Unfold your talent
VIA University College

Date: 30 June 2017

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Curriculum

Programme section

Bachelor of Engineering in Global Business Engineering

- **For students enrolled August 2017 and after.**

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1. Introduction

In accordance with the Professional Bachelor's Degree Programme, the purpose of the Bachelor of Engineering in Global Business Engineering programme is to qualify students to carry out the following business functions in a national or an international context:

- Apply research, theory, tools and methods from natural science, engineering and the fields of business and communication to conceive, design and implement solutions to practical engineering problems.
- Critically acquire new knowledge within relevant engineering areas
- Independently solve common engineering tasks
- Participate in collaborative and managerial functions and contexts at a qualified level with people of different educational, linguistic and cultural backgrounds

In addition, the education must qualify students to participate in further studies.

VIA Engineering endeavours to work in accordance with a common DNA for all engineering courses. The DNA contains a description of what especially characterizes the engineering programmes at VIA, as well as what to expect from a graduate from our engineering programmes

At VIA Engineering, we are practice and project oriented and focus on the surrounding world. These objectives are achieved through relevant teaching, research and development as well as cooperation and ongoing dialogue with the business community. The programmes at VIA Engineering will qualify the graduates to perform practice- and development-oriented business functions.

English-language programmes and international admission is a characteristic of our engineering programmes. This profile creates a unique opportunity to educate students who can act in a Danish context on an increasingly global market. Our lecturers have a broad practical experience, and they understand how to combine theory and practice through laboratory work, company visits and projects for and in collaboration with companies.

To ensure the usefulness of the content of the programme, the principles of the CDIO education concept are applied, ensuring that the individual courses are continuously reviewed, evaluated and developed.

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2. Identity of the Programme

VIA Global Business Engineering (GBE) focuses on applied science and technology in a unique combination with economics and marketing, as well as languages and culture. The hallmark of the programme is the international focus and the inter-disciplinary skills, which will make the GBE graduate attractive to a wide range of companies.

The study location is either Horsens or Aarhus (1st-4th semester), however all courses from the 5th semester are taught in Horsens.

GBE graduates are qualified to:

- Operate primarily in the industrial market, especially within the fields of mechanical engineering and software engineering.
- Fulfil managerial positions within design and implementation of technical solutions, as well as within marketing and sales in Denmark and abroad.

- Obtain positions, e.g. as project managers, export managers, product managers or marketing coordinators.
- Work independently as well as in teams with members from different educational and cultural backgrounds.
- Optionally continue their studies to achieve a master's degree.

The objectives of the programme are achieved primarily through:

- Interaction between theory and practice with focus on **business, engineering, languages and culture**. Through the **project work**, emphasis is also on developing the student's professional, methodological, communicative and personal skills.
- Providing an **international study environment**, with all courses offered and taught in English for Danish and international students, with the possibility to carry out parts of the programme abroad
- Active utilisation of the student's **internship** as a means to exchange knowledge and experience between the university college and the industry.

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3. Structure and content

The programme is organised as a full-time higher education. Science and technology make up for minimum 50 percent of the study programme. Business and language courses make up maximum the remaining 50 percent of the programme. Teaching is structured around class tutorials, assignments, lab exercises and workshop practice. Classes are small in order to allow group discussions and provide more individualised attention. Focus is on active student-centered learning to develop your critical thinking and interpersonal skills.

Theory taught in classroom sessions is applied in problem-based projects. This prepares the student for the challenges after graduation.

After completing the 2nd semester, the GBE students must choose either a software engineering specialisation or a mechanical engineering specialisation. The programme structure and progression will be as indicated in the following two tables for GBE-Mechanical Engineering and GBE-Software Engineering, respectively.

GBE-Mechanical Engineering Specialisation

Semester	Course	Course	Course	Course/ Project		
9th semester Bachelor Project	Elective course	Elective course	**BPR2** Bachelor Project			
8th semester Internship	**INP1** Internship					
7th semester Bachelor Preparation	**ME MDE1** Machine Design	**ME ELE1** Electrical Engineering	**MST1** Management & Strategy	**SEP7** Semester Project		
6th semester Study abroad	**ME MEC2** Mechanics	**ME MED1** Machine Element Design	**ME TER 1** Thermo-dynamics	Elective course ME-engineering	Elective course	Elective course
5th semester Innovative Product Development	**ME TEM1** Technology and Environment	**ME MTR1** Materials Science	**ME TDE1** Technical Design	**LANG3** German/ French/ Spanish/ Danish	**SEP5** Semester Project	
4th semester Sustainable Engergy	**ME DYN1** Dynamics	**ENB M2** Electronics, Thermo-dynamics	**LANG2** German/ French/ Spanish/ Danish	**FCM1** Financial Management	**INO1** Cross Disciplinary Innovation	**SEP4** Semester Project
3rd semester International Business Environment	**ME MEC1** Statics	**MAT3** Mathematics	**LANG1** German/ French/ Spanish/ Danish	**BUE1** Business Economics	**SEP3** Semester Project	
2nd semester Design and Technology	**ENB M1** Introduction to Mechanical Engineering	**MAT2** Mathematics	**GBC2** Global Business Communication	**MAM2** Marketing Management	**IBC1** Intercultural Business Communi-cation	**SEP2** Semester Project
1st semester Robotics	**ENB ICT1** Introduction to Software Engineering	**MAT1** Mathematics	**GBC1** Global Business Communication	**MAM1** Marketing Management	**SSE1** Study Skills for Engineering Students	**SEP1** Semester Project

GBE-Software Engineering Specialisation

Semester	Course	Course	Course	Course/ Project		
9th semester Bachelor Project	Elective course	Elective course	**BPR2** Bachelor Project			
8th semester Internship	**INP1** Internship					
7th semester Bachelor Preparation	**IT DNP1** .NET Programming	**IT ERP1** ERP systems SAP ABAP/4 programming	**MST1** Management & Strategy	**SEP7** Semester Project		
6th semester Study abroad	**IT WEE1** Web Engineering Processes	**IT BUI1** Business intelligence	**IT AND1** Android development	Elective course Software Engineering	Elective course	Elective course
5th semester Innovative Product Development	**IT SWE1** Software Engineering	**IT SDJ2** Software development with Java 2		**LANG 3** German French Spanish Danish	**SEP5** Semester Project	
4th semester Sustainable Energy	**IT DBS1** Database Systems	**IT RWD1** Responsive web design	**LANG 2** German/ French Spanish Danish	**FCM1** Financial Management	**INO1** Cross Disciplinary Innovation	**SEP4** Semester Project
3rd semester International Business Environment	**IT SDJ1** Software development with Java 1		**LANG 1** German French Spanish Danish	**BUE1** Business Economics	**SEP3** Semester Project	
2nd semester Design and Technology	**ENB M1** Introduction to Mechanical Engineering	**MAT2** Mathematics 2	**GBC2** Global Business Communication	**MAM2** Marketing Management	**IBC1** Intercultural Business Communica-tion	**SEP2** Semester Project
1st semester Robotics	**ENB ICT1** Introduction to Software Engineering	**MAT1** Mathematics 1	**GBC1** Global Business Communication	**MAM1** Marketing Management	**SSE1** Study Skills for Engineering Students	**SEP1** Semester Project

The planned duration of the programme is 4 ½ years divided into 9 semesters and a total of 270 ECTS credit points. A single ECTS point represents 27.5 hours of study activity.

Each year the student will be able to complete study activities corresponding to 60 ECTS points. Study activities are,

- Mandatory courses and projects
- Internship
- Elective courses
- Bachelor project

All mandatory and elective courses will be either 5 or 10 ECTS. Projects range from 5 to 20 ECTS. The content, learning objectives, evaluation methods and tests of each course are described in this curriculum. A more detailed description of each course is available in appendix 2 and online.

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4. Compulsory courses of the programme

All courses in the first five semesters are compulsory, and most of the courses are included in a semester project. The overall purpose of the semester projects is to tie the courses together and thereby combine science, languages & culture and business, which is the main advantage of the GBE programme.
Project methods, philosophy of science, research methods, teamwork, and documentation skills are taught in the context of the semester projects.

Each semester has a theme where knowledge and skills are acquired through the course work. Competences are acquired through the project work. The themes of the first five semesters are:

- 1st semester: Robotics
- 2nd semester: Design and Technology
- 3rd semester: International Business Environment
- 4th semester: Sustainable Energy
- 5th semester: Innovative Product Development

4.1 1st semester: Robotics

Topics

- Introduction to software engineering (ENB ICT1)
- Mathematics 1 (MAT1)
- Global Business Communication1 (GBC1)
- Marketing Management 1 (MAM1)
- Study Skills for Engineering Students (SSE1)
- Semester Project (SEP1)

Learning objectives

Throughout the semester, the students are to acquire and develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the semester courses. More specifically for the first semester, the students must demonstrate their ability to design a robotic software solution including a marketing plan.

Course purpose:

Introduction to software engineering (ENB ICT1)
The main purpose of the course is to introduce the student to how basic computer program logic works, how to solve physical challenges using robots and how to model and design an IT system.
Mathematics 1 (MAT1)
The purpose of this course is to develop the students' basic mathematic abilities within 2D and 3D vectors and vectorvalued functions in 2 dimensions.
Global Business Communication1 (GBC1)
The purpose of this course is to develop the students' linguistic abilities and general communicative competences in English focusing especially on communication in a professional context.
Marketing Management 1 (MAM1)
The purpose of the course is to obtain a wide knowledge in marketing management and develop skills in order to be able to write a complete marketing plan for any business/organisation and product/service using relevant theories and models to identify, design and choose between alternative operative, tactic and strategic marketing possibilities.
Study Skills for Engineering Students (SSE1)
To develop the student's basic skills and competences for the excellent performance of study and project related activities that are required in the process of working towards an engineering degree.
Semester Project (SEP1)
The purpose is to analyse a given market and develop a strategy for approaching the market. Furthermore, a solution for the given market in the shape of an autonomous robot must be created and documented along with marketing materials. Students must also demonstrate an acquisition of process skills.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Introduction to Software Engineering (ENB ICT1)	5 ECTS	**Oral examination**, 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Mathematics 1 (MAT1)	5 ECTS	**Written examination**, 4 hours. **Internal censor**. 7-point scale **Reexamination**: Can be oral
Global Business Communication1 (GBC1)	5 ECTS	Written exam, 4 hours (40%), in-class progress test (20%), written assignment (20%), oral presentation (20%), **External censor**. 7-point scale **Reexamination**: As ordinary.
Marketing Management 1 (MAM1)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral
Study Skills for Engineering Students (SSE1)	5 ECTS	Passed/Not passed 80% attendance. Minimum three tests (written or oral) passed

		Reexamination: Written assignment
Semester Project (SEP1)	5 ECTS	**Oral examination** based on written report **Internal censor**. 7-point scale **Reexamination**: As ordinary

4.2 2nd semester: Design & Technology

Topics

- Introduction to Mechanical Engineering (ENB M1)
- Mathematics 2 (MAT2)
- Global Business Communication 2 (GBC2)
- Marketing Management (MAM2)
- Intercultural Business Communication (IBC1)
- Semester Project (SEP2)

Learning objectives

Throughout the semester, the students are to acquire and develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the semester courses. More specifically for the second semester, the students must demonstrate their ability to design a 3D technical mechanical solution including an international marketing plan.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Course purpose:

Introduction to Mechanical Engineering (ENB M1)
The purpose of the course is to provide the student with basic knowledge of engineering dynamics. In addition, the student must become familiar with problem solving techniques and achieve a solid basis for further technical and science education.
Mathematics 2 (MAT2)
The purpose of the course is to make the student capable of solving simple mathematic problems, which can be related to physics. Moreover, the student must be able to read and interpret technical literature, which includes simple mathematic terms.
Global Business Communication 2 (GBC2)
The purpose of this course is to further develop the students' linguistic abilities and general communicative competences in English focusing especially on communication in a professional context. Special focus will be on academic writing requirements in terms of syntax, coherence and structure, on technical English, report writing, presentations and information search on the semester theme. Focus will also be on developing oral communication based on business-related articles.
Marketing Management (MAM2)
The course will provide students with a solid understanding of marketing products and services on export markets in a global context. The overall purpose of this course is therefore to enable students to device a global marketing strategy and write an international marketing plan for any product or service in any export market.
Intercultural Business Communication (IBC1)
The purpose of this course is to enable the student to interact successfully and competently with people from different cultures in their future professional capacities.

