Curriculum for Academy Profession Degree Programme

Automotive Technology

2014-2016

DANIA CAMPUS VIBORG
ACADEMY OF HIGHER EDUCATION

ACADEMY OF HIGHER EDUCATION

September 2014

Curriculum for Academy Profession Degree programme for
Automotive Technology at Dania Academy of Higher Education

Approved by the Head of the Academy on behalf of the Board.

1st September 2014

Reservations are made for any printing errors or changes

List of content

Introduction 5

1. Framework for the curriculum 5

1.1. Commencement 5

1.2. Transitional period 5

1.3. Legislation 5

2. Framework for the education 6

2.1. Purpose 6

2.2. Duration 6

2.3. Graduate title 7

2.4. Admission requirements 7

2.5. Criteria for admission of applicants 7

3. Compulsory elements 8

3.1. Time frame for compulsory elements 8

3.2. Subject areas 8

3.3 Compulsory elements 15

3.4 Optional elements 20

3.5 Practical training (15 ECTS) 20

3.6 The final examination project (15 ECTS) 21

4 Examinations 22

4.1 General information on examinations 22

4.2 Examinations figuring on the final examination diploma 24

4.3 Description of the examinations 24

4.4 Practical training examination 25

4.5 Examination for the Final Examination project 25

5 Study start assessment 26

6 Study activity 26

6.1 The study activity model 26

6.2 Active participation 27

6.3 Compulsory assignments, projects etc. 27

7 Teaching and working methods 28

8 Regulations applying to the practical training period ____ *28*

9 Internationalisation ____ *28*

9.1 Agreements with foreign educational institutions on parallel study programmes. ____ **29**

10 Credit transfer ____ *29*

10.1 Credit transfer for elements in this AP Degree programme. ____ **29**

10.2 Credit transfer and accessibility to subsequent educations ____ **29**

11 Leave of absence ____ *29*

12 Exemption ____ *29*

Introduction

This curriculum describes how Dania Academy of higher education executes the AP Degree Programme for **Automotive Technology** within the framework of the Danish legislation.

The purpose of the curriculum is to inform the student on the content of the education, the rules of admission, completion and evaluation etc. The rules are applicable to Danish legislation.

Certain elements in the curriculum are prepared jointly with those Danish academies with procurement approval for this AP Degree Programme, represented through a national educational network. The cooperation is to secure that the graduate achieves knowledge, skills and competences on a higher educational level, as described in the Danish Qualifications Framework for Higher Education. Furthermore the elements must secure that in case of a change of AP Programme or academy the student can obtain merit for passed subjects and hence complete the education.

1. Framework for the curriculum

1.1. Commencement

The curriculum enters into force as described on the front page and applies to all students with study start 1st September 2014 or later. The curriculum from September 2013 is repealed with effect on 31st August 2014. The latest version of the curriculum is uploaded on www.eadania.dk under the appropriate education.

1.2. Transitional period

For students who have commenced the education before the 1st September 2014, this curriculum applies to them also. Examinations that were commenced before 1st September 2014 are concluded according to this curriculum no later than 31st August 2014 + 2 semesters.

1.3. Legislation

The curriculum has been prepared according to the guidelines in the Executive order no. 1521 of 16/12/2013 on Academy Profession Degree Programmes, as well as **the executive order no. 690 of 03/07/2009 for the Academy Profession degree Programme for Automotive Technology**.

Furthermore the following executive orders and legislation apply:

- Act. no. 467 of 08/05/2013:
  Executive order on legislation for Academy Profession and Bachelor Programme
- Exec. Order no. 223 of 11/03/2014:
  Executive order on admission for Academy Profession and Bachelor Programme
- Exec. Order no. 1519 of 16/12/2013:
  Executive order on examination for Higher Education Programmes
- Exec. Order no. 262 of 20/03/2007:
  Executive order on grading scale and other assessment

For more information consult the homepage for Ministry of Higher Education and Science at www.ufm.dk and the homepage www.retsinfo.dk for information on executive orders and legislation for Academy Profession programmes.

2. Framework for the education

2.1. Purpose

The purpose of the Academy Profession Degree programme for Automotive Technology is to qualify the graduate to work independently with diagnostics, repair and optimization of automotive products, and furthermore to qualify the graduate independently to understand management and consultancy functions within the automotive field.

The learning objectives include the knowledge, skills and competences that an Automotive Technology student must acquire during the education (Appendix 1 in Executive order)

Knowledge
The graduate has knowledge on:

1) Technology and design at product and component level
2) Construction and materials knowledge
3) Electronic principles and systems
4) Driving systems and vehicle dynamics
5) IT systems for troubleshooting and diagnostics
6) Sales and service focusing on customer care
7) Operational and Financial management
8) HR management

Skills
The graduate is able to:

1) Use automotive technology knowledge for diagnostics, troubleshooting, repair and optimization of vehicles and for the technical communication with importers and manufactures
2) Select and apply correct and advanced measuring equipment and tools for a given assessment
3) Disseminate tasks, solution proposals and technological knowledge to people in charge of executing the technical tasks.
4) Prepare documentation on damages, service, repair and claims in both Danish and English
5) Apply an industry-related foreign language in the daily communication with customers and others in the industry

Competences
The graduate is able to:

1) Acquire skills and new knowledge within the field
2) Independently handle technically complex troubleshooting
3) Systematically handle complex technological issues in connection with localization of complex faults and optimization of vehicles in racing teams
4) Carry out mechanical and electronic optimization of a vehicles roadability
5) Handle systems and methods for efficient service and troubleshooting
6) Undertake overall, operational and financial management, quality control and safety of a garage, including administrative, educational and HR tasks.
7) Handle customer service, sales and distribution of automotive-related products to insure good relations with customers and supplies.

