Curriculum for the Academy Profession Degree Programme in Production Technology (AP Graduate in Production Technology)

August 2015

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1. Curriculum framework

This is an English translation of the curriculum (studieordning). In the event of a discrepancy between the translation and the Danish version, the Danish text published on kea.dk is valid.

The objective of the Academy Profession Degree Programme in Production Technology is to provide students with the qualifications needed to independently plan, organise and perform tasks related to production, product development as well as technical sales and purchasing in companies.

The programme is a full-time programme corresponding to 120 ECTS credits. The programme is an academy profession degree programme under the qualifications framework for higher education, corresponding to level 5 in the Danish Qualifications Framework for Lifelong Learning.

Having completed the Production Technology programme, graduates are entitled to use the Danish title *Produktionsteknolog AK.* The English title is AP Graduate in Production Technology.

The Danish programme title is *Erhvervsakademiuddannelsen inden for produktion.*

The latest versions of the following acts and ministerial orders apply to the programme:

Danish (Consolidated) Act on Academies of Professional Higher Education

Danish (Consolidated) Act on Academy Profession Programmes and Professional Bachelor Programmes

Ministerial Order on Academy Profession Programmes and Professional Bachelor Programmes

Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the Examination Order)

Ministerial Order on Admission to and Enrolment on Academy Profession Programmes and Professional Bachelor Programmes

Ministerial Order on the Grading Scale and Other Forms of Assessment of Study Programmes Offered under the Ministry of Higher Education and Science (the Grading Scale order)

Ministerial Order on the Academy Profession Degree Programme in Production Technology (AP in Production Technology) (the Degree Programme Order).

Common part/institution-specific part of the curriculum

The curriculum consists of a common part adopted by the Academies of Professional Higher Education's educational network for the programme and an institution-specific part established by the individual educational institution. The common part is covered by sections 2.1, 2.2, 3.2, 3.3, 3.5, 5.5, 6.3 and 6.7. The rest of the curriculum constitutes the institution-specific part.

The common part has been approved by the educational network of the Academies of Professional Higher Education at a meeting on 18 August 2014.

1.1. Effective date

This curriculum becomes effective in August 2015 and applies to all students starting on the programme after this date.

1.2. Transitional arrangements

Students who have started on the programme under a previously applicable curriculum must complete the programme pursuant to the rules laid down in the relevant curriculum. Exempt from this are any rules concerning withdrawal of registration for exams. For withdrawal of registrations for exams, section 5(1) of the Examination Order applies such that withdrawal of an exam registration cannot take place unless it is based on documented illness or maternity/paternity leave.

1.3. Reading instructions

All text marked with blue relates to the institution-specific part of the curriculum, i.e. topics specifically applicable to KEA. Black text relates to the common part of the curriculum.

2. Admission

Students can be admitted to the programme if they meet the requirements for education and any other specific admission requirements as described in section 2.1. Students are admitted in accordance with the provisions of the Ministerial Order on Admission to and Enrolment on Academy Profession Programme and Professional Bachelor Programmes.

2.1. Requirements for education, distribution of subjects and, if relevant, admission exam

The admission requirements appear from Appendix 1 of the Admissions Order. As of 1 August 2015, the following requirements apply:

Admission based on upper secondary school examination:

Specific admission requirements: Mathematics C.

Admission based on vocational education and training:

Farrier education and training, CNC technician education and training (level 2), bicycle and motorcycle mechanic (with areas of specialisation), construction and agricultural machinery education and training (with areas of specialisation), precision mechanic (with areas of specialisation), aircraft mechanic, industrial technology education and training (with areas of specialisation), bodywork education and training, refrigeration technician (level 2), woodcutting machinist (level 2), mechanic (level 2), metalworker (with areas of specialisation), plastics engineer (level 2), process operator (level 2), marine mechanic (level 2), shipfitter (level 2), ship technician (level 2), chimney sweep (level 2), metalworker education and training (with areas of specialisation), joiner (with areas of specialisation), foundry technician (level 2), technical designer, wind turbine technician (with areas of specialisation), toolmaking education and training (level 2).

No specific admission requirements.

Admission based on relevant vocational education and training:

Specific admission requirements: English C and Mathematics C.

Admission based on other qualifications:

Entrance exam to the engineering programme.

No specific admission requirements.

2.2. Academic criteria for the selection of applicants

N/A.