Semester Project (SEP2)
The main purpose of the project is to design a technical energy efficient solution for an elevator system (dynamic calculations, 3D production- and assembly drawings). Furthermore, a complete international marketing plan must be developed for a chosen export market.

Volume
30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Introduction to Mechanical Engineering (ENB M1)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral. **Prerequisite:** In order to attend the exam, the practical course assignment must be accepted.
Mathematics 2 (MAT2)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: Can be oral
Global Business Communication 2 (GBC2)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: As ordinary
Marketing Management (MAM2)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral **Prerequisite:** MAM1 or equivalent marketing course
Intercultural Business Communication (IBC1)	**5 ECTS**	**Oral examination, 20 minutes Internal censor. 7-point scale Reexamination: As ordinary**
Semester Project (SEP2)	5 ECTS	**Oral examination** based on written report. **Internal censor**. 7-point scale **Reexamination**: As ordinary

4.3 3rd semester: International Business Environment

Topics

GBE - Mechanical engineering specialisation:

- Statics 1 (ME MEC1)
- Mathematics 3 (MAT3)
- German/French/Spanish/Danish (LANG1)
- Business Economics (BUE1)
- Semester Project (SEP3)

GBE - Software engineering specialisation:

- Software Development with Java 1(IT SDJ1)
- German/French/Spanish/Danish (LANG1)
- Business Economics (BUE1)
- Semester Project (SEP3)

Learning objectives

Throughout the semester, the students are to acquire and develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the semester courses. More specifically for the third semester, the students must demonstrate their ability to design a warehouse management solution and analyse the international challenges and opportunities

Course purpose - Mechanical engineering specialisation:

Mechanics 1 (ME MEC1)
Provide the student with basic skills in statics to analyze and solve problems/tasks within machine design.
Mathematics 3 (MAT3)
The purpose of the course is to make the student capable of solving simple mathematic problems, which can be related to physics. Moreover, the student must be able to read and interpret technical literature, which includes simple mathematic terms.
German/French/Spanish/Danish (LANG1)
GER1/ FRE1/ SPA1 The purpose of these courses is to develop the students' second language proficiency. Besides, the aim is to develop the students' knowledge and understanding of cultural, social, and political issues in respective relevant language areas of the world. **DAN1** The purpose of this course is to develop the students' fundamental language proficiency and communication skills in Danish, while progressively introducing the students to Danish culture and mentality.
Business Economics (BUE1)
The purpose is to obtain knowledge of how the firm profit is optimized under different market conditions and be able to analyse how external macroeconomic factors influence company decisions.
Semester Project (SEP3)
The main purpose of the project is to combine and apply knowledge acquired during the semester courses in this project. Furthermore the students must learn how to work cross-disciplinary between mechanical and software departments in order to develop the most efficient warehouse management solution and analyse the international challenges and opportunities for international production

Purpose - Software engineering specialisation:

Software Development with Java 1(IT SDJ1)
The main purpose of the course is to provide students with the qualifications needed to understand the core object-oriented concepts and to implement smaller programs in Java from UML class diagrams.
German/French/Spanish/Danish (LANG1)
GER1/ FRE1/ SPA1 The purpose of these courses are to develop the students' second language proficiency. Besides, the aim is to develop the students' knowledge and understanding of cultural, social, and political issues in respective relevant language areas of the world. **DAN1** The purpose of this course is to develop the students' fundamental language proficiency and communication skills in Danish, while progressively introducing the students to Danish culture and mentality.
Business Economics (BUE1)

The purpose is to obtain knowledge of how the firm profit is optimized under different market conditions and be able to analyse how external macroeconomic factors influence company decisions.
Semester Project (SEP3)
The main purpose of the project is to combine and apply knowledge acquired during the semester courses in this project. Furthermore, the students must learn how to work cross-disciplinary between mechanical and software departments in order to develop the most efficient warehouse management solution and analyse the international challenges and opportunities for international production.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Software Development with Java 1 (IT SDJ1)	10 ECTS	**Oral exam**; 30 minutes **External censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite:** In order to attend the exam, an in-course test (counts 20%) must be passed
Mechanics 1 (ME MEC1)	5 ECTS	**Oral exam**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Mathematics 3 (ME MAT3)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral
Business Economics (BUE1)	5 ECTS	**2 written tests**; 2 hours (each count 50%). **Internal censor**. 7-point scale **Reexamination**: *Can* be oral
German/French/Spanish/Danish (LANG1)	5 ECTS	**Oral exam**; 20 minutes. **External censor**. 7-point scale. **Reexamination**: As ordinary
Semester Project (SEP3)	10 ECTS	**Oral examination** based on written report. **Internal censor**. 7-point scale **Reexamination**: As ordinary

4.4 4th semester: Sustainable Energy

Topics

GBE - Mechanical engineering specialisation:

- Dynamics (ME DYN1)
- Electronics, Thermodynamics (ENB M2)
- German/French/Spanish/Danish (LANG2)
- Financial Management (FCM1)
- Cross Disciplinary Innovation (INO1)
- Semester Project (SEP4)

GBE - Software engineering specialisation:

- Database Systems (IT DBS1)
- Responsive Web Design (IT RWD1)
- German/French/Spanish/Danish (LANG2)
- Financial Management (FCM1)
- Cross Disciplinary Innovation (INO1)
- Semester Project (SEP4)

Learning objectives

Throughout the semester, the students are to acquire and further develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the semester courses. More specifically for the fourth semester, the students must demonstrate their ability to design a sustainable and profitable energy solution.

Course purpose - Mechanical engineering specialisation:

Dynamics (ME DYN1)
The course should teach the students how to use the laws of particle kinematics and kinetics.
Electronics, Thermodynamics (ENB M2)
The purpose of the course is to provide the student with basic knowledge within the field of DC electricity and thermodynamics. In addition, the student must become familiar with problem solving techniques and achieve a solid basis for further technical and science education.
German/French/Spanish/Danish (LANG2)
GER2/ FRE2/ SPA2 The purpose of these courses is to develop the students' second language ability so that they will be able to communicate in German, French or Spanish on business subjects in their future jobs as global business engineers. **DAN2** The purpose of this course is to develop the students' fundamental language proficiency and communication skills in Danish, while progressively introducing the students to Danish culture and mentality.
Financial Management (FCM1)
The focus of the course is to look at financing and investment decision making within the private sector of the economy. The main purpose is for the students to be able to understand and evaluate the current state of a company and evaluate on capital investment proposals.
Cross Disciplinary Innovation (INO1)
Innovation is integral to business success in the 21st century and in this course, students will explore the innovator's mind-set and apply innovation processes to solve real-world problems. Students will be introduced to creativity, creative thinking, innovation theory and methods, and the primary learning experience will be hands-on going through the different phases of the innovation process. Innovation is not only getting a good idea, but also actually turning that idea into products or services that can be sold and make a profit in a highly competitive global market.
Semester Project (SEP4)
The project´s main purpose is to combine elements from the two specializations including practical testing of solar panels and combined with elements from the financial management course. Furthermore, the students must develop and improve their competences in project work and use skills they have learned in previous courses.

Course purpose - Software engineering specialisation:

Database Systems (IT DBS1)
The main purpose of the course is two-fold. Firstly, students are to learn methods for designing, implementing and operating single-user relational databases. Secondly, students are to learn the main principles, architecture and technologies of a typical relational database management system (RDBMS).

Responsive Web Design (IT RWD1)
The purpose of this course is to introduce a set of theories and tools in order for students to obtain a proficient level of knowledge and gain a practical set skill for designing and developing responsive web sites for both PCs and mobile devices using basic web programming.
German/French/Spanish/Danish (LANG2)
GER2/ FRE2/ SPA2 The purpose of these courses is to develop the students' second language ability so that they will be able to communicate in German, French or Spanish on business subjects in their future jobs as global business engineers. **DAN2** The purpose of this course is to develop the students' fundamental language proficiency and communication skills in Danish, while progressively introducing the students to Danish culture and mentality.
Financial Management (FCM1)
The focus of the course is to look at financing and investment decision making within the private sector of the economy. The main purpose is for the students to be able to understand and evaluate the current state of a company and evaluate on capital investment proposals.
Cross Disciplinary Innovation (INO1)
Innovation is integral to business success in the 21st century and in this course, students will explore the innovator's mind-set and apply innovation processes to solve real-world problems. Students will be introduced to creativity, creative thinking, innovation theory and methods, and the primary learning experience will be hands-on going through the different phases of the innovation process. Innovation is not only getting a good idea, but also actually turning that idea into products or services that can be sold and make a profit in a highly competitive global market.
Semester Project (SEP4)
The project´s main purpose is to combine elements from the two specializations combined with elements from the financial management course. Furthermore, the students must develop and improve their competences in project work and use skills they have learned in previous courses.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Dynamics (ME DYN1)	5 ECTS	**Written examination**, 4 hours **Internal censor**. 7-point scale **Reexamination**: *Can* be oral **Prerequisite**: mandatory course work
Electronics, Thermodynamics (ENB M2)	5 ECTS	**Written examination**, 4 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral
Database Systems (IT DBS1)	5 ECTS	**Written examination**, 4 hours **Internal censor**. 7-point scale **Reexamination**: *Can* be oral **Prerequisite**: 75% class attendance and

		mandatory course work approved
Responsive Web Design (IT RWD1)	5 ECTS	**Written examination**, 2 hours **Internal censor**. 7-point scale **Reexamination**: *Can* be oral **Prerequisite**: 75% class attendance and mandatory course work approved
German/French/Spanish/Danish (LANG2)	5 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale **Reexamination**: As ordinary
Financial Management (FCM1)	5 ECTS	**Written examination**, 3 hours **External censor**. 7-point scale **Reexamination**: *Can* be oral
Cross Disciplinary Innovation (INO1)	5 ECTS	**Oral examination**; group presentation Passed/not passed **Reexamination**: As ordinary **Prerequisite**: 80% attendance.
Semester Project (SEP4)	5 ECTS	**Oral examination** based on written report **Internal censor**. 7-point scale **Reexamination**: As ordinary

4.5 5th semester: Innovative Product Development

Topics

GBE - Mechanical engineering specialisation:

- Technology (ME TEM1)
- Material Science (ME MTR1)
- Construction (ME TDE1)
- German/French/Spanish/Danish (LANG3)
- Semester Project (SEP5)

GBE - Software engineering specialisation:

- Software Engineering 1 (IT SWE1)
- Software Development with Java (IT SDJ2)
- German/French/Spanish/Danish (LANG3)
- Semester Project (SEP5)

Learning objectives

Throughout the semester, the students are to acquire and further develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the semester courses. More specifically for the fifth semester, the students must demonstrate their ability to design and develop an innovative product solution for the international market.

Course purpose - Mechanical engineering specialisation:

Technology (ME TEM1)
The main purpose of the course is to enable the student – from a designer's point of view - to select relevant processing technologies taking into account time, cost and production volume, life cycle analysis and environmental aspects.
Material Science (ME MTR1)
The main purpose of the course is to enable the student to select the relevant materials based on material properties and corrosion environment. It is crucial that the student tests theory in practice, through laboratory work, to gain a deeper understanding of science issues.
Construction (ME TDE1)
To provide methods and tools within the fields of technical drawing and standard mechanical parts.
German/French/Spanish/Danish (LANG3)

GER3/FRE3/SPA3

The purpose of this course is to develop the students' second language ability so that they will be able to communicate fluently on business and technical subjects. Students should also be able to negotiate using their secondary language and have the necessary knowledge of business etiquette and protocol. Besides, students should be able to make fluent product and company presentations.

DAN3

The purpose of this course is to develop the students' language proficiency and communication skills in Danish focusing on doing job interviews in Danish.