2.2. Duration

The AP programme of higher education has a total duration of 2 years. It is a full-time education, counting for 120 ECTS (European Credit Transfer System). The ECTS system is used to determinate both the total amount of study hours as well as for each element. 60 ECTS is the equivalent of one full-time study year. The educational is level 5 at the Danish Qualifications framework (Higher Education).

2.3. Graduate title

The Automotive Technology graduate from an Academy of Higher Education is allowed to use the title AP Graduate in Automotive Technology. The Danish title is Autoteknolog AK.

2.4. Admission requirements

Admission at the programme is according to the executive order as stated in section 2.3.

Admission with High School qualification:
No specific requirements

Admission with Higher Education qualification:
Bicycle and motorcycle mechanic (with specialization)
Construction and agricultural machinery qualification (with specialization)
Aircraft mechanic
Bodywork qualification
Mechanic (level 2)
No specific requirements

Admission with relevant Higher Education qualification:
Specific qualification: Mathematics C level

An applicant may be granted admission based on other qualifications than the specific admission requirement, if these are equivalent and the applicant is considered to complete the education.
The admission may be conditional and the student must pass a test or in some other way through an individual assessment document the necessary qualifications.

2.5. Criteria for admission of applicants

If there are limitations on the number of admitted students, please check Dania Academy of Higher Educations homepage at www.eadania.dk where the requirements are stated.

3. Compulsory elements

3.1. Time frame for compulsory elements

Compulsory elements of this education are:

1. Management, Communication, operation and technic (50 ECTS)
2. Innovation, Technology and understanding design (15 ECTS)

Compulsory elements	Management, communication, operation and technic	Innovation, technology and design	Total ECTS
Subject areas			
Technology and design	13	7	20
Optimization and repair	6	4	10
IT	5	0	5
Consultation and dissemina-tion	5	0	5
Communication	5	0	5
Sales and service	3	1	4
Operational and financial management	5	0	5
HR management	5	0	5
Quality and safety	3	0	3
Documentation	0	3	3
Total	**50 ECTS**	**15 ECTS**	**65**

3.2. Subject areas

The education contains 10 subject areas – offered by all the Academies with procurement approval for this AP Programme, and with a total of 65 ECTS. The subject areas are described in the following;

3.2.1 Technology and design (20 ECTS)

Content:

- Construction
- Materials knowledge
- Design

Learning objectives:

Knowledge
The student has:

- Acquired development-based scientific knowledge and understanding for practice and methods regarding construction and modification of a vehicle within existing guidelines
- Knowledge of both practice and key selection of used theories / methods within mechanical and electronic systems related to technology and design on both product and component level

Skills
The student can:

- Apply key methods and tools in connection with construction and design
- Apply technology and assess consequences and opportunities from a practice-based technological issue.
- From illustrations assess and select a solution related to choice of material in connection with construction
- Handle practice-based mechanical, hydraulic, pneumatic as well as thermodynamic and aerodynamic issues in the daily consultancy rendered to business partners and customers

Competences
The student can:

- Operate in development-orientated situations in connection with technology and design
- Take part in professional and interdisciplinary cooperation with a professional approach to advanced technological problem issues in connection with modifications
- In a structured context acquire new knowledge, skills and competences in connection to construction and choice of material

3.2.2. Optimization and repair (10 ECTS)

Content:

- Vehicle dynamics
- Performance
- Network and data communication

Learning objectives:

Knowledge
The student has:

- Acquired development-based knowledge and understanding for practice and methods in connection with optimization of roadability such as technical systems and vehicle dynamics
- Used practice-based and key selection of used theories/ methods in connection with electronic principles and systems

Skills
The student can:

- Apply key methods and tools in connection with data collection, diagnostics, troubleshooting, repair and optimization of the vehicle.
- Assess practice-based problem issues and select relevant solution in connection with mechanical and electronic optimization of the vehicles roadability
- Disseminate practice-based automotive technological problem issues and solutions rendered to business partners and customers

Competences
The student can:

- Handle development-orientated situations in connection with technical and electronic advanced troubleshooting
- Take part in professional and interdisciplinary cooperation with a professional approach to technic advanced problem issue in connection to location errors and optimizing roadability
- In a structured context acquire new knowledge, skills and competences in connection to optimization of services and troubleshooting

3.2.3 IT (5 ECTS)

Content:

- IT tools
- Diagnostics
- Analysis and diagnostic techniques

Learning objectives:

Knowledge
The student has:

- Acquired development-based knowledge and understanding for practice and methods in connection with diagnostics of technical and electronic systems
- Used practice-based and key selection of applied theories / methods in connection with diagnostics of electronic principles and systems
- Knowledge on establishment and utilization on knowledge networks

Skills
The student can:

- Apply key methods and It tools for diagnostics, data registration, data collection and processing as well as operational simulation of the vehicles systems
- Assess and analyse practice-based problem issue and select appropriate measuring tools in connection to a given task.
- Disseminate practice-based automotive technological problem issues and solution models to business partners and customers

Competences
The student can:

- Handle development-orientated situations related to technic and electronic advanced troubleshooting, as well as developing competences in relation to applying It for communication and documentation
- Take part in professional and interdisciplinary cooperation with a professional approach to advanced technological problem issues in connection with diagnostics and optimization of roadability
- In a structured context acquire new knowledge, skills and competences in connection with IT as a diagnostic tool for vehicles

3.2.4 Consultation and dissemination (5 ECTS)

Content:

- Learning and competence development
- Learning processes and individual learning styles
- Methodology and didactics
- Communication media / knowledge sharing
- Participant qualifications

Learning objectives:

Knowledge
The student has:

- Acquired development-based knowledge and understanding for practice and methods in connection with consultation and dissemination to and from individuals and groups, as well as dissemination through communication media and knowledge sharing, with different participant qualifications in media
- Used practice-based and key selection of theories/ methods in connection with dissemination and motivation of individuals and groups, with different participant qualifications in mind

Skills
The student can:

- Apply key methods and tools in connection with consultation and dissemination through knowledge sharing
- Assess practice-based problem issues and select relevant solution in connection to methodological and didactics considerations when working with consultation and dissemination
- Disseminate practice-based problem issues and solutions to partners and customers in a motivation and educational manner
- Via training, courses, lectures etc. disseminate technological knowledge to individuals and groups with different participant qualification and learning styles in mind

Competences
The student can:

- Handle development-orientated situations in relation to learning and competence development with different participant qualifications and learning styles in mind
- Take part in professional and interdisciplinary cooperation with a professional approach to a variety of consultation and dissemination assignments
- In a structured context acquire new knowledge, skills and competences in connection to a more efficient consultation and dissemination

3.2.5 Communication (5 ECTS)

Content:

- Branch-related oral communication
- Branch-related written communication

Learning objectives:

Knowledge
The student has:

- Acquired development based knowledge and understanding for practice and methods in connection with psychological communication tools, applicable for communication
- Used practice-based and key selection of theories / methods in connection with communication with employees, customers and suppliers

Skills
The student can:

- Apply key methods and tools in connection with branch-related communication, i.e. with suppliers and manufacturers
- Document practice-based problem issues and selection of solutions proposals
- Apply a branch-related foreign language for communicating practice-based problem issues and solution proposals for customers and others in the industry.

Competences

The student can:

- Apply oral and written communication
- Take part in professional and interdisciplinary cooperation with a professional approach in a branch-related foreign language
- In a structured context acquire new knowledge, skills and competences in connection with communication with customers and others in the industry

3.2.6 Sales and service (4 ECTS)

Content:

- Sales techniques
- Customer service
- Marketing

Learning objectives:

Knowledge
The student has:

- Acquired development based knowledge and understanding for practice and methods in connection with sales and service with a customer service focus
- Acquire development based knowledge and understanding for practice and methods in connection with guarantees and ex gratia cases
- Used practice-based and key selection of used theories/ methods in connection with sales and service with a focus on customer loyalty and profit
- Used practice-based and key selection of used theories / methods in connection with marketing

Skills
The student can:

- Apply key methods and tools in connection with sales and service with focus on different types of personalities
- Assess practice-based problem issues and chose appropriate solution models when working with objections
- Disseminate practice-based problem issues and choose appropriate solution models for customers and partners from a needs related conversation structure
- Apply key methods and tools in connection with dissemination and establishing models for marketing solutions

Competence
The student can:

- Handle development-orientated situations related to customer service and sales of automotive technical products with a focus on loyalty and profit
- Take part in professional and interdisciplinary cooperation with a professional approach to coordinating sales and service tasks with focus on customer satisfaction, loyalty and increased profit
- In a structured context acquire new knowledge, skills and competences in connection to marketing

3.2.7 Operational and financial management (5 ECTS)

Content:

- Operation and management of automotive related company
- Administration
- Economic

Learning objectives:

Knowledge
The student has:

- Acquired development based knowledge and understanding for practice and methods in relation to operational management
- Used practice-based and key selection of used theories/ methods in connection with operation, accountancy and reporting in relation to branch-related company

Skills
The student can:

- Apply key methods and tools in connection with operations of an automotive-related company
- Assess practice-based problem issues and choose appropriate solution models when working with administrative tasks related to products, services and general issues concerning the garage
- Disseminate practice-based financial problem issues and solution models to customers and partners

Competence
The student can:

- Handle development-orientated situations related to overall HR management, operational and financial management of a garage
- Take part in professional and interdisciplinary cooperation with a professional approach to operational and financial management of a automotive-related company
- In a structured context acquire new knowledge, skills and competences in connection to financial analysis and forecasting internal operations and optimization

3.2.8 HR Management (5 ECTS)

Content:

- HR Management
- HR administration
- Coaching
- Analysis models

Learning objectives:

Knowledge
The student has:

- Acquired development based knowledge and understanding for branch-related and subject-related practice and methods in relation to HR management and administration
- Used practice-based and key selection of theories / methods in connection to coaching and analysis models

Skills
The student can:

- Apply key methods and tools in connection with consultation of the mechanic, the team / racing team or garage in relation to technical and HR problem issues
- Assess practice-based HR problem issues and prepare and choose appropriate solutions
- Disseminate practice-based problem issues and solutions to personnel, suppliers and customers in a coaching based context

Competences
The student can:

- Handle development-orientated situations related to HR management
- Take part in professional and interdisciplinary cooperation with a professional approach to administrative and educational HR relations
- In a structured context develop own HR administration practice

3.2.9 Quality and safety (3 ECTS)

Content:

- Quality systems
- Certifications
- Evaluations
- Audit
- Safety and environmental - AMO and APV (organization and workplace assessment)

Learning objectives:

Knowledge
The student has:

- Acquired development based knowledge and understanding for practice and methods related to working with quality and safety management in companies
- Used practice-based and key selection of used theories / methods in connection to quality, safety and work environment conditions at different managerial levels

Skills
The student can:

- Apply key methods, models, tools and management related to quality, safety and work environmental conditions at different managerial levels
- Assess practice-based problem issues and choose appropriate solutions when working with and evaluation quality, safety and work environmental conditions
- Disseminate practice-based problem issues and solutions to partners and users in connection to quality procedures and work environmental conditions

Competences
The student can:

- Handle development-orientated situations related to quality and work environment, such as audits and evaluations
- Take part in professional and interdisciplinary cooperation with a professional approach to solving quality procedures as well as participation in work environmental organisations and workplace evaluations
- In a structured context acquire new knowledge, skills and competences in connection to quality, safety and work environmental issues

3.2.10 Documentation (3 ECTS)

Content:

- Claims assessment
- Complaint handling
- Branch-related issues
- Construction on component and product level

Learning objectives:

Knowledge
The student has:

- Acquired development-based knowledge and understanding for practice and methods related to preparation of branch-related documentation
- Used practice-based and key selection of theories / methods for branch-related documentation in connection with working tasks
- Used practice-based and key selection of theories / methods for branch-related documentation in connection with reporting

Skills
The student can:

- Apply key methods and tools for preparation of documentation in relation to claims assessment, service and repair as well as complaint handling
- Apply practice-based problem issues and choose solutions in relation to documentation
- Via documentation disseminate practice-based problem issues and solutions for partners and users
- Disseminate and document practice-based problem issues and solutions to partners, and users via documentation

Competences
The student can:

- Handle development-orientated situations related to preparation of documentation for branch-related tasks and reporting
- Take part in professional and interdisciplinary cooperation with a professional approach to solving documentation tasks for reporting, claims assessment and repair.
- In a structured context acquire new knowledge, skills and competences in relation to efficient documentation

3.3 Compulsory elements

The AP Degree programme consists of 2 compulsory elements – offered by all the academies with procurement approval for this AP degree – equivalent of 65 ECTS. The compulsory elements are described below.

Compulsory element 1: Content and learning objectives for Management, communication, operation and technic
Total 50 ECTS

Content

- Finance and law
- HR Management
- Communication and service
- Quality
- Consultation and dissemination
- Innovation, optimization, technology and understanding design
- IT, analysis and diagnostic techniques
- Safety and SRS systems
- Comfort, performance and telecommunications equipment
- Gearboxes and transmission

Learning objectives

Knowledge
The student has:

- Development based knowledge on practice and key theories and methods for construction and materials understanding on vehicles
- Knowledge on practice and key theories and methods for designing vehicles both on component and product level
- Development based knowledge on practice and key theories and methods for bodywork and optimization
- Development based knowledge on practice and key theories and methods for momentum and driveline
- Development based knowledge on practice and key theories and methods for driving performance
- Knowledge on practice and key theories and methods for electronic systems
- Knowledge on practice and key theories and methods for comfort equipment
- Knowledge on practice and key theories and methods for repair
- Knowledge on practice and key theories and methods for diagnostics of vehicles
- Knowledge on practice and key theories and methods for IT as a tool for diagnostics
- Knowledge on practice and key theories and methods for active and passive safety in vehicles
- Knowledge on practice and key theories and methods for use and creation of knowledge network
- Development based knowledge on practice and key theories and methods for sales and service with a focus on customer service
- Knowledge on practice and key theories and methods for communication with external parties
- Development based knowledge on practice and key theories and methods for communication
- Development based knowledge on practice and key theories and methods for marketing
- Development based knowledge on practice and key theories and methods for consultation
- Development based knowledge on practice and key theories and methods for dissemination and motivation
- Knowledge on practice and key theories and methods for operational management
- Knowledge on practice and key theories and methods for handling work environmental conditions
- Development based knowledge on practice and key theories and methods for HR management
- Development based knowledge on practice and key theories and methods for securing quality
- Development based knowledge on practice and key theories and methods for repairing gearboxes and transmission systems

Skills
The student has:

- Apply branch-related key methods and tools for solving technological problem issues
- Disseminate practice-based problem issues in connection with technology and design to partners and users
- Assess practice-based problem issues in connection with repairing vehicles, present and select appropriate solution
- Apply branch-related key methods and tools for diagnostics and optimization of vehicles
- Apply branch-related key methods and tools in connection with technology and design
- Assess practice-based problem issues in connection with choice of material for construction, present and select appropriate solution
- Apply branch-related key methods and tools in connection with comfort systems
- Disseminate practice-based problem issues in connection with comfort systems to partners and users

- Assess practice-based problem issues in connection with applying tools and measurement equipment, present and select appropriate solution
- Assess practice-based problem issues in connection with the ECU impact on emission, prepare and select appropriate solution
- Apply branch-related key methods and tools in connection with IT tools for data logging and operation simulation of vehicles
- Disseminate practice-based problem issues in connection with IT using different learning styles to partners and users
- Assess practice-based problem issues in connection with marketing, present and select appropriate solution
- Assess practice-based problem issues in connection with objections, prepare and select appropriate solution
- Apply branch-related key methods and tools in connection with coordinating branch-related issues
- Disseminate practice-based problem issues in connection with technical knowledge to partners and users
- Apply branch-related key methods and tools in connection with communication of branch-related issues
- Disseminate practice-based problem issues in connection with sales and service in a foreign language to partners and users
- Apply branch-related key methods and tools in connection with managerial styles for optimizing sales and service
- Apply branch-related key methods and tools in connection with assessment of different types of personalities
- Apply branch-related key methods and tools in connection with financial analysis of branch-related companies
- Assess practice-based problem issues in connection with legal problem issues, prepare and select appropriate solution
- Disseminate practice-based problem issues in connection with operations and finance to employees and partners
- Assess practice-based problem issues in connection with HR issues, prepare and select appropriate solutions
- Apply branch-related key methods and tools in connection with HR management
- Disseminate practice-based problem issues in connection with HR issues to employees and partners
- Apply branch-related key methods and tools in connection with quality
- Assess practice-based problem issues in connection with work environment issues, prepare and select appropriate solution
- Disseminate practice-based problem issues in connection with work environment issues for employees and partners in relation to audit
- Disseminate documented practice-based problem issues for employees and partners
- Apply branch-related key methods and tools in connection with function and technological problem issues on gearboxes and transmission systems

Competences
The student has:

- Take part in professional and interdisciplinary cooperation with a professional approach to developing of technical systems
- In a structured context acquire new knowledge, skills and competences in connection with technology and design
- Handle development-based situations in connection with innovation