3. Programme elements and programme modules

3.1. Sequencing of programme elements, internship and exams

Programme structure and composition				
Core areas	**Compulsory programme element:** **From Production Development to Production**	**Compulsory programme element:** Automation		
	First year of study (first and second semesters)	**Third semester**		**Fourth semester**
Method **8 ECTS**	8			
Product Development and Design **9 ECTS**	9			
Construction **11 ECTS**	11			
Technical Documentation **6 ECTS**	6			
Materials and Manufacturing Processes **9 ECTS**	9			

Business Technology **10 ECTS**	10			
Production Technology **7 ECTS**	7			
Automation **5 ECTS**		5		
Elective programme elements **25 ECTS**			25	
Internship **15 ECTS**				15
Final project **15 ECTS**				15
ECTS credits **A total of 120 ECTS**	60	5	25	30

3.2. Core areas

The programme contains the following core areas, see the Degree Programme Order:

- Method (8 ECTS)
- Product Development and Design (9 ECTS)
- Construction (11 ECTS)
- Technical Documentation (6 ECTS)
- Materials and Manufacturing Processes (9 ECTS)
- Business Technology (10 ECTS)
- Production Technology (7 ECTS)
- Automation (5 ECTS)

3.3. Compulsory programme elements

Compulsory programme elements include:

- From Product Development to Production
- Automation

From Product Development to Production covers:

- Method (8 ECTS)
- Product Development and Design (9 ECTS)
- Construction (11 ECTS)
- Technical Documentation (6 ECTS)
- Materials and Manufacturing Processes (9 ECTS)
- Business Technology (10 ECTS)
- Production Technology (7 ECTS)

A total of 60 ECTS

The learning objectives of the programme element are established on the basis of and are identical to the knowledge, skills and competencies defined for the core areas.

The knowledge acquired during this programme element is tested at the **first-year exam** covering the compulsory programme element From Product Development to Production equating to 60 ECTS. The learning objectives defined for the programme element are identical to the learning objectives for the exam.

Automation (5 ECTS)

The compulsory programme element **Automation** is equivalent to the core area with the same title and has the same content, number of ECTS and learning objectives.

The knowledge acquired through the compulsory programme element is tested at an **Automation exam** covering the Automation programme element equating to 5 ECTS. The learning objectives defined for the programme element are identical to the learning objectives for the exam.

3.3.1. Method – 8 ECTS

The core area is intended to enable the students to place their work and solutions into a technical/scientific context (rational decision-making model).

Knowledge

The student has acquired knowledge of

- Method as a concept with a view to learning central applied methods used within the programme's core areas
- Methods for structuring own work, including
  - Problem statement
  - Data collection
  - Data processing
  - Project planning
- Methods for communication of own work and results, including
  - Report composition
  - Presentation techniques
  - Models (e.g. 3D, mock-ups, prototypes...)
- The approach taken by different cultures, industries and subject areas in relation to choice of methods

Skills

The student has acquired the skills needed to

- Describe central applied methods within the core areas of the programme
- Apply methods for structuring of own work in relation to
  - Time
  - Resources
  - Data basis
  - Work context
- Critically assess own results
- Work in interdisciplinary teams
- Communicate own work and results through
  - Reasoning of and reference to applied methods
  - Writing reports
  - Presentations
  - Models (e.g. 3D, mock-ups, prototypes)

Competencies

The student has acquired the competencies needed to

- In a development and practice-oriented context, select and manage relevant methods within the core areas of the programme with the aim of solving identified problems
- Participate professionally, and address in practice, as well as incorporate relevant disciplines and people
- Gather new knowledge about and keep up to date on methods within the core areas of the programme

- Include framework conditions in the choice of methodological approach for collection and solution in a practice-oriented context
- Take into account the cultural and professional background of different stakeholders in the choice of methodological approach
- Apply commonly used IT tools for knowledge gathering, documentation and presentation
- Participate professionally in interdisciplinary teams

3.3.2. Product Development and Design – 9 ECTS

The core area is intended to enable the student to participate in the planning and implementation of the product development process in connection with the development of products, processes and related services.