Semester Project (SEP5)

The purpose of the project is to develop competences in defining, managing and implementing an innovative project bridging technical and business issues.

Course purpose - Software engineering specialisation:

Software Engineering 1 (IT SWE1)

The purpose is to qualify the student to apply software engineering concepts used to develop Object Oriented software. Structure the software development process by applying SCRUM and Unified Process to conduct Analyse, Design and Test-descriptions to exemplify a final solution from a real-lift problem. This involves requirement capturing (Use Cases and non-functional requirements), analysis, domain models, interaction diagrams, design classes, design patterns and test-descriptions etc.

Software Development with Java (IT SDJ2)

The purpose is to qualify the student to understand and master the concepts and techniques of object-oriented system development and programming, including Client/Server programming.

The course will provide students with the qualifications needed to understand how to:

- Implement solutions in Java using design patterns
- Implement solutions in Java using threads
- Develop client/server systems

German/French/Spanish/Danish (LANG3)

GER3/FRE3/SPA3

The purpose of this course is to develop the students' second language ability so that they will be able to communicate fluently on business and technical subjects. Students should also be able to negotiate using their secondary language and have the necessary knowledge of business etiquette and protocol. Besides, students should be able to make presentations and to express themselves orally with a rather high level of accuracy in their second language.

DAN3

The purpose of this course is to develop the students' language proficiency and communication skills in Danish focusing on doing job interviews in Danish.

Semester Project (SEP5)

The purpose of the project is to develop competences in defining, managing and implementing an innovative project bridging technical and business issues.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume
30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Technology (ME TEM1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Material Science (ME MTR1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Construction (ME TDE1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Mandatory assignment
Software Engineering 1 (IT SWE1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: 75% attendance.
Software Development with Java (IT SDJ2)	10 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: 75% attendance
German/French/Spanish/Danish (LANG3)	5 ECTS	**Oral examination**; 30 minutes **External censor**. 7-point scale **Reexamination**: As ordinary
Semester Project (SEP5)	10 ECTS	**Oral examination** based on written report. **Internal censor**. 7-point scale **Reexamination**: As ordinary

4.6 6th semester: Study Abroad

Topics

GBE - Mechanical engineering specialisation:
- Mechanics (ME MEC2)
- Machine Element Design (ME MED1)
- Thermodynamics (ME TER1)

GBE - Software engineering specialisation:
- Web Engineering Processes (IT WEE1)
- Business Intelligence (IT BUI1)
- Android Development (IT AND1)

Learning objectives

Throughout the semester, the students are to acquire and further develop good project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the previous semester courses. More specifically for the sixth semester,

the students must demonstrate their ability to study and work in a technical- and international environment abroad.

Course purpose - Mechanical engineering specialisation:

Mechanics (ME MEC2)
That the student will be able to analyse stresses, strains and deflections in structures in order to assess a machine design in relation to safety against yielding and fracture.
Machine Element Design (ME MED1)
The main purpose of the course is to provide the student with the knowledge, methods and analytical tools within the fields of machine elements and technical design.
Thermodynamics (ME TER1)
The student will obtain knowledge of the basic theory within thermodynamics and be able to perform elementary thermal calculations.

Course purpose - Software engineering specialisation:

Web Engineering Processes (IT WEE1)
To introduce students to basic principles of the Web Engineering Process covering web development concepts, methods, tools and techniques. Learn to implement Web applications in ASP.NET and C#.
Business Intelligence (IT BUI1)
The main purpose of the course is to equip the student to work with realistic data using professional business intelligence tools, such as Microsoft SSIS, SSRS, and SSAS.
Android Development (IT AND1)
The purpose of this course is to provide the student with the knowledge, skills and competencies needed to utilize the tools, principles, patterns and best practices of Android development.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Mechanics (ME MEC2)	5 ECTS	**Oral examination**; 20 minutes. **External censor**. 7-point scale **Reexamination**: As ordinary
Machine Element Design (ME MED 1)	5 ECTS	**Oral examination**; 20 minutes based on course assignment. **Internal censor**. 7-point scale **Reexamination**: As ordinary
Thermodynamics (ME TER1)	5 ECTS	**Written examination**; 4 hours (70%) **Internal censor**. 7-point scale **Reexamination**: *Can* **be oral Prerequisite:** mandatory course activity

		accepted
Web Engineering Processes (IT WEE1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Business Intelligence (IT BUI1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
Android Development (IT AND1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite:** mandatory course activity accepted

4.7 7th semester: Bachelor Preparation

Topics

GBE - Mechanical engineering specialisation:
- Machine Design (ME MDE1)
- Electrical Engineering (ME ELE1)
- Management and Strategy (MST1)
- Semester Project (SEP7)

GBE - Software engineering specialisation:
- .NET Programming 1 (IT DNP1)
- ERP systems and SAP ABAP/4 programming (IT ERP1)
- Management and Strategy (MST1)
- Semester Project (SEP7)

Learning objectives

Throughout the semester, the students are to fine tune their project management skills. The students must demonstrate their ability to work with cross-disciplinary challenges by implementing theoretical knowledge taught during the previous semester courses. More specifically for the seventh semester, are to prepare for their bachelor project comprising all three GBE elements – applied business, applied engineering and applied language and culture focusing on the UN 17 goals.

Course purpose - Mechanical engineering specialisation:

Machine Design (ME MDE1)
The main purpose of the course is for students to acquire the competences needed to design and dimension a simple machine assembly. Students will in some issues test theory in practice through laboratory work/assignment to gain a deeper understanding of science issues.
Electrical Engineering (ME ELE1)
The main purpose is to gain knowledge about electrical systems, installations and to be able to calculate and select correct electric motors.
Management and Strategy (MST1)
The main purpose of the course is for the students to gain and apply knowledge on management and strategy theory, tools and planning processes in an organizational context.
Semester Project (SEP7)
The main purpose of the semester project is to develop and practice cross-disciplinary Global Business Engineering competences within sustainable product development and entrepreneurship supporting the framework of the UN 17 Sustainable Development

Goals (SDGs) preparing for the final bachelor project.

Course purpose - Software engineering specialisation:

.NET Programming 1 (IT DNP1)
The purpose is to qualify the student to describe and implement the basic concepts of the C# programming language and the .NET developer platform.
ERP systems and SAP ABAP/4 programming (IT ERP1)
To introduces main aspects within design and implementation of ERP systems and SAP ABAP/4 Programming.
Management and Strategy (MST1)
The purpose of this course is for the students to gain and apply knowledge on management and strategy theory, tools and planning processes in an organizational context.
Semester Project (SEP7)
The main purpose of the semester project is to develop and practice cross-disciplinary Global Business Engineering competences within sustainable product development and entrepreneurship supporting the framework of the UN 17 Sustainable Development Goals (SDGs) preparing for the final bachelor project.

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Machine Design (ME MDE1)	5 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale **Reexamination**: As ordinary
Electrical Engineering (ME ELE1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary
.NET Programming 1 (IT DNP1)	5 ECTS	**Written exam**; 4 hours **Internal censor**. 7-point scale **Reexamination**: *Can* be oral **Prerequisite**: Course work handed in & 75% attendance
ERP systems SAP ABAP/4 Programming 1 (IT ERP1)	5 ECTS	**Oral examination**; 20 minutes (counts 50%) **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Course work handed in (counts 50%)
Management and Strategy (MST1)	5 ECTS	**Oral exam** based on written report. **Internal censor**. 7-point scale **Reexamination**: As ordinary. **Prerequisite**: Written report handed in on time
Semester Project (SEP7)	15 ECTS	**Oral exam** based on written report. **Internal censor**. 7-point scale **Reexamination**: As

		ordinary.

4.8 8th semester: Internship

For further details, read section 6.

4.9 9th semester: Bachelor project

For further details on the bachelor project, read section 8.

Topics

GBE - Bachelor Project (BRP2)

Course purpose:

Bachelor Project (BRP2)
The students must show that they have achieved the objectives set for the Global Business Engineering programme. This is done by solving a real-life problem using relevant theories and methods applied applying the following elements: 1. Applied engineering 2. Applied business 3. Applied language and culture

The learning objectives of the course (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Bachelor Project (BPR2)	20 ECTS	**Oral exam** based on written report. **External censor.** 7-point scale. **Reexamination**: As ordinary

5. Practical Workshops

Workshop courses are practice-related courses of one week duration (No ECTS). The courses are conducted in parallel with the semesters. There are three mandatory courses (Mechanical students only):

GX-PWS1 (2nd Semester): 3D CAD programming: Technical communication and documentation.
ME-PWS1: (5th Semester) Safety Manufacturing: Material reducing processes (Mechanical students)
ME-PWS4: (7th Semester) Electro Technology, Hydraulic, Pneumatic (Mechanical students)

6. Internship

The internship comprises a semester of 30 ECTS and is placed on the 8th semester of the programme. The internship period is either paid or unpaid and takes place either in a private or in a public company in Denmark or abroad. The duration of the internship must have a period of minimum 20 weeks full-time work.

The purpose of the internship is for the student to acquire insight into practical engineering equivalent to the work of an engineering assistant, combined with the integrated application of the concepts, methods and techniques of the applied disciplines acquired in the first seven semesters.

The student is responsible for finding an internship position which must be approved by VIA, who will appoint a supervisor to the intern.

The student prepares a plan for the internship programme with a corresponding assignment elaborated in cooperation with the company.

The basis for an assessment of the internship is continuous reporting by the student to VIA, feedback from the internship company, as well as a presentation during which the supervisor can ask detailed questions about the internship content.

If the internship is interrupted before the end of the internship period, the supervisor must, in consultation with the head of programme, assess whether the internship has had a duration and a content sufficient for passing the internship.

The internship is assessed approved / not approved.

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7. Elective courses

The GBE programme comprises 25 elective ECTS points:

In the 6th and 9th semesters, students can mix elective courses from the Global Business Engineering, Software Engineering and Mechanical Engineering programmes irrespective of the chosen specialization. The electives listed below show those offered by the Global Business Engineering programme. The electives offered by the mechanical engineering and software engineering programmes do not appear from the present curriculum.

It is also possible to choose one elective from other programmes. If so, the elective must be approved by the study counsellor.

Electives and specializations are only offered to the extent that sufficient students have chosen them.

On the Global Business Engineering Programme, the following elective courses are as minimum available:

Course purpose

Doing Business in the US (DBU)
The purpose of this course is to give the students in-depth knowledge of factors which affect the business climate in the US. The course will develop the students' English oral proficiency and expand their vocabulary relevant to the course topics.
Doing Business in China (DBC)
The purpose of this course is to give the students in-depth knowledge of factors which affect the business climate in China. The course will develop the students' oral proficiency and expand their knowledge and vocabulary relevant to the course topics.
E-commerce (ECO)

Based on an analysis of a given company and its trade, the students learn how to integrate e-commerce in a future company strategy in an expedient way. This includes knowledge about economic, logistic and organizational consequences that e-commerce can have on companies on a short and a long term. The course includes an introduction to professional requirements to an e-commerce website.
Entrepreneurship (ENT)
The purpose is to learn about the entrepreneurial process through theories, reflection and practical exercises enabling students to put the theories and reflections into practice, by learning through entrepreneurship. The aim is to make the student aware that entrepreneurship is about taking action. This requires an entrepreneurial mindset, and therefore by necessity involves professionalism, personality, identity and values to make business creation genuine and distinguish it from other companies and organizations
Personal Selling and Sales Management (SSM)
The purpose is to enable the student to carry out a professional sales presentation for any business and product/service by mastering all the steps in the sales process from prospecting to obtaining the order and the follow-up phase
Project Management (PRM)
During the course, the student will become familiar with the tools that can help the project manager being successful in his or her work. Focus will be on how to organize a complex cross-disciplinary project and apply relevant tool in order to minimize the risk of failure

The learning objectives of the courses (knowledge, skills and competences) and detailed test form are provided in Appendix 2.

Volume

30 ECTS credits

Exams

Number of tests and test forms. For detailed information and requirements see appendix 2.