- In a structured context acquire new knowledge, skills and competences in connection with consultation to customers and employees about safety and SRS systems
- Take part in professional and interdisciplinary cooperation with a professional approach to optimization of processes in relations to engine
- Handle development-based situations in connection with technic advanced troubleshooting
- In a structured context acquire new knowledge, skills and competences in connection with It for data registration on vehicles
- Take part in professional and interdisciplinary cooperation with a professional approach to optimization of processes in relation to analysis and diagnostics
- Handle development-based situations in connection with electronic advanced troubleshooting
- In a structured context acquire new knowledge, skills and competences in connection with It for communication and documentation
- Handle development-based situations in connection with establishing relations to customers and employees
- Handle development-based situations in connection with sales and customer service
- Take part in professional and interdisciplinary cooperation with a professional approach to management
- Take part in professional and interdisciplinary cooperation with a professional approach to work environment organisation and work out work place evaluations (APV).
- In a structured context acquire new knowledge, skills and competences in connection with quality control and safety
- Handle development-based situations in connection with evaluation and audit
- Take part in professional and interdisciplinary cooperation with a professional approach to external communication from a company
- In a structured context acquire new knowledge, skills and competences in connection with communication
- Take part in professional and interdisciplinary cooperation with a professional approach to finance and law
- Handle development-based situations in connection with sales and service applying knowledge on different learning styles
- In a structured context acquire new knowledge, skills and competences in connection with sales and service
- Handle development-based situations in connection with business operations
- Take part in professional and interdisciplinary cooperation with a professional approach to operational and financial management
- In a structured context acquire new knowledge, skills and competences in connection with optimization of both operations and economic situation in the company
- Handle development-based situations in connection with quality in the company
- Take part in professional and interdisciplinary cooperation with a professional approach to HR management
- In a structured context acquire new knowledge, skills and competences in connection with HR management
- Handle development-based situations in connection with efficiency of services and troubleshooting
- Take part in professional and interdisciplinary cooperation with a professional approach to quality
- Handle development-based situations in connection with consultation in relation gearboxes and transmission systems
- Take part in professional and interdisciplinary cooperation with a professional approach to troubleshooting on gearboxes and transmission systems
- In a structured context acquire new knowledge, skills and competences in connection with gearboxes and transmission systems

Assessment
The examination is evaluated using the 7-scale and has an extent of 50 ECTS.
The learning objectives for the element are identical with the learning objectives for the examination. See further information under section 5.3 (First year examination)

Compulsory element 2: Innovation, technology and understanding design
Total 15 ECTS

Content

- Innovation, optimization, technology and understanding design
- Bodywork and structure
- Documentation

Learning objectives

Knowledge
The student has:

- Knowledge for practice and key theories and methods for solving technological problem issues regarding bodywork and structure
- Development based knowledge on practice and key theories and methods for construction and materials knowledge
- Knowledge for practice and key theories and methods regarding electronic systems and principles in vehicles
- Development based knowledge on practice and key theories and methods technology and design on both product and component level
- Development based knowledge on practice and key theories and methods for roadability
- Knowledge for practice and key theories and methods regarding solving technological problem issues regarding vehicle dynamics
- Knowledge for practice and key theories and methods regarding handling and documentation of branch-related issues
- Knowledge for practice and key theories and methods regarding reporting
- Development based knowledge on practice and key theories and methods for documentation of financial and legal issues in relation to operating an automotive-related company
- Knowledge for practice and key theories and methods regarding branch-related documentation

Skills
The student can:

- Assess practice-based environmental problem issues in relation to repair on bodywork and single-component surfaces, such as treatment against corrosion
- Disseminate practice-based problem issues and solutions as well as technological knowledge to employees and partners
- Assess practice-based environmental problem issues in relation to technology and design on vehicles, present and select appropriate solutions
- Apply branch-related key methods and theories for preparing documentation on technological problem issues
- Assess practice-based environmental problem issues in relation to choice of methodology for problem solving, as well as select and apply appropriate tools.
- Apply branch-related key methods and theories for optimizing vehicles
- Apply branch-related key methods and theories for diagnostics on vehicles
- Disseminate practice-based problem issues regarding diagnostics and optimizations of vehicles to

employees and partners
- Apply branch-related key methods and theories for documentation
- Apply branch-related key methods and theories for documentation of branch-related issues
- Assess practice-based environmental problem issues in relation to documentation, prepare and select appropriate solutions

Competences
The student can:
- Take part in professional and interdisciplinary innovative cooperation with a professional approach to developing technology and design
- In a structured context acquire new knowledge, skills and competences in connection to technology and design
- Take part in professional and interdisciplinary innovative cooperation with a professional approach to developing technical systems
- Handle development-orientated situations related to consultation on technology and design on vehicles
- In a structured context acquire new knowledge, skills and competences in connection to electronic principles and systems
- Take part in professional and interdisciplinary innovative cooperation with a professional approach to troubleshooting and optimization of vehicles
- Handle development-orientated situations related consultation and dissemination and develop related documentation
- Handle development-orientated situations related documentation of branch-related issues.

Assessment
The examination is evaluated using the 7-scale and has an extent of 15 ECTS.
The learning objectives for the element are identical with the learning objectives for the examination. See further information under section 5.3 (Third semester examination)

3.4 Optional elements

The AP Degree Programme contains a number of optional elements placed on both 1st and 2nd study year, with a total extent of 25 ECTS. The optional elements qualify the student to specialize in and obtain further perspective on subjects, which are broadly related to the field of study.

The specific optional elements are described by name, ECTS, learning objectives and assessment in individual unit guides, found on Fronter, and maybe in a separate catalogue for optional elements on www.eadania.dk

3.5 Practical training (15 ECTS)

The purpose of the practical training is to give the student practical competences within the field of study, and the opportunity to apply theories in practice in a specific branch-related context and develop relevant competences, and to insure a learning progression in relation to the overall learning objectives of the education.

The learning objectives for the practical training are the same for all academies of higher education with procurement approval.