Knowledge

The student has acquired knowledge of

- Methods for systematic development of products, processes and services
- Creative methods for idea generation
- Needs analyses
- Market and business understanding
- Aesthetics and design
- Visualisation methods
- Requirements specifications

Skills

The student has acquired the skills needed in the product development process to

- Outline
- Prepare functional analyses
- Incorporate knowledge of markets and needs
- Provide reasons for and select ideas expressed through concept proposals – communicated virtually or physically
- Incorporate stakeholder and user perspectives
- Explain the results of the various product development process phases to the relevant recipients

Competencies

The student has acquired the competencies needed to

- Participate in development work and idea generating processes in a systematic product development process, taking into account other programme core areas
- Participate in and contribute to interdisciplinary teamwork
- Make independent choices and decisions
- Communicate results from the various phases of the product development process to relevant target groups
- Acquire and translate new knowledge within the core area

3.3.3. Construction – 11 ECTS

The core area is intended to enable the student to carry out the dimensioning and design of a physical product on the basis of the identified specifications and

load conditions, and with due regard to input to and output from the other core areas.

Knowledge

The student has acquired knowledge within the following subject areas

- Statics and strength of materials
- Dimensioning of structures
- Commonly used mechanical parts and concepts
- 3D models and basic FEM analysis

The student understands and is able to reflect on the following theoretical and methodological issues:

- Dimensioning of products and the correlation with other decision-making processes in a development process
- The impact of tolerance margins on manufacturing processes, price and use of the product

Skills

The student has acquired the skills needed to

- Make estimates of statically determined structures
- Demonstrate a practical sense of the design of physical products in relation to their structural capacity
- Identify the different forms of stress in a loaded structure
- Identify critical points in the structure and carry out strength calculation and subsequent dimensioning of the structure
- Involve standard solutions in the design of the structure
- Use 3D programs for the modelling of simple structures
- Calculate and establish relevant tolerances for the given structure
- Prepare a risk analysis
- Communicate and document calculation results for use as part of the technical documentation

Competencies

The student has acquired the competencies needed to:

- Participate in a professional dialogue concerning the dimensioning of simple, statically determined structures and incorporate input from and output to the other core areas in the student's work, taking particular account of:
  - Choice of material
  - Producibility
  - Installation
  - Function
  - Risk analysis (for CE marking)
- Account for, in a structured manner, the dimensioning and design solutions
- Independently acquire new knowledge within the core area

3.3.4. Technical Documentation – 6 ECTS

The core area is intended to enable the student to prepare technical documentation with the correct approval criteria according to the applicable norms and standards.

Knowledge

The student has acquired knowledge of

- The structure and consistency in the design of a 3D model
- Types of technical drawings and hierarchy in relation to their subsequent use
- Applicable standards and directives
  - Technical drawing, strokes, imaging methods and drawing layout
  - CE marking
  - Common file standards for export to CAM
- The overall technical file and its structure, purpose and scope
- The importance of technical documentation forms in a global and legal context
- Technical drawing as a means of communication

Skills

The student has acquired the skills needed to

- Use 3D CAD software for the design of a 3D CAD model at part and assembly level
- Convert sketches, concept descriptions and design calculations into a 3D CAD model
- Use 3D CAD software for the preparation of technical production drawings in accordance with applicable norms and standards and the subsequent use
- Prepare illustrations on the basis of 3D models

Competencies

The student has acquired the competencies needed to

- Engage in interdisciplinary collaboration on managing and handling significant parts of the technical documentation in a development process, taking into account the input from and output to the other core areas
- Independently keep up to date on 3D modelling and documentation standards

3.3.5. Materials and Manufacturing Processes – 9 ECTS

The core area is intended to enable the student to make a qualified choice of materials and manufacturing processes based on professional and interdisciplinary parameters.

Knowledge

The student has acquired knowledge of

- Physical properties and suitable manufacturing processes for:
  - Metals, particularly steel and aluminium
  - Plastic, elastomers and composites

  - Wood
  - Ceramics
  - New materials
- Surface treatment and heat treatment of various materials
- Joining technologies
- Work processes
- The choice of materials from a sustainability perspective
- Materials testing

The student understands and is able to reflect on

- Material properties and their impact in the product development process
- Production processes and their impact on quality and price in relation to the final product

Skills

The student has acquired the skills needed to

- Select materials based on material properties and design requirements
- Identify feasible manufacturing processes in relation to a particular practice for the material
- Include financial considerations in the choice of materials and processes
- Assess both material and manufacturing processes based on environmental considerations

The student is able to assess issues and contribute to decisions with respect to:

- Identifying, assessing and recommending suitable manufacturing processes
- Identifying relevant material properties in relation to the function of a product and, based on that, assess and choose suitable materials
- Assessing the consistency between materials, manufacturing processes and sustainability

Competencies

- The student has acquired the competencies needed to participate in a professional dialogue on the choice of material and manufacturing processes, taking into account the framework set by the other core areas
- The student has acquired the competencies needed to, in a consistent and uniform manner, explain and communicate the choice of materials and processes
- The student has acquired the competencies needed to independently acquire new knowledge about material properties and manufacturing processes

3.3.6. Business Technology – 10 ECTS

The core area is intended to enable the student to understand and work with a company's management systems.