Doing Business in the US (DBU1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Completed mandatory course activity.
Doing Business in China (DBC1)	5 ECTS	**Oral examination**; 20 minutes **Internal censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Completed mandatory course activity
E-commerce (ECO1)	5 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Completed mandatory course activity
Entrepreneurship (ENT1)	5 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale **Reexamination**: As ordinary **Prerequisite**: Completed mandatory course activity.
Personal Selling and Sales Management (SSM1)	5 ECTS	**Oral examination**; 20 minutes **External censor**. 7-point scale

		Reexamination: As ordinary **Prerequisite**: Completed mandatory course activity
Project Management (PRM1)	5 ECTS	**Written exam**; Project group report and individual assignment **Internal censor**; 7-point scale **Reexamination**: As ordinary

8. Bachelor Thesis

The programme is concluded with a bachelor thesis (BPR1) which constitutes 20 of the total 270 ECTS credits of the programme and is finalized with a test.

The Bachelor thesis must demonstrate individual self-critical reflection within the chosen subject as well as document the student's ability to apply engineering theories and methods. In addition, the bachelor thesis must reflect the student's ability to express himself/herself professionally and structured within his/her subject.

The Bachelor thesis comprises an independent experimental, empirical and / or research on a practical problem related to the core subjects of the programme.

The student's performance is evaluated by an oral examination with individual assessment according to the learning objectives described under "4. Compulsory courses and projects". The basis for the exam is the bachelor thesis. It is a prerequisite for participation in the exam that the bachelor thesis is handed in within the stipulated deadline, and that it meets the project requirements described.

The examination may take place at the earliest when all the other exams and tests of the programme, including the internship test, have been passed. The examination is assessed on the 7-point scale and with the participation of an external examiner.

9. Title and issue of diploma

Graduates who have completed the studies under this curriculum are entitled to use the title **Bachelor of Engineering in Global Business Engineering** and the title **Bachelor of Engineering** in an engineering firm.

Upon completion of the programme, VIA University College issues a diploma indicating title, programme, and information about the results of the grades obtained. Furthermore, the diploma contains information about the bachelor thesis. In addition, the admittance level on which the graduate was admitted to the programme is noted.

Should the education be discontinued, proof of passing study units is issued.

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SHWA

Appendix 1 (for students enrolled in 2017)

For students enrolled in the GBE-program in 2017, the below structure is followed, due to the fact that the MAT B-admission requirement was introduced in 2018:

GBE-M:						
Semester	**Course**	**Course**	**Course**	**Course/ project**	**Project**	
9th semester	Elective	Elective	**BPR2** Bachelor Project			
8th semester	**INP1** Internship					
7th semester	**ME MDE1** Machine Design	**ME ELE1** Electrical Engineering	**MST1** Management & Strategy	**SPE7** Semester Project		
6th semester Study Abroad	**ME MEC 2** Mechanics	**ME MED 1** Machine Element Design	**ME TER 1** Thermo-dynamics	Elective Mechanical Engineering specialisation	Elective	Elective
5th semester	**ME TEM 1** Technological Processes and Environment	**ME MTR 1** Materials Science	**ME TDE 1** Technical Design	**LANG3** GER3 FRE3 SPA3 DAN3	**SEP5** Semester Project	
4th semester	**ME DYN 1** Dynamics	**ENB M 2** Electrical Engineering, Thermo-dynamics	**LANG2** GER2 FRE2 SPA2 DAN2	**FCM1** Financial Management	**INO1** Cross Disciplinary Innovation	**SEP4** Semester Project
3rd semester	**ME MEC1** Statics	**MAT3** Mathematics 3	**LANG1** GER1 FRE1 SPA1 DAN1	**BUE1** Business Economics	**IBC1** Intercultural Business Communication	**SEP3** Semester Project
2nd semester	**ENB M1** Introduction to M-engineering	**MAT 2** Mathematics 2		**GBC2** Global Business Communication 2	**MAM2** Global Marketing Management	**SEP2** Semester Project
1st semester	**ENB ICT1** Introduction to Software engineering	**MAT1** Mathematics 1	**GBC1** Global Business Communication 1	**MAM1** Marketing Management	**SSE1** Study Skills for Engineering Students	**SEP1** Semester Project

GBE-ICT:

Semester	Course	Course	Course	Course/ project	Project	
9th semester	Elective	Elective	**BPR 2** Bachelor project			
8th semester	**INP1** Internship					
7th semester	**IT DNP 1** .NET programming	**IT ERP 1** ERP systems SAP ABAP/4 programming	**MST1** Management & Strategy	**SEP7** Semester Project		
6th semester Study Abroad	**IT WEE1** Web Engineering	**IT BUI 1** Business intelligence	**IT AND 1** Android Development	**Elective -** Software Engineering specialisation	**Elective**	**Elective**
5th semester	Processes	**IT SDJ 2** Software development with Java 2		**LANG3** GER3 FRE3 SPA3 DAN3	**SEP5** Semester Project	
4th semester	**IT DBS 1** Database systems 1	**IT RWD 1** Responsiveweb design	**LANG2** GER2 FRE2 SPA2 DAN2	**FCM1** Financial Management	**INO1** Cross Disciplinary Innovation	**SEP4** Semester Project
3rd semester	**IT SDJ 1** Software development with Java 1		**LANG1** GER1 FRE1 SPA1 DAN1	**BUE1** Business Economics	**IBC1** Intercultural Business Communication	**SEP3** Semester Project
2nd semester	**ENB M1** Introduction to M- engineering	**MAT 2** Mathematics 2		**GBC2** Global Business Communication 2	**MAM2** Global Marketing Management	**SEP2** Semester Project
1st semester	**ENB ICT1** Introduction to Software Engineering	**MAT1** Mathematics 1	**GBC1** Global Business Communication 1	**MAM1** Marketing Management	**SSE1** Study Skills for Engineering Students	**SEP1** Semester Project

Appendix 2: Courses Global Business Engineering Programme

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
GBE-BPR	Bachelor Project (GBE-)	20	**Knowledge, Skills & Competences** **The bachelor project must document the student's ability to apply relevant theories and methods from all three areas listed above. It must further show the ability to clearly formulate a relevant problem and in the end demonstrate the ability to solve the problem at a level as would be expected in a real-world business situation.** **Thus, the report must demonstrate a sufficient level of learning, knowledge and competences in the three core GBE subjects of engineering, business, culture and language plus mastering the combination of these.** **In addition, the bachelor project must reflect the student's ability to express themselves professionally and in a structured way.** **Finally, the project must demonstrate individual judgement and self-critical reflection.**			Presentation (10 -15 minutes per student) followed by an examination (20-30 minutes per student). The evaluation is based on the oral presentation of the project, the project report as well as the process report. All the members of the project group are responsible for the entire project report and process report. The contributions of each student must clearly appear from the process report.
GBE-BUE1	Business Economics	5	The students should be able to Identify and sketch the firm's demand and supply functionsIdentify and sketch the optimal price and quantity that maximizes the firms profitIdentify and sketch the different market structuresIdentify and sketch the aggregate demand and Supply for the market / industryIdentify the Macroeconomic tools and objectivesIdentify and describe the different macroeconomic policies	At the end of this course, and having completed the essential reading and activities, the students should be able to: use appropriate tools to model company price and output decisions under different market structuresanalyze and assess efficiency and welfare optimality of perfectly and imperfectly competitive marketsanalyze and asses the effects of externalities and public goods on efficiencyanalyze and assess government policies aimed at improving welfare.	After the course, the students should be able to: use the most important theories from "Microeconomics" to analyse the business microeconomic environmentunderstand cost structures of firms and be able to find the optimal price and quantity that will maximize a firm´s profit under different assumptions of market structuresuse the most important theories from "Macroeconomics" to obtain knowledge on the global macro economyanalyse and assess the connection between various macroeconomic changes and the significance of the change to the concrete company.	**Written examination (TEST)** Two tests each of 2 hours duration Allowed tools: Course literature according to the course descriptionPersonal notesLaptopCalculator The exam grade will be given from the two tests held during the course which each account for 50% of the final grade. Re-exam (for both tests) will take place during the re-examination period in February.
GBE-DAN1	Danish Culture and Society 1	5	The students should have knowledge about/understand and reflect on: The Danish language, including basic	After the course the students should be able to: Read and understand the contents of texts, which in a relatively	After the course the students should to a certain extent, be able to: Communicate in Danish in an	**Oral Examination** **Individual oral examination based upon a subject found by draw.**

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			grammar, sentence structure, vocabulary and pronunciation.	simple language describes everyday life in Denmark.To scan texts for specific information.Write easy texts.Acquire knowledge about Danish culture and society.	understandable language, orally and in writing.Function and cooperate with people with different educational, language, and cultural backgrounds.Understand and discuss every day conditions in a comparatively simple language.	**No preparation** **Allowed tools: None** **External examiner** **Additional information:** **The students are examined based on "På vej til dansk" from which the students must read aloud, answer questions, participate in a discussion and deal with verbs and nouns. Two out of tree compulsory tests during the course, will count 30 % toward the final mark. In the event of a borderline mark, participation during the course influences the outcome.** **The course must be passed before the limit set in the course curriculum.**
GBE-DAN2	Danish Culture and Society 2	5	The students should have knowledge about/understand and reflect on: The Danish language including basic grammar, sentence structure, vocabulary and pronunciation.	After the course, the students should be able to: Read and understand the contents of a broad selection of texts, which describe everyday life in Denmark.Scan texts/locate information relevant to everyday life in Denmark.Write easier texts.Acquire knowledge about Danish culture and society.	After the course, the students should be able to: Communicate in Danish in an understandable language, orally and in writing.Function and cooperate with people with different educational, language, and cultural backgrounds.Understand and discuss every day conditions in a comparatively simple language.	**Oral Examination**Individual oral examination based upon a subject found by draw. No preparationAllowed tools: None External examiner. The oral examination is weighted 70 %. In addition, 3 compulsory tests are conducted during the course. 2 of these will count 30 % toward the final mark. In the event of a borderline mark, participation during the course influences the outcome. Please note that re-examinations may take a different form than the ordinary exams.
GBE-DAN3	Danish Culture and Society 3	5	The students should have knowledge about/understand and reflect on: Extracting the essence of a job announcement and formulating CV and job application. Fundamental grammar, communication skills, comprehension.	After the course, the students should be able to: Extracting the essence of a job announcementFormulating a CV and job applicationMaking a job interview in DanishAcquire knowledge about Danish culture and society.	After the course, the students should be able to: Communicate in Danish in an understandable language, orally and in writing.Function and cooperate with people with different educational, language, and cultural backgrounds.Understand and discuss every day conditions in a comparatively simple language.	**Oral Examination** •Individual oral examination based upon an applicationIndividual oral examination based upon a subject found by draw No preparationExternal examiner. The oral examination is weighted 70 %. In addition, 3 compulsory tests are conducted during the course. In the event of a borderline mark, participation during the course influences the outcome. Please note that re-examinations may take a different form than the ordinary exams.
GBE-DBC1	Doing Business in China	5	After the course the student should be able to: Account for and explain factors that influence the business climate in	After the course the student should be able to: Analyze and comment on the attractiveness of the Chinese market for	In their project work, during their internships, and in their future jobs as global business engineers, the students	Oral ExaminationIndividual oral examination based upon a subject