Learning objectives for the practical training:

Knowledge
The student has:
- Knowledge for practice and key theories and methods within the industry and field of study
- Understanding the expectations that the industry has to the student´s knowledge, skills and competences

Skills
The student can:
- Apply branch-related key methods and tools, as well as applying those skills, related to working in an automotive-related industry
- Assess practice-based problem issues, present and select appropriate solutions
- Disseminate practice-based problem issues and solutions for partners and users.

Competences
The student can:
- Handle development-orientated situations
- Take part in professional and interdisciplinary cooperation with a professional approach
- In a structured context acquire new knowledge, skills and competences in relation to the industry

Based on and within the learning objectives for the practical training, the student, the company and the academy supervisor determine the precise learning objectives for the student during the practical training period.

Assessment of the practical training:
The practical training is evaluated with an examination. The learning objectives for the examination are identical with the learning objectives for the practical training. One grade is given using the 7-scale, and the grade 02 is necessary in order to pass. For further information, consult the individual unit guide.

3.6 The final examination project (15 ECTS)

In the final examination project the student must document the ability to use practice-based knowledge and centrally applied theories and methods in relation to a practice-based problem issue. The problem issue must be branch-related and within the field of study, and formulated by the student for ex. in cooperation with a private or public company. Dania Academy of Higher education must approve the problem issue.

The requirements for the final examination project are the same for all academies of higher education with procurement approval.

The project which is the written part of the examination must contain the following:
- Front page with title
- List of contents
- Introduction incl. Presentation, problem issue, problem statement and how to approach the issue.
- Background, theories, methods, analysis, hereunder description and justification of chosen empirical[1], as answer to the problem statement
- Conclusion (remember coherence between introduction and conclusion. In principle these two must make sense on their own without having to read the background and analysis also)

[1] *"Empiricarism is material that is subject to investigation and which can be referred to (observation, data, statment, text, sources)".* Translated from Danish from Rienecker L. & Jørgensen P.S. 2005 Den gode opgave – opgaveskrivning på videregående uddannelser. 3. udg. Frederiksberg: Samfundslitteratur.

- Perspectives
- Bibliography (incl. all sources related to the project)
- Appendices (only include key relevant appendices)

The final examination project must have a maximum length of maximum 50.000 key strokes. The final examination project is an individual project with an individual examination.
Appendices are not included in the evaluation.

Examination of the final examination project:
The examination is external, using 7-scale and have an extent of 15 ECTS.
It consists of a written project and an oral examination. The student will receive one combined grade. The student must have passed all prior examinations including the practical training to be entitled to do the final examination.

Only one combined grade is given. The written project counts for 70% of the combined grade (includes 10% for formalities, writing and spelling ability). The oral examination counts for 30%.
This grade will figure on the final examination diploma.

The oral examination is individual and has a duration of 45 minutes incl. evaluation. The examination is likely to go beyond what is directly addresses in the project.

For further information, consult the individual unit guide.

4 Examinations

4.1 General information on examinations

The purpose of examinations is to assess to which degree the student meets the academic requirements, according to the education and its elements. In the curriculum there are two types of examinations:

- **External examination**: Assessment by examiner and one or more external examiners
- **Internal examination:** Assessment by one or more teachers, chosen by the Academy

Consult the section on Study activity for more information on the preconditions for being student active, handling in assignments, projects etc. in order to participate in examinations.

It is the student's own responsibility to be acquainted with and obey the rules of the Academy in regards to examinations. When complying with the rules of study activity and handling in assignments/ projects etc., the student is automatically qualified to participate in the examinations.

If the student fails the ordinary examination, a new examination will automatically be arranged unless otherwise agreed. Further information on examination will be found in the Academy´s regulations on examinations.

Missing an examination will be noted as a first attempt. This is not applicable in case of documented illness. The student has 3 attempt to pass an examination.

All examinations must be passed. A passed examination cannot be re-taken.

Re-examination due to illness
The student which, due to documented illness or other unpredictable reason was unable to do an examination will get the possibility to do a re-examination. Illness must be documented by a medical declaration

from a doctor. The Academy must receive this declaration no later than 3 working days after the examination day. For sudden illness during the examination, the Academy can ask for a medical declaration.

Lacking correct medical documentation will be considered as one used attempt. The student bear the cost of obtaining correct medical documentation from the doctor.

Exemption
Students with impaired physically or mentally abilities may apply for an exemption from the normal requirements, for ex. requiring extra time. The application must be directed to the Academy no later than 4 weeks prior to the examination. In case of sudden health problems, exemption from the 4 weeks may be granted.

The application must be accompanied by a medical declaration or other documentation from specialists within fields of disabilities such as speech, hearing, dyslexic, blindness or other health issues.

Contracts on exemption from normal requirements can be made for the entire education period.

Complaints
In connection with an examination it is possible to handle in a complaint regarding the following:

1. The basis for the examination, hereunder the examination question, assignment etc.
2. The examination course
3. Evaluation

Following the Executive order on examination for higher education, the complaint must be written, argumentative and handled in no later than two weeks after the evaluation/assessment of the examination in question.

Exemption
With regards to the executive order on examination for higher education, the academy may for individual students, exempt from the original dates for passing exams, if it is based on illness, maternity leave or other unusual circumstances.

Cheating and disrupting behaviour during examination
If cheating is detected, for example by giving or receiving unauthorized help at solving an assignment or apply unauthorized tools, the student may be expelled from the examination. Under particular aggravating circumstances, the student may be expelled from the academy for a short or long period of time. In such cases a written warning will be given to the student, stating that a repetition of the cheating will cause permanent expulsion. An expulsion means that the student has used one attempt and no grade is given.

In case of disrupting behaviour, the academy can expel the student from the examination. In certain circumstances an oral warning is given prior to the expel.