Knowledge

The student has acquired knowledge of

- Business economics
- Production management systems

- Quality management
- Business organisation
- Environment, working environment and applicable legislation
- Internationalisation

Skills

The student has acquired the skills needed to

- Incorporate finances as a significant part of the decision-making basis for own solutions, including
  - Assessment of the impact on the income statement and balance sheet
  - Contribute to drawing up calculations
  - Draw up and assess budgets
- Process and assess statistical data material in connection with quality measurements
- Prepare instructions and procedures for quality management systems
- Graphically illustrate material and information flow in the company

Competencies

The student has acquired the competencies needed to

- Cooperate on the company's management and planning with the other core areas
- Contribute to drawing up a company's business plan
- Form a comprehensive overview of the company's production and management systems
- Independently acquire new knowledge about the core area

3.3.7. Production Technology – 7 ECTS

The core are is intended to enable the student to carry out preparatory work in terms of production and to plan and exploit a company's production assets.

Knowledge

The student has acquired knowledge of

- Manufacturing and production processes
- Principles in terms production, including:
  - Production layout
  - Process and product flow
- Production basis
- Inventory building and management
- Time basis in terms of production
- Use of production resources
- Cost prices
- Physical working environment in relation to production
- Control measurement methods

Skills

The student has acquired the skills needed to

- Prepare a production layout
- Convert construction basis to production basis
- Calculate cost prices
- Compare alternative solutions in relation to economy and resource consumption

Competencies

The student has acquired the competencies needed to

- Engage in an interdisciplinary dialogue with the other core areas on product and production optimisation
- Prepare production plans based on the production basis and methodological planning tools
- Independently acquire new knowledge about the core area

3.3.8. Automation – 5 ECTS

The core area is intended to enable the student to incorporate automation in own solutions in relation to the construction of products and the organisation of the production in a given company.

Knowledge

The student has acquired knowledge of

- Control concepts, theories and methods used in automation
- Project planning of pneumatics and hydraulics
- Commonly used electronic control solutions
- Mechanical components used in connection with pneumatics and hydraulics
- Component design in relation to automated production

Skills

The student has acquired the skills needed to

- Develop a simple control circuit
- Prepare a specification for an automation solution
- Propose improvements of a product to make it suitable for automated production

Competencies

The student has acquired the competencies needed to

- Draw up a simple specification for use in the development of automated solutions in the production
- Incorporate considerations, in the design of structures, for subsequent automated production of a given component or product
- Independently acquire new knowledge within the core area
- Carry out an assessment of possibilities for automation from a system point of view in relation to production facilities

3.4. Elective programme elements (elective subjects)

Students must choose elective subjects in the third semester of the programme. Elective subjects are offered and described in the electives catalogue on KEA's IT portals.

3.5. Internship

The internship period is organised in such a way as to ensure that the internship, together with the rest of the programme, contributes to the student achieving the learning objectives. The internship period is designed to enable the student to apply programme methods, theories and tools through the completion of specific practical tasks within the core areas of the programme and the elective programme elements that the student has taken.

The internship is equivalent to 15 ECTS.

The learning objectives and content description for the internship are drawn up by the student in collaboration with the institution and the company – in compliance with the following learning objectives:

Learning objectives for internships

Knowledge

The student has acquired knowledge of

- The specific company's general financial and organisational situation
- The overall company description – including products and markets
- The context into which the internship is incorporated in relation to the company
- The role of the intern in relation to the company

Skills

The student has acquired the skills to, at a general level and under supervision:

- Plan and carry out own work tasks in the company
- Apply selected acquired technical and analytical working methods relevant to employment within the trade
- Evaluate and communicate practice-oriented issues and identify possible solutions in the company

Competencies

The student has acquired the competencies to, at a general level and under supervision

- Handle and structure practical and professional situations in relation to the company
- Acquire new knowledge, skills and competencies related to the trade
- Participate in academic and interdisciplinary collaboration with a professional approach

Assessment:

The specific learning objectives agreed between the parties to the agreement – the student and the company – and approved by the institution form the basis for assessment of the exam.