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			China, including key concepts of Chinese business trends, Chinese economy, Chinese geography, politics, philosophy, and life-styles.Basic knowledge of Chinese language for business usage.	import/export and investment within the framework of the course contentDiscuss the course content in relation to ongoing trends and rapid developments in ChinaLocate information relevant to setting up a business in ChinaApply relevant terminology when discussing the course contentCommunicate by using basic Chinese language.	should be able to: Apply the knowledge and skills acquired in relation to factors that influence the business climate in China when dealing with Chinese partners.Communicate effectively about Chinese topics, using correct terminology.Critically acquire new knowledge about trends and developments in China.	found by draw.No preparation. Allowed Tools: Personal notes Duration of the examination (grading included) app. 20 min/ 5 ECTS. Censor can be either external or internal.
GBE-DBU1	Doing Business in the US	5	After the course the student should be able to: Account for and explain factors, which influence the business climate in the US, including US politics, the US economy, American geography, demographics and American values, beliefs and life-styles.	After the course the student should be able to: Analyse and comment on the attractiveness of the US market for export and investment within the framework of the course contentDiscuss the course content in relation to on-going trends and developmentsLocate information relevant to setting up in business in the USLocate information in relation to demographic trends in the USApply relevant terminology when discussing the course content	In their project work, during their internships, and in their future jobs as global business engineers, the students should be able to: Apply the knowledge and skills acquired in relation to factors which influence the business climate in the US, when doing business in or with the US.Communicate effectively about US topics, using correct terminology.Critically acquire new knowledge about trends and developments in the US.	**Oral Examination** Individual oral examination based upon a subject found by draw. Preparation time 20 minutes. Allowed tools: None Internal examiner. Please note that re-examinations may take a different form than the ordinary exams.
GBE-DMA1	Digital Marketing	5				
GBE-ECO1	E-Commerce	5	Describe the key technology concepts behind the Internet, its basic structure and explain how the Web worksIdentify and describe the unique features of e-commerce technology and their business significanceIdentify the key components e-commerce revenue modelsDescribe the major B2C and B2B business models and their key componentsDiscuss the impact of the mobile platform, social networks and cloud computingDescribe the potential capabilities of the Internet of the futureUnderstand the process and key steps that should be followed in building an e-commerce Web siteIdentify and understand the major considerations in choosing the most appropriate hardware and software for an e-commerce Web siteIdentify the key security threats in the e-commerce environment and describe key tools in relation to e-commerce securityExplain how consumers behave online and make purchasing decisionsIdentify and describe the main technologies that	Analyze the effectiveness of web site design using key models and suggest points for improvementBe able to design effective web sitesBenchmark the e-commerce strategy, including its web site, of a company against other relevant companies in the industryIdentify possibilities and limitations of key e-commerce business and revenue models for a companyBe able to suggest relevant on-line communication strategies to generate traffic to a web siteIdentify key methods offered by web technology to retain customers by improving customer relationshipsIncorporate relevant trends in mobile and social network technology in e-commerce strategies	Evaluation of a company's current e-commerce strategy in relation to key trends in e-commerce, technology and competitor activities and provide input to strategy development Be able to identify e-commerce opportunities and develop appropriate business strategies for such opportunities Manage web site development projects in co-operation with internal and external partners Be able to plan and implement an e-commerce marketing strategy within the framework of the company's overall business and marketing strategy	**1. Exam** **The exam is individual, oral and will last for 20 minutes including grading.** **2. Compulsory assignments** **All assignments outlined in the teaching plan are compulsory. They are done in groups of 2-3 students. The assignments must be handed in on time and approved by the lecturer.** **Failure to hand in a compulsory assignment will result in a deduction of 5% from the exam grade for each assignment.** **The criteria for approval of each compulsory assignments during the semester are:** **(a) Handed in at the time and date specified by the lecturer** **(b) A length of at least ½ standard A4 page and a maximum length of 1 page. The maximum length might be longer for certain assignments.** **(c) The hand-ins must meet the minimum requirements for acceptance (adequate level) in order**

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			support online marketingIdentify and describe basic e-commerce marketing and branding strategiesIdentify the major forms of online marketing communications strategies and explain their pros and consIdentify the major trends in the consumption of media and online contentDescribe the different types of social networks and online communities and their relevance for e-commerceIdentify the main types of B2B commerce and their relation to the procurement process and supply chain management			**to be approved by the lecturer.** **Please note that re-examinations may take a different form than the ordinary exams.**
GBE-ENB ICT1	Engineering Basics for Information and Communication Technology	5	The student will be able to: Describe the basics of computer software program logic and flowIdentify the basic components of computer hardware architectureDescribe the components and properties of embedded systemsDescribe and test the functionality of a robotList common data types and describe the concept of type conversionIdentify binary numbers up to the decimal number 15Define the term “algorithm”List at least three types of sensors used for working with robotsIdentify the basic activity diagram notations and symbolsDescribe imperative programming concepts, including assignments, loops, variables, conditions and expressions	The student will be able to: Perform basic programming through a visual programming languageDesign and describe an IT system, including using UML activity diagramsSolve simple physical challenges by constructing and designing robots from bricks, motors and sensorsControl the motors and sensors of a robot through softwareExplain the purpose of multithreading when writing softwareWork with basic data structures, including arraysApply the basic operations of boolean algebraCreate simple mobile applications in order to remotely control a robot	The student will be able to: Design, construct and program robots for specific activities and scenariosDesign and implement an IT systemSolve problems through an analytical, engineering approachPredict the interaction between an autonomous system and its environment	Oral Examination The examination is a joint exam with GBE-SEP1 Group presentation followed by individual examinationGroup presentation of the GBE-SEP1 project – 15 minutesIndividual examination – 20 minutes10 minutes of examination in the GBE-SEP1 project10 minutes of examination in a drawn GBE-ENB ICT1 question, based on course work Both courses are graded individually Allowed tools: All Internal examiner Please note that re-examination may take a different form than the ordinary exam
GBE-ENB M1	Engineering Basics for Mechanical Engineering	5	The students should acquire knowledge about: The SI unit systemKinematics: velocity and acceleration in 1D and 2D, projectile motionDynamics: Newton’s Laws, work, kinetic and potential energy.	After completing this course, the student will be able to: Correctly use the SI-unit system and perform dimensional checks of calculationsAnalyze and solve simple problems within kinematics and dynamics.	The students should gain competences in: Reading scientific text including formulae, graphs, diagrams etc.Applying an analytical and systematic approach to simple, stylized engineering problemsCommunicating simple calculations using concise language, formulae, and sketches.	Written examination. Duration: 4 Hours Internal examiner In order to attend the exam, the practical course assignment must be completed and presented before the deadline set by the teacher. If the student fails to complete the assignment, one exam attempt has been used and a new deadline for the completion will be set. All usual tools (including laptops) are al-lowed, but the student is strictly forbidden to access the internet during the exam. Pen-and-paper solutions must be scanned after exam – scanners are provided. Please note that re-examinations may take a different form than the ordinary

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
						exams.
GBE-ENB-M2	Engineering Basics for Mechanical Engineering 2	5	The student should acquire knowledge about: Within the topic of DC electricity: Electric charge, electric potential, current and resistance, Ohm's law, electric power, circuit analysis, solar panels.Within the topic of thermodynamics: Temperature and heat, phase changes and heat transfer, the ideal gas equation	After completing this course the student must be able to: Solve simple exercises in electrostaticsSolve simple exercises related to DC circuits Solve simple exercises in thermodynamics	After completing this course, the student must be able to apply the acquired knowledge and skills in simple real-world problems, in order to follow more advanced courses within electricity and thermodynamics, and to independently acquire further knowledge.	4 hours written final examination, external co-assessor. All usual tools allowed.
GBE-ENT1	Entrepreneurship (GBE)	5	The student will obtain a profound understanding of how to use reflection in areas as innovation, entrepreneurship, establishing and qualifying a business identity, understanding complexity in business, leadership and projects generating value on entrepreneurial premises.	After completing the course the student will be able to establish, identify and differentiate a business idea on practical as well as immaterial perspectives, have integrated the entrepreneurial way of working on personal-, team- and organizational level and be able to use many sources and perspectives for creating value in projects, idea generation etc.	After completing the course, students will have acquired competencies to generate business ideas, qualify business ideas, reflect on and operationalize business ideas. First, obtaining a fundamental knowledge of how entrepreneurship differs from more traditional ways of thinking about business and how to handle complexity in relation to business creation and personal characteristics related to the student and business partners.	In order to qualify for the exam, a logbook with must be handed in. Furthermore, an exam report with reflections on a self-selected topic, related to the course, must be handed in. The extent of the exam report is a maximum of 5 pages (1 page = 2400 characters). Students are free to select topics from the session plan and apply them. The exam report must include personal reflections and also be based on recognized theoretical literature, which can be articles from the curriculum or academically approved materials selected by the students. The examination will comprise of an individual student presentation based on the selected topic for the exam report followed by a discussion between students and the examiners. The exam has a duration of 30minutes including evaluation. Please note that re-examinations may take a different form than the ordinary exams.
GBE-FCM1	Financial Management	5	Upon successful completion of this course, the student will be able to understand how companies makes decision regarding risk, investments, financing and other wealth creating processes that companies go through. *The student will acquire knowledge about:* Financial reporting and budgetingMethods of doing capital investment calculationsStrategic alignment of capital investment and corporate strategyRisk and return	Students learn to select and employ appropriate tools of management and financial accounting for analytical purposes, for decision-making, and for measuring performance of different levels and divisions of an organization, of market & product segments, and of a firm as an investment entity. *The student will acquire Skills in:* Analyzing and interpreting accounting information in a communication	After completing the course the student should be able to: evaluate capital investment proposalsplay a role as a constructive sparring partner for the company`s employees who are responsible for the strategic corporate investments and financingmake calculations of the return of an investment, break-even – and probability analysis of a proposed investment scenario	**Written examination** Duration: 3 hours All students will be evaluated on their ability of applying the taught methods to a practical case exercise. It will be looked at, if the students are able to analyse the presented data in relation to the actual situation and evaluate on risk factors. Allowed tools:

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			regarding capital investments	contextAnalyzing and interpreting capital investment applications		Course literature according to the course description Personal notes laptop Calculator External examiner Please note that re-examinations may take a different form than the ordinary exams.
GBE-FRE1	French Culture and Society	5	After the course the students should have knowledge about, understand, and reflect on: The French language, including syntax, phonetics, grammar, and semantics.Historical, social, cultural, and political conditions in French-speaking areas.	After the course the students should be able to: communicate in French by using rather simple sentence structures, primarily in oral French and secondarily in written French.understand spoken French.read, understand and discuss authentic texts in French about cultural, social or political issues.make presentations on cultural, social or political issues.write simple texts in French.search information in French on cultural, social and political issues and present the results of this in French.	After the course the students should be able tocommunicate in a rather simple French.function and cooperate with people with different educational, language, and cultural backgrounds.structure own learning and critically acquire new knowledge within relevant engineering areas.use the knowledge of the French language and the French society as well as the French-speaking areas in practice in an international context.	**Oral examination** Individual oral examination based upon a subject found by draw**.** Preparation time 40 minutes. Allowed tools: All **NB Internet access not allowed except studynet and online dictionaries** External examiner The course must be passed before the limit set in the course curriculum.
GBE-FRE2	French Business Language I	5	The students should have knowledge about/understand and reflect on: the French language including basic grammarsentence structure, vocabulary and pronunciationbusiness and industry in France Topics relating to business and industry in other French-speaking countries can also be included.	After the course, the students should be able to: use relevant business terminologyread and understand authentic texts in French on issues relating to business and industryfind, use, and discuss information in French on business subjectsmake presentations in French on various subjectsprepare simple texts in French with special focus on the global business engineer's professional area	After the course, the students should be able to: communicate in French in a clear language, orally and in writing, in international contexts.function and cooperate with people with different educational, language, and cultural backgrounds.structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas.put the knowledge of the language and the French society and the French-speaking countries into practice in an international context.	**Oral examination** Individual oral examination based upon a subject found by draw. Preparation time 40 minutes. Allowed tools: All External examiner Please note that re-examinations may take a different form than the ordinary exams.
GBE-FRE3	French Business Language II	5	The students should have knowledge about/understand and reflect on: The French language, including syntax, phonetics, grammar, and semantics.French industry and business life.Intercultural affairs and business protocol in France and/or French-speaking countries.How to	After the course, the students should be able to: Read, understand and discuss texts in French on social, business and engineering issues.Be confident in using appropriate terminology within subject areas discussed in class.Negotiate with French-speaking cooperation partners.Make	After the course, the students should, to a high extent, be able to: Communicate in a clear language, orally and in writing, in international contexts.Function and cooperate with people with different educational, language, and cultural back-grounds.Structure own learning in an	The student is examined on the basis of: 1) A presentation and discussion of a previously unknown text handed out prior to the preparation, and one or more questions to the course

