rules in chapter 11 in the existing Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (The examination order)

## **15.1 Complaints about exams**

### **Complaints about the Study Start Test**

Complaints about the study start test can be submitted to the educational institution, which will make a decision. The complaint must be sent to the head of department no later than 2 weeks (14 calendar days) after the assessment has been conducted. Academic questions regarding the institution's decision cannot be referred to another administrative authority. Legal questions regarding the institution's decision can be referred to the Danish Agency for Higher Education and Science, cf. section 15.2

### **Complaints about exams in educational elements and subtests**

The student can submit a written complaint about legal or academic issues; including the examination process during an examination in an educational element or a subtest.

The complaint must be submitted to the head of department no later than 2 weeks (14 calendar days) after the assessment of the exam has been conducted. If the deadline is on a public holiday, the first workday hereafter will be considered the deadline.

If the complaint concerns academic issues, the educational institution will immediately request a statement from the examiners, i.e., the examiner and censor for the examination in question. The statement from the examiners must provide a basis for the institution's decision on academic questions. The institution normally sets a deadline of 2 weeks for submitting the statements, excluding the month of July. As soon as the examiners' statements are available, the complainant is given the opportunity to comment on the statements within a typical deadline of one week.

The decision is made by the institution based on the complaint, the examiners response and the complainant's potential comments on the statement. The decision must be in writing and justified, and can:

1. Offer the possibility of a new assessment (re-assessment). This applies to written exams only.
2. Offer the possibility of a new exam (re-examination) with new examiners.
3. Reject the complaint.
4. A combination of 1-3 if the exam includes a written assignment with oral examination.

## **15.2 Appeal of decision**

Academic questions regarding the educational institution's decision, cf section 15.1, may be brought before an appeals panel. The appeal must be submitted two weeks at the latest after the decision has been communicated to the student.

The appeals panel consists of two authorised censors appointed by the chairman of the censors, a lecturer authorised to conduct examinations and a student studying the subject area (the degree programme), both of which are appointed by the head of department.

The appeals panel makes decisions based on the material used by the educational institution in making its decision and the student's complaint. The appeals panel must make its decision no later than 2 months for winter exams and 3 months for summer exams after the appeal has been submitted.

The appeals panel's decision can:

1. Offer the possibility of a new assessment with new examiners (re-assessment). This applies to written exams only.
2. Offer the possibility of a new exam with new examiners (re-examination).
3. Reject the appeal.
4. A combination of 1-3 if the exam includes a written assignment with oral examination.

Academic questions regarding the appeals panel's decision cannot be referred to another administrative authority.

Legal questions regarding the appeals panel's decision can be referred to the institution which will make a decision. The complaint must be submitted to the institution no later than two weeks after the student has received the institution's decision. The institution's decision regarding legal matters can be referred to the Danish Agency for Higher Education and Science, cf. section 15.3.

### **15.3 Complaints concerning legal matters**

The educational institution's final decisions can be referred to the Danish Agency for Higher Education and Science when the complaint concerns legal matters. The deadline for submitting a complaint is two weeks from the day the decision is communicated to the complainant. The complaint is submitted to the institution, which prepares a statement that the complainant must have the opportunity to comment on within a minimum period of one week. The institution then forwards the entire case for review by the agency.

### **15.4 Re-assessment and re-examination**

If the decision is to offer re-assessment or re-examination, the complainant must be informed of the fact that the re-assessment or re-examination may result in a lower grade.

The student must accept the offer for re-assessment og re-examination within a deadline of 2 weeks after the decision has been communicated. If the student does not accept within the deadline, the re-assessment or re-examination will not be conducted.

The re-assessment or re-examination must take place as soon as possible. If the diploma has been issued, it must be withdrawn until the final assessment is available, after which a new diploma will be issued.

If the decision is to offer a re-assessment or re-examination, the head of department appoints new examiners. The chairman of the censors may appoint a censor. The new examiners must assess the submission based on the assignment text and task. The new examiners will then notify the institution of the reassessment result, accompanied by a written justification.

Academic questions regarding reassessment or re-examination cannot be brought before the educational institution again or another administrative authority. Legal questions can be referred to the institution, which will make a decision.

## **16. Exemptions**

The institute can grant exemptions from rules in this institution-specific section of the curriculum in cases where such exemption is justified due to exceptional circumstances. The institutions offering this education cooperate to ensure a uniform exemption practice.

## Appendix - Electives

### Machine Learning

**Timing:** 1<sup>st</sup> year of study **Scope:** 10 ECTS

The purpose of the course is to introduce the student to Machine Learning, so that the student can develop applications by using some of the most common Machine Learning techniques and model architectures.

#### *Knowledge*

The student must have knowledge of:

- What Machine Learning is good for, and its limitations
- Several popular applications of Machine Learning
- Supervised, unsupervised and reinforcement learning
- The types of predictions that machine learning solutions can make, including regression as well as binary and multiclass classification
- A few of the most common Machine Learning model architectures, including artificial neural network
- The development process for Machine Learning applications
- Key issues after having trained a model, such as over- and underfitting
- Large language models (LLMs), their structure, capabilities and applications
- Available open source LLM frameworks and tools
- Methods and practices for fine-tuning LLMs to specific tasks

#### *Skills*

The student can:

- develop Machine Learning applications that are based on supervised learning
- develop a Machine Learning application using a deep learning neural network architecture, and at least one other model architecture that is not based on neural networks
- use basic techniques for validation and fine-tuning of trained models
- use basic techniques for data preparation
- use at least one popular programming framework to develop Machine Learning applications
- utilize existing frameworks to fine-tune pre-trained LLM
- implement AI agent capable of performing specific tasks autonomously
- assess the performance and deploy AI agents

#### *Competencies*

The student can:

- compare different model architectures, and reason about which one will be best suited to solve a specific problem
- design application features that are using machine learning models

**The examination:**

Internal oral exam based on a mini project. The exam duration is 20 min.

**Assessment:**

7 point grading scale

## Secure Software Development

**Timing:** 1<sup>st</sup> year of study **Scope:** 10 ECTS

The purpose of the course is to train the student in developing secure software systems with a focus on Security by Design. The student will be able to use applied cryptography and consider security as an integral part of all phases in the software development life cycle.

### *Knowledge*

The student must have knowledge of:

- Key cryptographic primitives
- Federated authentication
- Common vulnerabilities and mitigation techniques
- Management of passwords and other secrets
- Secure design principles
- Proactive security controls
- Privacy concerns (GDPR)

### *Skills*

The student can:

- Demonstrate practical application of cryptography, including:
  - Encryption/decryption
  - Deriving keys
  - Password hashing
- Design software systems with focus on security
- Understand and model threats
- Assess security posture of software systems

### *Competency*

The student can:

- Apply security measures and best practices throughout entire software development life cycle

**The examination:**

Internal oral exam. The exam duration is 20 min.

**Assessment:**

7 point grading scale



ERHVERVS  
AKADEMI  
SYDVEST