The internship concludes with an assessment according to the 7-point grading scale.

3.6. Rules for completion of the internship

The internship period has a duration of 10 weeks, corresponding to 15 ECTS credits. The internship takes place in the fourth semester of the programme, immediately before the students commence their final project.

The internship must be one of the following types: (Description of internship types can be found on KEA's IT portals)

1. Work placement internship
2. Project-oriented internship
3. Virtual internship
4. Entrepreneurial internship
5. International internship

Apart from entrepreneurial internships, all types of internships entail collaboration with a company based on a contract defining the tasks and learning objectives to be approved by the student, the company and the internship supervisor.

The contract must be prepared via KEA's IT portals.

3.7. Teaching and working methods

The programmes comprises a wide range of teaching and working methods, including:

- Class teaching
- Group work
- Case-based exercises
- Company excursions
- Interdisciplinary project-based teaching
- Student presentations
- Cooperative learning
- Digital learning technologies and learning environments
- Workshops
- Self-study

The teaching and working methods are adapted to the individual programme elements with a view to developing the students' knowledge, skills and competencies. The teaching and working methods on the programme take a profession-oriented approach by combining theory and practical exercises.

The scope of the teaching is based on the programme being a full-time study programme.

On the Production Technology programme, learning is considered a process involving the acquisition of relevant knowledge and new perspectives on existing knowledge combined with the opportunity to carry out practice-oriented tasks individually or in a group under the supervision of the lecturers.

To the greatest extent possible, the teaching builds on a problem statement in addition to being project-based, realistic and visionary. The students must be able to see the common thread, understand the relation to the outside world, and their imagination and creativity must constantly be challenged.

This is based on the recognised theory of education that students learn most from their own experience – that is, through active participation instead of hearing it from someone else. Students need the most basic knowledge to get started, including examples of solution methods. The lecturer's role is to ensure that the students have the basic knowledge and to offer them ongoing supervision.

One of the objectives of the programmes – which is also repeatedly stressed by employers and graduates – is that graduates need to be able to take an application-oriented approach to their work and be socially competent and cooperative. Therefore, the main part of the programme takes the form of group work. This means that students must be present and participate in group work when expected by the group. It is therefore also expected that any planned absence from the place of teaching is agreed with the group, and that absence due to illness or the like be reported is the group immediately.

It should be stressed that the students have a joint responsibility for their own learning, and experience clearly shows that only by showing interest and making an effort, students can acquire new knowledge. The lecturers and KEA are responsible for creating the framework and generating the inspiration needed to make the students feel inspired to learn.

3.8. Differentiated teaching

N/A.

3.9. Reading texts in a foreign language

Some of the teaching material will be in English.

4. Internationalisation

4.1. Study abroad

All elective subjects on the programme are placed in the third semester, allowing the students to complete this semester as a study abroad period.

The internship and the final project in the fourth semester can also be completed abroad.

4.2. Agreements with foreign educational institutions on parallel programmes

Updated on a regular basis on KEA's Internet portals.

5. Tests and exams on the programme

5.1. Exams on the programme

Sequencing of exams	Exam	90 ECTS distributed on the exams	Assessment
Second semester	From Product Development to Production	60	7-point grading scale
Third semester	Automation	5	7-point grading scale
	Elective subjects	25	7-point grading scale
Fourth semester	Internship exam	15	7-point grading scale
	Final project	15	7-point grading scale

5.1.1. Exam forms

Second semester: The first-year exam is an oral exam with an external co-examiner.

- Written project according to the project description
- Oral exam:
  - Group presentation where each member has five minutes to present their part
  - Individual examination

15 minutes for questions about the content and the basis for the project subject.

Third semester:

- 5 compulsory ECTS credits are tested internally as a multiple-choice test

- 25 elective ECTS credits are tested as described in the electives catalogue on KEA's IT portals

Fourth semester:

- Internship exam: The internship report constitutes the basis for assessment. The exam is assessed internally
- Final project with an external co-examiner
  - Written project according to project description
  - 15 minutes for individual presentations
  - 15 minutes for questions about the project content
  - 10 minutes for assessment and subsequent grading

5.1.2. Prerequisites – compulsory attendance and submission

There is no compulsory attendance on the programme. An essential part of this programme is, however, that the students acquire cooperative skills. Therefore, among other things, the programme is based on group project work, and satisfactory results can only be gained by participating in these projects. For that reason, we recommend that students participate in the teaching, including handing in and presenting assignments and projects.