Use of own and others work - Plagiarism
Cheating by plagiarism includes cases, where a written assignment in whole or in parts:

1. includes identical or partly identical reproduction of others words or work without clarifying by quotations marks, italics, indentation or other clear indication the original source.
2. Re-use own material which already has been evaluated without applying the above rules (no. 1)

For an individual written assignment, it is also plagiarism to use text, which is taken directly from a group assignment and hence appears in other assignments.

Examination abroad

The student may, under certain circumstances, be allowed to do the examination abroad as described in the executive order. The examination may be conducted using Skype or other approved video conference tools.

The academy will appoint or approve a supervisor, who will be with the student during the examination. Any costs are covered by the student, who will confirm in writing in advance, that any expenses related to doing to examination abroad are covered.

4.2 Examinations figuring on the final examination diploma

The below examinations will figure on the final examination diploma.

Time	Examination	Subject areas	Compulsory elements	ECTS	Assessment	Grade	Weighting [1]
1 Study year	First year examination (Interdisciplinary project examination)	• Operational and financial management • HR management • Communication • Quality and safety • Consultation and dissemination • Innovation, technology and understanding design • IT, analysis and diagnostics techniques • Optimization and repair • Sales and service	Management, communication, operation and technique	50	External	7-scale	1
	Optional elements			10	Internal	7-scale	1
2 Study year	Third semester examination	• Innovation, optimization, technology and understanding design • Bodywork and structure • Documentation	Innovation, technology and understanding design	15	Internal	7-scale	1
	Optional elements			15	Internal	7-scale	1
	Practical training			15	Internal	7-scale	1
	Final examination project			15	External	7-scale	1

4.3 Description of the examinations

4.3.1 First year examination

The first year examination at the end of the second semester shall document that the student has achieved the learning objectives for the first study year.

The student must complete a written project followed up by an oral examination. The project is based in a relevant problem issue within the compulsory element 1; Management, communication, operation and techniques. The project is interdisciplinary and it is required as a minimum that it includes at least one the automotive technique subjects, IT, analysis and diagnostic techniques using own measurements and one or more of the mercantile subjects, that have been taught during the first study year.

[1] Weighting on the final examination diploma, which also indicates the total average

The learning objectives for the element are identical with the learning objectives for the examination. The first year examination has an extent of 50 ECTS.

Assessment
The examination is external. Both project and oral presentation are evaluated by external examiner, using the 7-scale and 02 is necessary to pass. The written project counts for 50 % and the oral presentation counts for 50 %. The duration of the oral presentation is 30 minutes including evaluation. Normally the examination is in the main language of the AP programme, with a possibility to exempt from that rule according to the Executive order.

Conditions relevant for the evaluation:

- Presentation
- Relevance and coherence between the problem statement and both content and conclusion
- Methodology considerations and disposition
- Vocational content
- Use of taught theories
- Consistency and coherence
- Conclusions
- Formalities
- Language and layout

4.3.2 Third semester examination

Third semester examination
For further details, consult the unit guide on the Third semester examination.

4.3.3 Optional elements examinations

For further details, consult the specific unit guide for each optional element, and maybe in a separate catalogue for optional elements on www.eadania.dk

4.4 Practical training examination

The practical training is evaluated by an examination. The learning objectives for the practical training are identical with the learning objectives of the examination. One grade only is given, using the 7-scale and 02 is necessary in order to pass. For further details, consult the specific unit guide

4.5 Examination for the Final Examination project

Examination of the final examination project:
The examination is external, using 7-scale and have an extent of 15 ECTS.
It consists of a written project and an oral examination. The student will receive one combined grade. The student must have passed all prior examinations including the practical training to be entitled to do the final examination.

Only one combined grade is given. The written project counts for 70% of the combined grade (includes 10% for formalities, writing and spelling ability). The oral examination counts for 30%.
This grade will figure on the final examination diploma.

The oral examination is individual and has a duration of 45 minutes incl. evaluation. It is take often go beyond what is directly addresses in the project. For further information, consult the individual unit guide.

5 Study start assessment

First semester students must participate in and pass a study start assessment in order to continue the education. The purpose of the study start assessment is to determine whether the student has commenced the education.

The study start assessment will take place within the first two months and the result will be passed on to the student as passed/failed no later than two weeks after the assessment.

The assessment consists of;

- A knowledge-based assessment within the framework of the subjects taught since the beginning of the semester
- Assessing the study activity level, such as presence and solutions to specific questions

In case of a fail the student has the possibility to do a re-assessment, which will take place on later than 3 months after semester start. The student will have two attempts to pass the study start assessment. This assessment is not subject to the rules in the Executive order for examinations on complaints.

In case of failing both assessments the student is unsubscribed from the AP programme.

6 Study activity

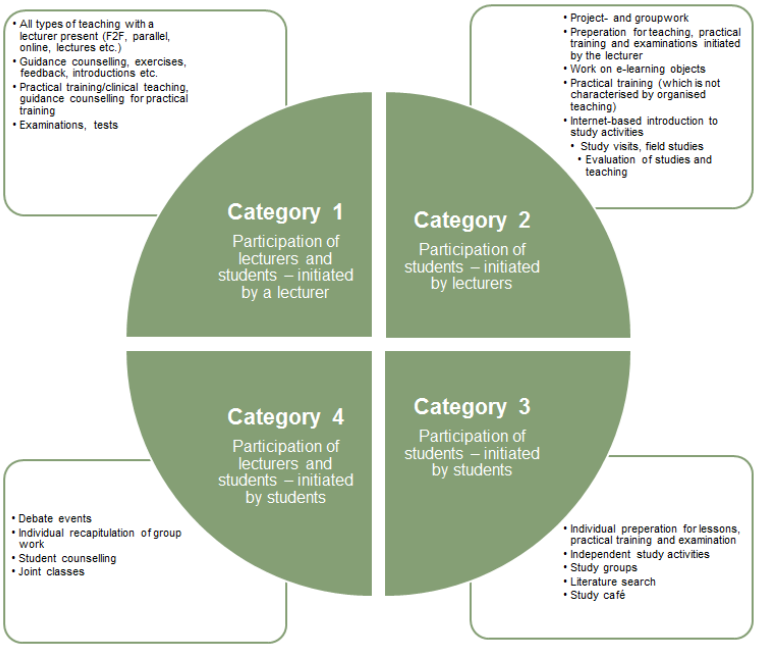
The study activity is defined through the student' s participation as well as handling in compulsory assignments/projects etc. Only when this level of study activity is achieved the student can be registered for examinations. Being study active is also a condition in order to receive Danish SU.