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			make presentations.	presentations in French.Express themselves orally in French with a rather high level of accuracy.	effective way and critically acquire new knowledge within relevant engineering areas.Put the knowledge of the language and the French society and the French-speaking countries into practice in an international context.	curriculum. OR a negotiation case where the student plays one part and the lecturer the other part, and one or more questions to the course curriculum. 2) A presentation of the semester project SEP5 (10 min. power point presentation). All aids are allowed during preparation. Please note that re-examinations may take a different form than the ordinary exams.
GBE-GBC1	Global Business Communication 1	5	After the course the students should be able to: understand the international business environmentdescribe communication modelsexplain the writing processidentify approaches to writing routine, positive and negative messages in Englishdescribe presentation techniques in EnglishAccount for different aspects of professional writingAccount for different aspects of the semester theme.	After the course the students should be able to: analyse a communication situation as to target group, message, choice of communication channel etc.communicate precisely and with a varied vocabulary in English, orally as well as in writingdevelop material to be used in a company's internal as well as external communication using correct terminology, syntax and stylisticsdiscuss linguistically complex texts in Englishapply relevant terminology within business and technical subjectsapply relevant communication modelspresent the results of self-studied subjects in English professionallywrite a project report in a professional style used in business communication and according to the guidelines for writing reportspresent the results of the project work orally in a clear and concise language.	In their project work, during their internships, and in their future jobs as global business engineers, the students should be able to: Apply selected relevant approaches when writing professional business messagesCommunicate effectively and professionally with a company's internal and external stakeholders, using correct terminology and syntactically correct structures in speech and writingInteract and cooperate with people from different cultural backgroundsCritically acquire new knowledge within relevant job-related areas.	Written examination. Duration: 4 Hours. Allowed tools: All. External examiner. Please note that re-examinations may take a different form than the ordinary exams.
GBE-GBC2	Global Business Communication 2	5	After the course the students should be able to: identify approaches to writing persuasive messages in Englishidentify requirements to project writing in Englishaccount for the conventions of technical writing in Englishdescribe different aspects of the semester themeaccount for different academic writing requirements in terms of syntax, coherence and structure.	After the course the students should be able to: analyse a communication situation as to target group, message, choice of communication channel etc.communicate precisely and with a varied vocabulary in English, orally as well as in writingapply different academic writing requirements in terms of syntax, coherence and structurediscuss linguistically complex texts in Englishapply relevant terminology within business and	In their project work, during their internships, and in their future jobs as global business engineers, the students should be able to: apply selected relevant approaches when writing professional business messagescommunicate effectively and professionally with a company's internal and external stakeholders, using correct terminology and syntactically correct structures in speech and writinginteract and cooperate with people from	**Written examination.** Duration: 4 Hours Allowed tools: All External examiner **Please note that Internet access is not allowed apart from Wise flow.** **Please note that re-examinations may take a different form than the ordinary exams.**

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
				technical subjectsapply the conventions of technical writing in Englishpresent the results of self-studied subjects in English professionallywrite a project report in accordance with the guidelinespresent aspects of the semester theme orally in a clear and concise language.	different cultural backgroundscritically acquire new knowledge within relevant job-related areas.	
GBE-GER1	German Culture and Society	5	After the course the students should have knowledge about, understand and reflect onthe German language, including syntax, phonetics, grammar, and semanticshistorical, social, cultural, and political conditions in German-speaking areas.	After the course the students should be able to: communicate reasonably well in Germanunderstand spoken Germanread, understand and discuss authentic texts in German about cultural, social or political issuesmake presentations on cultural, social or political issueswrite simple texts in Germansearch information in German on cultural, social and political issues and to present the results of this in German.	After the course the students should to a certain extent, be able tocommunicate in a clear language, orally and in writing, in an international contextfunction and cooperate with people with different educational, language, and cultural backgroundsstructure own learning in an effective way and critically acquire new knowledge within relevant engineering areasuse the knowledge of the German language and the German society as well as the German-speaking areas in practice in an international context.	**Oral examination** **Individual oral examination. The examination is composed of an unknown text and questions in relation to the topics of the course.** Preparation time 40 minutes. Duration of examination: Approx. 20 minutes. Allowed tools: All **External examiner.** Please note that re-examinations may take a different form than the ordinary exams. The course must be passed before the limit set in the course curriculum.
GBE-GER2	German Business Language I	5	The students should have knowledge about/understand and reflect on: the German language including basic grammarsentence structure, vocabulary and pronunciationbusiness and industry in Germany Topics relating to business and industry in other German-speaking countries can also be included.	After the course, the students should be able to: use relevant business terminologyread and understand authentic texts in German on issues relating to business and industryfind, use, and discuss information in German on business subjectsmake presentations in German on various subjectsprepare simple texts in German with special focus on the global business engineer's professional area.	After the course, the students should be able to: communicate in German in a clear language, orally and in writing, in international contextsfunction and cooperate with people with different educational, language, and cultural backgroundsstructure own learning in an effective way and critically acquire new knowledge within relevant engineering areasput the knowledge of the language and the German society and the German-speaking countries into practice in an international context.	Admission to the examination is on condition that 1) a number of written assignments - stipulated by the teacher at semester start - has been handed in on time and approved and that 2) one oral presentation has been made and approved within the stipulated deadline. **Oral examination**Individual oral examination based upon a subject found by drawNo preparationPreparation time 40 minutes, examination 20 minutes. Allowed tools: All External examiner. Please note that re-examinations may take a different form than the ordinary exams.
GBE-GER3	German Business Language II	5	Have knowledge about/understand and reflect on: The German language, including syntax, phonetics, grammar, and semantics.Have knowledge about German industry and business life.Have	After the course, the students should be able to: Read, understand and discuss texts in German on social, business and engineering issues.Be confident in using appropriate terminology within	After the course, the students should, to a high extent, be able to: Communicate in a clear language, orally and in writing, in international contexts.Function and cooperate with	Admission to the examination is on condition that 3 compulsory written assignments will be handed in and approved within the stipulated deadlines.

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			knowledge about intercultural affairs and business protocol in Germany and/or German-speaking countries.Have knowledge about how to make presentations.	subject areas discussed in class.Negotiate with German-speaking cooperation partners.Make presentations in German.Express themselves orally in German with a rather high level of accuracy.	people with different educational, language, and cultural backgrounds.Structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas.Put the knowledge of the language and the German society and the German-speaking countries into practice in an international context.	The student is examined on the basis of: 1) A presentation and discussion of a previously unknown text, handed out prior to the preparation, and one or more questions to the course curriculum. OR a negotiation case where the student plays one part and the teacher the other part, and one or more questions to the course curriculum. 2) A presentation of the semester project SEP5 (10 min. power point presentation). All aids are allowed. Please note that re-examinations may take a different form than the ordinary exams.
GBE-IBC1	Intercultural Business Communication	5	After the course the student will have knowledge about: the basic structures, elements and functions of culturecultural value dimensionsverbal, non-verbal and written intercultural communicationthe importance of culture and intercultural communication in international businessintercultural management, leadership, teamwork, negotiations, ethics and conflicts.	Upon successful completion of this course, the student will: understand how culture affects aspects of international communication and managementacquire a better understanding of his/her own cultural conditioningdistinguish the major dimensions which define cultural differences among societies or groupsrecognise the cultural variables in the communication process and what factors can cause noise in the processsuccessfully manage cross-cultural communications.	Upon successful completion of this course, the student will be able toidentify, accept and adjust to cultural similarities and differencesadjust to culturally based differences in communication style (e.g. in negotiations and in other communication situations)find, apply and evaluate literature and information in general on cultural practice in a country or regionapply effective communication strategies depending on situation, context and culture	Oral examination. A 24-hour examination. Individual oral examination based upon a subject found by draw. Allowed tools: All. External examiner. Please note that re-examinations may take a different form than the ordinary exams.
GBE-INO1	Engineering Innovation Weeks (GBE/XA)	5	After having successfully completed the course, the students will have gained: An understanding of innovation and its uses within the field of engineeringKnowledge about Design Thinking (double diamond) processKnowledge about how to create a systematic and measurable progress in innovation tasks	After having successfully completed the course, the students will be able to: Engage in innovative processes in a cross-/inter-/multidisciplinary settingConceive, plan, and execute innovative ideasWork methodically with innovationCollect and apply relevant information about technologies, markets and end users	After having successfully completed the course, the students will have gained competences in: Introducing innovative ideas into project workContributing own professional skills in teams with the objective of solving problems by using innovative processes and modelsClarifying multidisciplinary group competencies	Prerequisites: Mandatory assignments handed in before deadline and accepted. Attendance 80% Type of examination: Individually writtten multiple choice test, with a duration of 30 minutes, performed without aids. Internal examiner. (15/25 correct answers is required to pass the test). Allowed tools:

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
						No tools allowed (besides laptop for test) Re-exams:
GBE-INP1	Engineering Internship (GBE-)	30	The student must: • gain knowledge of theory, methodology and practice within a profession or one or more fields of study • be able to understand and reflect on theories, methodology and practice • be aware of non-technical – societal, health and safety, environmental, economic and industrial – implications of engineering practice.	The student must: • be able to apply the methodologies and tools of one or more fields of study and to apply skills related to work within the field/fields of study or profession • be able to assess theoretical and practical problems and to substantiate and select relevant solutions • be able to communicate professional issues.	The student must: • be able to handle complex and development oriented situations in study or work contexts • be able to independently participate in professional and interdisciplinary collaboration with a profes-sional approach • be able to identify own learning needs and to organise own learning in different learning environments • promote an engineering-oriented approach during the remaining semesters on the Bachelor pro-gramme • develop personal skills required for the professional career as engineer • form the basis for developing personal/professional network	In order to get an internship evaluated, the student must fulfill the following requirements concerning mandatory assignments: • Expected outcome/specific learnings targets for the internship position • Company presentation • Logbook • Main academic assignment(s) • Final reflections • Participation in workshop for coming interns
GBE-MAM1	Marketing Management	5	The students are introduced to core theories and models within marketing management to be able to analyse: markets, market demand, a company's marketing environment and its current strategythe concepts of customer value, satisfaction and loyalty as the basis for all successful marketing strategiesthe competitive environment in which the company operatescustomer behavior and how purchase decisions are made at the individual, group and organizational levelsegmentation criteria, target group definition and what constitutes a competitive marketing positioning strategythe key components of the marketing mix: Product, price, promotion and place.	At the end of this course, and having completed the essential reading and activities, the students should be able toapply core theories and models within marketing management to practical marketing problems while acknowledging their use and limitationscarry out a full and detailed situation analysis by applying key theories and models like a PEST analysis, Porter's 5 Force analysis and model for competitive strategiesidentify key market and customer trends with their possibilities and threatsanalyze customer behavior in both consumer and business markets, determine customer needs and determine how product purchase decisions are madesegment markets in order to determine appropriate target groups and to develop a fitting strategy and positioning to cover their needs while being competitiveexecute the strategy with an effective marketing mix comprising concepts such as brand equity, product strategy, product life cycle management, service management for services, choosing an appropriate pricing strategy, managing distribution channels and	After a successful completion of the course the student will be able toanalyse any market in terms of conducting a PEST analysis, an analysis of the competition, developing an understanding of customer behavior in both B2B and B2C markets and overall market trends and developmentsbased on the above analysis of the marketing environment, design a competitive marketing strategy encompassing segmentation, target group definition and positioningbased on the chosen strategy, develop an effective marketing mix in terms of product, price, promotion and distribution strategies to implement the marketing strategybased on market analysis and suggested strategy, design and illustrate suggestions for concrete marketing activities.	**Written examination** External examiner Duration: 4 hours Allowed tools: Course literature, personal notes, laptop (no internet) and calculator. Please note that re-examinations may take a different form than the ordinary exams.