In connection with exam forms where assessment is based on written work, the written work must be submitted on time and meet the formal requirements for participation in the exam. If this condition is not fulfilled, the student cannot participate in the exam until the condition has been fulfilled, and the student will have used one attempt to pass the exam.

The framework and guidelines for the individual exams are set out in the project description available on the intranet.

In order to participate in an exam, the written project must be submitted in due time in accordance with the project description and be available via KEA's IT portals at the start of the semester.

Compulsory attendance – KEA Week:

Students at KEA have a duty to participate actively in KEA Week, which is an annual joint event with a topic that is academically relevant to all students at KEA.

Students who do not participate in the entire event must instead participate in a learning activity and complete an indicative test covering the relevant topic. The test is a multiple-choice test based on literature etc. dealing with the same topic as the KEA Week of the year. The test is conducted approximately two weeks after KEA Week has ended and following completion of the related learning activity. The aim of the test is to demonstrate whether the student has gained knowledge about essential theories and concepts and acquired competencies within the KEA Week topic.

Students who do not participate in KEA Week or in the learning activity, including the related test, will not have met the requirement regarding compulsory attendance at KEA Week and will consequently have used one

exam attempt at the next ordinary exam (i.e. not re-exam) on the study programme. Students cannot sit an exam on the programme until they have completed the substitution assignment of the learning activity and the related indicative test. The above does not apply if students are prevented from participating in KEA Week and the learning activity, including the related test, due to participation in internships, writing the final project, documented illness or maternity/paternity leave.

5.1.3. Exam procedure

The first-year exam project report is prepared in groups. The final project and the internship report are prepared individually.

5.1.4. Exams with external assessment

See sections 5.1. and 5.1.1.

5.2. Sequencing of exams on the programme

See section 5.1.

The exact time and date of the exams will be announced each semester via KEA's IT portals.

5.3. First-year exam

For the student to be able to continue on the programme, the first-year exam must be passed before the end of the first year of study. The exam takes place at the end of the second semester.

5.4. Requirements for written assignments and projects

The following formal requirements apply to the submission of projects according to the project description:

- Report and appendices are submitted in one folder as a compressed ZIP file
- File name of project report and appendices
  - File name of assignments:
  - Class/group no. or name for individual projects – semester
    E.g.: group: 1pA-gr3-e16.zip
    E.g.: individual: 1pA-JanHansen-e16.zip

  - Appendix number_title
    E.g.: 01_budget.xls

- Title page stating the following:
  - Project title in Danish and English
  - Full name and photo of the participants
  - Institution name and logo as well as associated lecturers/supervisors
  - Company name for projects written in cooperation with a company and a contact person

- The standard type size is 12
  (headings and titles etc. may have a larger type size)

In connection with the submission of assignments in elective subjects, the exam form described in the electives catalogue on KEA's IT portal applies.

As for individual submission of projects/assignments, specific requirements will be defined for content, form and number of pages according to the project description. The requirements are made available on KEA's IT portals at the beginning of the semester.

5.5. Requirements for the final project

The final exam project is evaluated at an individual external exam. The exam comprises a written project report, a presentation and an oral examination. The assessment is based on an overall evaluation of the project and the oral presentation. One overall grade is awarded.

The exam is to demonstrate whether the student has achieved the learning objectives of the programme as defined in Annex 1 of the Ministerial Order on the Academy Profession Degree Programme in Production Technology.

The final exam project must be based on a practice-oriented issue, and the problem statement is prepared by the student in consultation with the educational institution and a company. The institution approves the issue and the problem statement.

The report may not exceed 90,000 characters, including spaces. This corresponds to approximately 35 standard pages.

5.5.1. How important are writing and spelling skills in terms of the assessment?

In addition to the academic content, emphasis will be placed on the students' writing and spelling skills in the assessment of the final project. Writing and spelling skills weigh 10%, while academic content weighs 90%.

KEA may grant exemptions from the requirement concerning writing and spelling skills for students who are able to document a relevant and specific impairment.

5.6. Use of materials and aids

All materials and aids, including electronic materials and aids, are permitted, unless otherwise stated in connection with the individual exam. Furthermore, KEA may restrict the students' access to using electronic materials and aids for capacity reasons.