6.1 The study activity model

As an incoming student at Dania Academy of Higher Education, the student will experience activities and a study activity model which might differ a great deal from what the student is used to. The Academy expects a level of activity equivalent to a full-time job. The education is practice-based, which includes regular encounters with relevant players, and not only during the practical training period.

Many different types of activities are included, some the students initiate and others are initiated by the academy. The activities can be individual, in groups, with teachers or companies, during the practical training period or a company visit, projects etc.

The teaching at Dania Academy of Higher education is based on the below study activity model, where the activities are divided into 4 categories:



The study activity model is based on the level of work the student must put into the education. Each semester is the equivalent of 825 working hours, which equals 30 ECTS. One ECTS is the equivalent of 27,5 working hours.

6.2 Active participation

At Dania we continuously monitor our students´ level of study activity. We see each student as an independent person with independent learning ability and competences as the basis for an overall assessment of the level of active participation.
Compulsory assignments and projects etc. must be handled in and passed, in order to be study active and hence qualify to do examinations.

The Automotive Technology is a two-year comprised education and it is expected that the student participates as an active student. It is the responsibility of the student to lay out the framework for own learning process in order to get maximum benefit from the education.

An active student will;

- Turn up for all teaching activities
- Be prepared for each lesson / project work
- Be active in each lesson / project work

During the education it is required that certain elements, such as projects, specialisation-related days and weeks, study trip and other activities, are completed / passed in order to enter for exams. This applies to both the below mentioned projects as well as to other activities.

A student who repeatedly is registered as absent will be called for a personal meeting where the level of activity is evaluated. If the student doesn´t improve the activity level, he/she may be asked to do a written test in order to assess if the vocational level is satisfactory.

6.3 Compulsory assignments, projects etc.

For each semester individual semester plans are available on the academy´s intranet (Fronter) with descriptions of all assignments, projects etc. For further information on these assignments and projects consult the individual semester plans.

7 Teaching and working methods

The education applies the latest knowledge and results from national and international research, trials and developing work from relevant sources. The academy includes both practical and theoretical knowledge from branch-related trends and methods for developing the industry and do qualitative work.

The teaching includes lectures, exercises, presentations, cases, seminars, guest teachers both national and international, projects and company excursions.

The teacher´s role
It is the policy of the academy that the teacher plans and conducts the teaching from the following guidelines:

- Values of Dania Academy of Higher education: We are **C**urious, **D**ynamic and **V**isionary
- Study activity model
- Interdisciplinary
- Variation of learning methods
- Process-orientated approach
- Close cooperation with the industry
- Integration of innovation in the education
- Expectation that the student is independent, motivated and active
- Use relevant IT tools

Reading texts in a foreign language
For the Danish AP Programmes, teaching in English using texts/literature, co-lectures, seminars of foreign guest teacher may be expected.

8 Regulations applying to the practical training period

For further information, consult the individual unit guide.

Contract
A contract is made between the student and the internship company, and approved by the supervisor in order to secure relevant content during the practical period. The layout of the contract is according to the common standard for the academy.

Working hours and pay
The practical training equals a full-time job which implies demands for a number of working hours, good effort, commitment and flexibility, as the student must expect in a proper job later on.
The working hours are agreed by the student and the company. The internship company has no financial obligation towards the student as the student can receive SU (unless otherwise stated in the curriculum).

9 Internationalisation

The international dimension is commonly included in the academy´s AP Degree programmes.

The programmes are structured in a way that it is possible for a student to study one semester abroad. Dania must approve the foreign educational institution as well as the vocational content in the subjects taught.
After end study semester abroad the student is obliged to document the approved institution´s passed elements. Furthermore, the student must also in advance give the academy the consent to obtain the necessary information.

Moreover, the practical training may be in a company abroad. The company must be approved according to the general regulations on practical training

For further information, consult the internship supervisor.

9.1 Agreements with foreign educational institutions on parallel study programmes.

For further information, consult the internship supervisor.

10 Credit transfer

10.1 Credit transfer for elements in this AP Degree programme.

The academy approves passed elements for equivalent element passed at another academy. The grade is transferred as well.

The institution can approve that passed elements or parts hereof passed at another institution are equivalent to elements or parts hereof in the curriculum. If the elements are assessed using 7-scale at the institution where the examination was conducted and it is equivalent to an entire subject in the curriculum, the grade is transferred. In all other cases the grade is transferred as “passed” but is not included when calculating the average grade.

The student is required to disclose previously passed educational elements that are likely to apply to credit transfer. This is also the case for ERASMUS students.

10.2 Credit transfer and accessibility to subsequent educations

The student must contact the supervisor for further information on credit transfer and accessibility to subsequent educations, as new opportunities appear regularly.

It is also possible to do further studies abroad, i.e. a post-graduate degree of one or two years duration and hence acquire an international bachelor degree, which normally is three years. Find more information on the webpage for Ministry of Higher Education and Science; http://ufm.dk/en?set_language=en&cl=en

11 Leave of absence

A student may be granted leave of absence for personal reasons. Further information on leave of absence and provisions for students on leave of absence are stated in the Executive Order no. 1486 of 16/12/2013 on admission for Academy Profession and Bachelor Programme

12 Exemption

The academy can, under certain justified circumstances, exempt from the rules in the curriculum. The institutions will cooperate on a uniform exemption practice.