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
				mass/personal/digital communication.		
GBE-MAM2	Global Marketing Management	5	The difference between global, glocal and local international marketing strategiesA broad knowledge of the global market placeIdentify the steps in the international marketing process and the complexities of the international marketing environmentGain an understanding of the current state of global marketing, the forces driving globalization and the resulting challenges for both existing international companies and for domestic companies planning to start an internationalization processAppreciate and understand the specific problems associated with international marketing and the internationalization processHave a clear understanding of all aspects of international marketing strategy development and the international marketing planning processUnderstand the differences in social/cultural conventions that affect buyer behaviour and marketing strategies in international marketsInternationalization strategies for both small and large companiesConduct effective search, screening and selection of new countries to enterThe complete range of market entry methods and their advantages and disadvantagesInternational marketing mix strategies	At the end of this course, and having completed the essential reading and activities, the students should be able toBuild a market profile of a country by conducting a PEST and market analysis (Macro & Micro)Critically evaluate a company's international marketing environment and its current strategyAccess the opportunities and risks associated with initiating an international market strategy or expand an already international presence to new countries for both small and large companiesProvide input to international market strategy developmentDecide which markets to enter and evaluate the pros and cons of different entry modesDesign an international marketing mix including the ability to determine which parts of the marketing mix will require adaptation and to which degree	After a successful completion of the course the student will be able to: Identify global market opportunities, in particular in developing and emerging markets, and assess the associated risksConduct a detailed country analysis including both macro and micro market factorsQuickly and effectively research market opportunities and to apply relevant country selection screening and segmentation criteriaDevelop a global marketing strategy and write an international marketing plan that is aligned with the objectives and competencies of the companyAnalyze and determine the most appropriate method of market entrySpot important international trends on a continuous basis	Written examination Duration: 4 hours External examiner Allowed tools: Course literature, personal notes, laptop but not internet, calculator. Please note that re-examinations may take a different form than the ordinary exams.
GBE-MAT1	Mathematics 1	5	After the course the students should be able to solve simple mathematical problems within the areas of: 1. 2D vectors 2. 3D vectors 3. Vector valued functions in 2D	After the course the students should be able to: analyse simple problems within 2D and 3D vectors, vector valued functions in 2Dapply relevant terminology within basic mathematical subjects.	In their project work, during business and engineering courses which are part of the global business engineering programme, and in their future jobs as global business engineers, the students should be able to: Apply mathematical knowledge in solving specific problems	Written examination Duration: 4 Hours Allowed tools: Course literature according to the course descriptionPersonal notesLaptop (no web access)Calculator. Internal examiner Please note that re-examinations may take a different form than the ordinary exams. The course must be passed according to time limits in the curriculum.

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
GBE-MAT2	Mathematics 2	5	After the course the students should be able to solve simple mathematical problems within the areas of: 1. Optimisation 2. Integration 3. Differential equations 4. Trigonometric equations	After completing this course the student must be able to: Understand and solve simple problems including trigonometric functions.Solve problems, which include integration of functions with one unknown factor.Solve problems, which include the function and its derivative.	In their project work, during business and engineering courses which are part of the global business engineering programme, and in their future jobs as global business engineers, the students should be able to: Apply mathematical knowledge in solving specific problems	**Written examination** Duration: 4 hours Allowed tools: Course literature according to the course descriptionPersonal notesLaptop (no web access)CalculatorExternal Examiner Please note that re-examinations may take a different form than the ordinary exams.
GBE-MAT3	Mathematics 3	5	The student will obtain knowledge within polar coordinates and linear algebra including solution of systems of linear equations, inverse matrices and eigenvalues.	After completing this course, the student will be able to: Use polar coordinates for describing points and curvesDetermine lengths and areas bounded by curves given in polar coordinatesApply techniques and results from linear algebra to solve problems in linear systems of linear equationsDetermine inverse matrices and find eigenvalues of matricesUse CAS software for linear algebra	After completing this course, the student can: Recognize and solve simple problems where polar coordinates are usefulRecognize systems of linear equations, reformulate them in the language of linear algebra, and solve them, if necessary using CAS softwareRead texts where polar coordinates or basic linear algebra is used	**Written examination** **Duration: 4 hoursAllowed Tools:** *** Course literature according to the course description** *** Personal notes** *** Laptop (no web access)** *** Calculator** **External examiner.** **The course must be passed according to time limites in the curriculum.** **Please note that re-examinations may take a different form than the ordinary exams.**
GBE-MST1	Management and Strategy	5	After the course, the students should be able to: Describe organizational behavior and structuresDefine the concept of management and leadership including the different styles of management and leadershipIdentify the basic issues of business strategyDescribe the elements of the strategic planning process and a range of strategic tools.	After the course the students should be able to: Evaluate, design, and choose appropriate organizational structuresEvaluate and choose relevant management and leadership strategiesApply methods for organizational change processesAnalyze the external macro and micro environment in the context of business strategy makingAnalyze the internal environment in the context of business strategy makingSummarize strategic optionsExplain how to design, evaluate, choose and implement appropriate business strategies	After the course the students should be able to: Compare and discuss the basic issues of management and leadershipEvaluate and apply the appropriate kind of management/leadership in a given situational contextCompare and discuss the basic issues of business strategyApply different strategic toolsApply methods for implementation of a strategic planning process in an organizational context	**Oral Examination** Individual oral examination without preparation based upon course assignment(s) Allowed tools: All
GBE-PRM1	Project Management (GBE)	5	The student will be able to: Apply the planning process method to a complex projectDescribe and explain what it takes to manage and run a complex project	The student will acquire the skills on: * How to use the methodology and tools for… Estimating Project Time and CostsPlanning a ProjectUsing Risk ManagementConducting Team ManagementCompleting a project	During the course the students will work with a real time project and by applying acquired theoretical knowledge being able to outline a Business Case including: Project planProject organizationCommunication plan based on stakeholder analysis.	<u>Permit criteria for attending examination:</u> Mandatory group assignments handed in before deadline and accepted The written examination consist of 2 hand-ins: Group assignmentIndividual assignment

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
					All leading to successfully managing and controlling a project.	Internal assessment
GBE-PWS1	Practical Workshop	-				
GBE-PWS4	Practical Workshop 4	-				
GBE-QUMV3	Quality Management	5	After following the course, the student will have knowledge of: different models and techniques within quality managementprocess variation and capabilitytools and techniques to support and improve quality assurance and controlselection from a broad range of techniques and the most appropriate technique to usemethods/means including quality into product and systems design.	After following the course, the student will be able to: apply the most appropriate quality techniquesperform a statistical process control study and analysisperform a root cause analysis and implement well founded solutionsdesign an optimal quality management systeminclude quality into business decisions.	After following the course, the student will have the competence to: identify, analyse and evaluate the different techniques given in the course models, theories and conceptsapply course theory and concepts in analysis and evaluation of quality problems in relation to quality managementdesign and perform a process capability and in or out of control studyidentify, analyse, discuss and recommend relevant solutions to any quality problem.	Written exam Assessment: 7-point grading scale Duration: 4 hours Aid: All Please note that re-examinations may take a different form than the ordinary exams.
GBE-SEP1	Semester Project 1: Robotics	5	The student should be able to understand: The use of robotsHow to describe functionality of a robotThe nature of autonomous systemsHow to test the functionality of a robotGroup roles and group dynamics.How to develop and prepare a marketing plan	The student should achieve the skills to: Build a robotDevelop software to control a robotDescribe functionality using a dynamic modelTest the functionality of a robotPresent considerable skills for presentation, both written and oralPresent a project report in a well-structured mannerDescribe a project in a process reportSolve a specific task in collaboration with group membersAnalyze a market by collecting relevant data relating to macro trends (PEST analysis) and trends in the micro environment (competitors and customers)Segment a market based on relevant segmentation criteriaSelect a target group based on a fit between company competences and market profitability Summarize the market analysis using the SWOT analysis.	The student should be able to: Reflect on creation of an autonomous robot for a selected marketReflect on software testingControl and structure a project as it progressesReflect on the group performance and individual learning processesReflect on working cross culturalReflect on participation in peer reviewBe able to identify relevant sources of information and assess their credibility and relevanceDevelop a competitive marketing plan including strategic reflections, target market selection, an appropriate competitive strategy and a suitable marketing mix based on conclusions from the market analysisCreate a prototype of an exhibition stand, which is appropriate for the market.	Oral Examination 15 minutes group presentation of the project. This will be done in the form of an exhibition stand. 10 minutes individual examination in the SEP1 project (ENB and MAM related). 10 minutes individual examination in the course ENB1. Exam questions in individual parts are based on the project and course content. In case of reexam, each part can be examined separately. In case of failure of project part of exam, a new project must be conducted without supervision. Allowed tools: All Internal examiner Please note that re-examinations may take a different form than the ordinary exams. Re-examination Students who failed a semester project in January or June must attend an information meeting on the last Friday in June. At this meeting, the students will get information on specific deadlines as well as the process of re-exam. They will form new groups, if possible in relation to the number of failed students

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
						at the individual semesters. Based on the feedback, the students have received after the ordinary exam, they must prepare a new project, or the failed project must be improved. Deadline for hand in of the project is mid-August (exact date will be informed at the meeting). There will be no guidance in the period up to hand in. Oral assessment of the project takes place in September.
GBE-SEP2	Semester Project 2 (GBE-)	5	The students should acquire knowledge in project work, study new topics and apply theory learned in project methodology, engineering basics, marketing management, business communication, and technical drawing. The project is hands-on experience in practicing what the students have learned in engineering, business and communication. Besides, the students are expected to develop their personal skills, such as for instance how to cooperate, show responsibility, motivate themselves, etc. with the aim of reaching a good result of their project work.	Upon completion of the project SEP2 the students should have acquired skills in how to: **Engineering:** search and study technical informationmake technical drawings for production using 3D CADconduct practical tests and collect datause collected data and make conclusions on the basis of this data**Marketing:** make an analysis of a market for a selected countrydevelop a marketing strategy for the companycomplete an international marketing plan including recommendations to the company for a possible penetration into the selected market **Business Communication:** plan and analyse the communication situationstructure the project report, and organize the text in logical, coherent sections.write the project report in a professional style used in business communication and according to the guidelines for writing reports in VIAuse grammatically correct written Englishpresent the results of the project work orally in a clear and concise language **Process skills:** draft a comprehensible group contract taking into account challenges from the first semester projectcooperate in teamsmotivate themselves and othersbe responsible for time management and prioritizing	Upon completing the course, the students will have gained competences in identifying, drawing and applying suitable components in a machine design. Furthermore, the students will have competences in comparing, arguing for, and deciding on technical solutions. The students will also be able to analyse a foreign market, decide on a market strategy and complete an international market plan. Besides, the students will be able to communicate effectively and professionally using the correct syntax and terminology for technical language both orally and in writing. The student will also be able to interact and cooperate in a technical/business context with people from different cultural backgrounds.	Oral Examination Group presentation based on a project report followed by an individual examination of all group members in a group session. Duration: Presentation 15 minutes and examination approx. 10 min. per student. Allowed tools: All. Internal examiner. Description of the exam: Evaluation The evaluation of the project work is based on: A written project report, a process report, and technical documentation (appendices). An oral group presentation based on a project report followed by an individual examination of all group members in a group session. ExaminationThe examination is an oral exam and consists of: A group presentation of the main conclusions of the project report and the process report (15) min. per group).An individual examination (approx. 10 min. per group member with the presence of the whole group) based on the project report and the general knowledge that the student