5.7. Special examination conditions

For examinees with physical or mental impairment and examinees with similar difficulties, an agreement can be made on special examination conditions if deemed necessary in order to provide the students concerned with equal opportunities in the exam situation. Special examination conditions must, however, not change the standard of the exam. Examinees with a background other than Danish are allowed to use a dictionary at exams without aids.

Applications for special examination conditions must be in writing and be submitted to the head of education no later than one month prior to the date of the exam. Documentation of the disability must be enclosed with the application. If additional exam time is granted, as a general rule, 25% will be added to the exam and preparation time.

5.8. Make-up exams and re-exams

Students who have been unable to complete an exam due to documented illness or death of an immediate family member will be given the opportunity to take the exam as soon as possible. According to the Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the Examination Order), "*[i]f the examination in question is an examination in the final examination period, students must be given the opportunity to take the examination in the same examination period or immediately thereafter.*" The make-up exam may be identical to the next ordinary exam. Students are responsible for keeping up to date on when the make-up exam is conducted.

Illness must be documented in the form of a medical certificate, and KEA must receive the medical certificate no later than three working days after the date of the exam. If illness is not documented, the student will have used one exam attempt. The student must pay for obtaining a medical certificate.

5.9. Examination language

In connection with programmes offered in Danish, exams are generally conducted in Danish as well. Exams can also conducted in Swedish or Norwegian rather than Danish. If students wish to take the exam in a different language, a written application must be submitted to the head of education no later than two months prior to the date of the exam, and there must be reasonable grounds for doing so.

5.10. Commencement of studies exam

Students on the programme must participate in a commencement of studies exam. Pursuant to the Examination Order, "*[t]he purpose of the commencement of studies exam is to ascertain whether students have actually commenced their studies.*"

The Examination Order furthermore states that "*[t]he commencement of studies exam must be held no later than two months after the start of the programme, and the result must be announced to the students within two weeks of the examination.*" Also, "... *the exam is assessed as 'Pass' or 'Fail'*, and "*[s]tudents who fail the examination have the opportunity to participate in a re-exam, which is held no later than three months after the start of the programme. Students are entitled to two attempts to pass the commencement of studies exam.*"

The exam is a multiple-choice test. It covers

- Structure and form of the programme
- Overall academic content on the programme
- Knowledge about practical matters, communication channels and IT

The exam is written and assessed as passed or failed. The exam is passed provided that 80% of the answers are correct.

If students fail the second attempt to pass the exam, they will be disenrolled from the programme.

5.11. Use of own works and the works of others (plagiarism)

Projects and other material in connection with exams must be prepared by the students independently.

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

Students may also be expelled after the exam.

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

For information about plagiarism, see www.stopplagiat.nu.

5.12. Cheating and disruptive behaviour during exams

Cheating at exams is handled in accordance with the rules set out in the Ministerial Order on Examinations on Professionally Oriented Higher Education Programmes (the Examination Order).

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

According to the Examination Order, "... *the institution may in case of aggravating circumstances decide to suspend students from the institution for a long or short period of time. In such event, students must be issued with a written warning stating that if the act is repeated, they may be expelled permanently.*"

Cheating includes:

– Obtaining unlawful help during the exam

– Providing unlawful help to other students during the exam

– Using other people's work as one's own (plagiarism – see www.stopplagiat.nu), see also section 5.15

– Using own previously assessed work without references, see also section 5.15

– Using materials and aids not permitted for the exam in question

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

If students exhibit **disruptive behaviour** during an exam, the institution may order them to leave the exam. In less serious cases, the institution will first warn the students.

6. Other rules governing the programme

6.1. Rules on compulsory attendance

To a large extent, it is necessary that students are present and active during their studies, but KEA does not wish pose a requirement for compulsory attendance in relation to all teaching on the programme. In some semesters, however, there are activities in which students are obliged to participate. These are:

- Evaluations and exams. Non-attendance will be handled in accordance with the rules governing exams

- Progress testing, written and oral progress tests and activities defined in the semester descriptions as activities with compulsory attendance, such as assignment introductions and company visits. Repeated non-attendance means that students will be considered inactive in their studies with the consequences entailed, e.g. notification of the Danish Agency for Higher Education.

6.2. Credit transfer

Successfully completed programme elements correspond to or are equivalent to programme elements at other educational institutions offering the programme.

According to the Ministerial Order on Academy Profession Programmes and Professional Bachelor Programmes, "*[t]he student is obliged to provide information on completed programme elements from another Danish or foreign higher education programme and on employment for which it is assumed that credit transfer will be granted. On a case-by-case basis [...], the educational institution approves credit transfer based on completed programme elements and employment comparable to subjects, programme components and internships. The decision is based on an academic evaluation.*"

6.3. Preliminary approval of credit transfer

6.3.1. Credit transfer agreements on subjects covered by the common part of the curriculum

Students may apply for preliminary approval of credit transfer. Pursuant to the Ministerial Order on Academy Profession Programmes and Professional Bachelor Programmes, "*[i]n case of preliminary approval of a study stay in Denmark or abroad, the student is obliged, after completing the study stay, to document the programme elements completed during the approved study stay. Upon obtaining the preliminary approval, the student must consent to the institution requesting the necessary information after the student has completed the study stay.*" Furthermore, upon approval of preliminary credit transfer, "*the programme element is deemed to have been completed if it has been passed in accordance with the rules on the programme in question.*"

6.4. Credit transfer agreements on subjects covered by the institution-specific part of the curriculum

KEA may, subject to an academic assessment, grant the transfer of programme elements completed/passed at another Danish or foreign institution of higher education to replace programme elements covered by this curriculum.

6.5. Criteria for assessment of study activity

If students are inactive or less active in their studies, as defined in section 5.1.2, they will be called in to an interview. The purpose of the interview is to reach an agreement between the student and KEA on how the student will catch up and participate actively during the remaining part of the semester. If the student does not attend the interview, the head of education may decide to propose to the Danish Agency for Higher Education that the student stops receiving state education grants due to insufficient study activity. The Danish Agency for Higher Education may then decide to withdraw the entitlement to state education grants.

6.6. Disenrolment due to insufficient study activity

Enrolment on the programme can be terminated for students who have not passed at least one exam within a consecutive period of at least one year. In this context, study activity is defined as exam activity where the student, as a minimum, has been awarded the grade 02.

6.7. Exemption rules

KEA may grant exemptions from those curriculum rules that are solely laid down by the institution(s). Exemption may be granted upon submission of a written application based on *special circumstances*.

6.8. Appeals

Examination appeals are handled in accordance with the rules set out in Part 10 of the Examination Order.

When should an appeal be submitted? Appeals relating to examinations and grading must be submitted within two weeks of the assessment (grade) being announced or published.

How should an appeal be submitted? Appeals must be submitted to the educational institution individually and in writing stating the reasons for the appeal. Appeals submitted jointly by several students may be rejected.

What may appeals concern? You can submit an appeal concerning the basis for examination, the examination process or the assessment (grade).

Who handles the appeal? Appeals are normally handled by the educational institution. This does not, however, apply to appeals concerning the basis for examination if the exam is organised by the Danish Agency for Higher Education. In such cases, the appeal is forwarded to the Agency together with the statement made by the educational institution.

Opportunity to appeal against academic issues: If an appeal regarding academic issues is not upheld, you can appeal against the decision to a board of appeals appointed by the educational institution. Appeals must be in writing and reasoned. The appeal is submitted to the educational institution no later than two weeks after being informed about the decision.

Opportunity to submit an appeal regarding legal issues: You can submit an appeal regarding legal issues in relation to any decisions made in connection with re-assessment of the exam (i.e. following the re-exam offered by the educational institution) or in connection with decisions made by the board of appeals. The appeal must be submitted to the educational institution within two weeks of being informed of the decision. The educational institution subsequently makes a decision.

Appeals concerning other legal issues in decisions made by the educational institution in accordance with the Examination Order may be submitted to the Danish Agency for Higher Education. The appeal must be submitted to the educational institution within two weeks of being informed of the decision. The appeal must be addressed to the Danish Agency for Higher Education but submitted to the educational institution, which then issues a statement before forwarding the appeal to the Agency.

What are academic and legal issues?

Academic issues: Is the assessment correct based on an academic evaluation of your performance? Have you been examined based on the correct syllabus? Have parts of the assignment not been assessed or been misunderstood by the examiner and the co-examiner? Are there any issues concerning the examination conditions?

Legal issues: Legal issues in connection with the exam or the consideration of an appeal include:

- Legal incapacity
- Incorrect application of the rules of law
- No consultation of the parties involved
- No information available
- Application of incorrect procedure
- No procedure for appeals in connection with a decision