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
						has gained through the courses: SSE, SEP1, ENB1, ENB2, CAD, GBC1, GBC2, MAM1, MAM2. Grading criteria Each area will be evaluated according to its weight in the project: engineering 1/3, marketing 1/3, and Business communication and project methodology 1/3. Students receive one overall mark. Each area (engineering, marketing and business communication and project methodology) counts for 33,3 % of the overall mark. Both the written part and the oral part will be taken into consideration when the grade is given. Grades will be given according to the Danish 7-point grading scale. Deadlines for passing the course As described in the GBE curriculum.
GBE-SEP3	Semester Project 3 (GBE-)	10	The student will acquire knowledge in project work and new curricula as well as apply theory learned in project methodology, business economics and intercultural business communication. The student should acquire knowledge about how to: Carry out research and studies on relevant cultural and economic topics with the purpose of setting up a subsidiary in a foreign countryRead the documentation on LEJOSMake use of the facilities in MakerspaceHow to drive, control and charge mini mobile robotsFollow the requirements for project writing in EnglishMake use of different academic writing requirements in terms of syntax, coherence and structure	Following the completion of the course, the student has skills in: Research methods for relevant macro-economic dataResearch methods, analysis and understanding of cultural similarities and differences in the select-ed countries TeamworkMaking actuals models using 3d print and laser cuttingMechanical drive and lifting systemsAnalyzing loads and strengths of simple frame and machine parts3D CAD modelingProgramming a Real-Time Embedded systemUsing an UML Activity Diagram and an Class Diagram to model a self-designed systemReport writing in a clear and concise language, using correct English and in accordance with the guidelines for project writing.	Upon completion of the course, the student will have gained competences in finding and analyzing country specific macro-economic data in order to evaluate the business opportunities in a selected country. Besides, the student will be able to identify and explain cultural similarities and differences in the countries in question. The student will have gained intercultural competence which enables him/her to cooperate with foreign business partners and organisations as well as with colleagues and employees from another country. On the basis of the above macro-economic and intercultural analyses, the student will also have learned how to evaluate the business opportunities in a selected market, taking both the macro-economic and the cultural perspectives into consideration.	**Oral Examination** Individual oral examination without preparation based upon course assignment(s) Duration: App. 20 min (grading included) **Allowed Tools:** All Internal examiner

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					Furthermore, the student has learned to transform the business opportunities into a tangible prototype of a system solution. The prototype demonstrates the functional usability and the possibility of realization for the solution. The student will gain competences in designing, modeling and dimensioning simple mechanical machine structures and combine standard machine elements to drive a unit forward.	
GBE-SEP4	Semester Project 4: Investment in renewable energy	5	*The student should be able to understand:* 3D drawing (CAD)Software programming using Java & relational databasesThermodynamics and electric circuitsCapital investment calculations for product developmentProject methodology as well as project work skills	*The student should achieve the skills to:* *All students: Evaluate the financial elements of an investmentUse the project methodology based on the Engineering guidelines* *Software engineering students: Database operation (SQL)Java application* *Mechanical engineering students: Measure and calculate energy and power for solar energy systems*	*The student should be able to:* The students will be able to identify and solve cross-disciplinary problems in a group projectThe students can handle both written and oral communication of project results	**Oral Examination** Individual oral examination without preparation based upon course assignment(s) Allowed tools: All Internal examiner Please note that re-examinations may take a different form than the ordinary exams. **Re-examination** Students who failed a semester project in January or June must attend an information meeting on the last Friday in June. At this meeting, the students will get information on specific deadlines as well as the process of re-exam. They will form new groups, if possible in relation to the number of failed students at the individual semesters. Based on the feedback, the students have received after the ordinary exam, they must prepare a new project, or the failed project must be improved. Deadline for hand in of the project is mid-August (exact date will be informed at the meeting). There will be no guidance in the period up to hand in.

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						Oral assessment of the project takes place in September.
GBE-SEP5	Study Project: Free Innovative Product Design	10	Key dimensions of project management skills in groupsProject planningInnovation processApplied theory from selected technical specialization (ICT/ME)	Be able to generate ideas, develop concepts and make final systematic choices based on relevant requirements and criteriaBe able to choose theories, models and methods relevant to the problems in the projectBe able to design, dimension and document machines / software in accordance with rules and regulationsDemonstrate analytical, rational as well as innovative thinkingDemonstrate self-initiative, interpersonal skills, criticism, self-criticism, desire to learn.	Project management skillsDefine, manage and implement projects bridging technical and business issuesApply input from business/marketing part to technical solution and vice versaMake methodical decisions based on discussion and analysis of relevant models and theoriesFocus on the relevant issues to provide a coherent solutionDevelop technical solutions that both meet the needs of the market and have business potential.	The study project report must be handed in on time in order to enroll for the examination. The groups will present the business plan (15 min.) followed by a group examination covering both the technical and business subjects (approx. 45 min). it should be noted that the grading is still individual (not a group grade). The basis for the examination is the project report. The examination can sway the project grade up or down for individual students depending upon the performance.
GBE-SEP7	Semester Project - UN 17 Sustainable Development Goals and Environmental Social Governance	15	Students will achieve knowledge within the areas of: Key dimensions of project management skills in groups.Technical theory & methods from selected specialization (ICT/ME) relevant for the project in question.Business and cultural theories and methods relevant for the project in question.UN 17 Sustainable Development Goals.	After completion of the project, the students will be able to: Evaluate the relevance and importance of UN 17 SDG's in connection with business strategy.Apply relevant project methodology and project management tools in a cross-cultural context.Choose and apply relevant technical tools and methods from the selected specialization (ICT/ME) to solve a specific product development task.Outline an implementation plan for a project in a cross cultural context that fulfill the guidelines in UN's SDG no 17- Revitalize the global partnership for sustainable development.Apply the chosen second foreign language for research in an academic context.	After completion of the project, the student should be able to: Give recommendations to how attention to Environmental and Social Compliance and UN 17 SDG's in product and business development can be used in strengthening of the strategic positioning of a company.Identify and solve cross-disciplinary problems in a group project.Plan and implement a project plan in a cross-cultural context.Formulate a solid Project Description for the 9th semester Bachelor project.	Oral Examination Group presentation followed by an individual examination with the presence of the whole group. Duration presentation 15 - 20 minutes.Allowed Tools: All. Internal examiner. The project report must be 30 – 40 standard pages (exclusive appendices etc.) and must follow the "Guidelines for Engineering Projects.
GBE-SPA1	Spanish Culture and Society	5	After the course the students should have knowledge about, understand and reflect onthe Spanish language, including syntax, phonetics, grammar, and semanticshistorical, social, cultural, and political conditions in Spanish-speaking areas.	After the course the students should be able to: communicate in Spanish by using rather simple sentence structures, primarily in oral Spanish and secondarily in written Spanishunderstand spoken Spanishread, understand and discuss authentic texts in Spanish about cultural, social or political issuesmake presentations on cultural, social or political issueswrite simple texts in Spanishsearch information in Spanish on cultural, social and political issues and present the results of this in	After the course the students should be able to: communicate in a a rather simple Spanishfunction and cooperate with people with different educational, language, and cultural backgroundsstructure own learning and critically acquire new knowledge within relevant engineering areasuse the knowledge of the Spanish language and the Spanish society as well as the Spanish-speaking areas in practice in an international context.	Oral examination Individual oral examination based upon a subject found by draw. Preparation time 40 minutes. Allowed tools: All NB: Internet access not allowed except studynet and online dictionaries. External examiner. Please note that re-examinations may take a different form than the ordinary exams. The course must be passed before the limit set in the course curriculum.

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				Spanish.		
GBE-SPA2	Spanish Business Language I	5	The students should have knowledge about/understand and reflect on: The Spanish language including basic grammar, sentence structure, vocabulary and pronunciationKnowledge about business and industry in Spain. Topics relating to business and industry in other Spanish-speaking countries can also be included	After the course, the students should be able to: Use relevant business terminologyRead and understand authentic texts in Spanish on issues relating to business and industryFind, use, and discuss information in Spanish on business subjectsMake presentations in Spanish on various subjectsPrepare simple texts in Spanish with special focus on the global business engineer's professional area.	After the course, the students should be able to: Communicate in Spanish in a clear language, orally and in writing, in international contextsFunction and cooperate with people with different educational, language, and cultural backgroundsStructure own learning in an effective way and critically acquire new knowledge within relevant engineering areasPut the knowledge of the language and the Spanish society and the Spanish-speaking countries into practice in an international context.	**Oral Examination** The examination is based on an unseen text and questions in relation to the topics of the course. All aids are allowed during preparation. External examiner. Please note that re-examinations may take a different form than the ordinary exams.
GBE-SPA3	Spanish Business Language II	5	After the course the students should have knowledge and reflect onthe Spanish language, including syntax, phonetics, grammar, and semanticsSpanish industry and business lifeIntercultural affairs and business protocol in Spain and/or Spanish-speaking countriesHow to make presentations.	After the course, the students should be able to: read, understand and discuss texts in Spanish on social, business and engineering issuesbe confident in using appropriate terminology within subject areas discussed in classnegotiate with Spanish-speaking cooperation partnersmake presentations in Spanishexpress themselves orally in Spanish with a rather high level of accuracy.	After the course, the students should, to a high extent, be able to: communicate in a clear language, orally and in writing, in international contextsfunction and cooperate with people with different educational, language, and cultural back-groundsstructure own learning in an effective way and critically acquire new knowledge within relevant engineering areasput the knowledge of the language and the Spanish society and the Spanish-speaking countries into practice in an international context.	**Oral Examination** The student is examined on the basis of: 1) A presentation and discussion of a previously unknown text handed out prior to the preparation, and one or more questions to the course curriculum. OR a negotiation case where the student plays one part and the lecturer the other part, and one or more questions to the course curriculum. 2) A presentation of the semester project SEP5 (10 min. power point presentation). All aids are allowed during preparation. Please note that re-examinations may take a different form than the ordinary exams.
GBE-SSE1	Study Skills for Engineering Students (GBE)	5	The student should be able to: Explain the study activity model and the SOLO taxonomyDifferentiate between different learning styles and identify own preferred learning styleUnderstand the concept of plagiarismDefine the characteristics of reliable sources (source criticism)Outline cultural traits that can influence team work in a projectOutline the stages of team	The student should be able to: Apply good study techniques for planning, reading and note-taking in an intentional mannerApply an appropriate project methodology based on the GBE Engineering guidelinesDevelop a problem analysisUnderstand and apply generic tools for project planning and execution including the IT tools MS	The students should be able to: Reflect on active learning and on how to take responsibility for own learningAnalyse and apply team dynamics, such as communication, motivation, decision-making and conflict resolutionReflect on the importance of work style and behaviour, team roles and cultureGenerate a project outcome (report, appendix etc.) that	Approval/non-approval. Students who fail to comply with the above approval criteria, must pass a written test (a replacement test). The competences achieved in this course will be assessed at the project exams. The course must be passed before

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			development (such as the Tuckman stages)Explain the strengths and weaknesses of Problem-Based Learning (BPL)Describe the project phases, including problem analysis, problem formulation, project planning and implementationUnderstand the role of the supervisor and project supervision in generalUnderstand the importance of innovation and innovative processes and the principles behind divergent and convergent phases.	Teams, Planner and Gantt charts	demonstrates effective communication skills.	failing three attempts. Please note that re-examinations may take a different form than the ordinary exams.
GBE-SSM1	Personal Selling and Sales Management	5	The different kinds of sales jobs and personal characteristics of successful sales personsUnderstand the significance of personal selling to the sales of the company, its relation to other the other elements of the promotion mix of the company and its marketing strategyThe connection between the purchasing behavior of the customer and the right sales strategyThe buying center concept and factors affecting the customer decision-making processProspecting: how to find new sales leads and methods to qualify them as potential customersA deep understanding of the key phases in the personal selling process: 1. The opening at a sales meeting2. Need and problem identification3. Presentation and demonstration of relevant solution4. Effective techniques to deal with buyers' objections5. To negotiate a deal6. Techniques to close a sale (get the order)7. Follow-up on the sales meetingBasic knowledge about sales organization and sales administration including international aspectsDefine customer value from the buyers perspectiveHow to transform product features into customer benefitsBuilding, maintaining and extending customer relationshipsAwareness of ethical practices in personal selling	Create a prospecting plan to find new customersPlan and design the sales meeting by finding and using relevant informationDetermine the members of the 'buying center', their needs and purchase motivationsHow to determine customer value and create a strong value propositionPrepare and present a sales presentation in a convincing mannerBe effective in sales negotiation and handling of objectionsBe able to close a saleManage customer relationships to maximize long term customer satisfaction	Be able to effectively prospect for new customersOverall to plan and conduct a professional sales meeting covering all the steps in the process from the opening over need and problem identification, presentation, handling of objections, negotiation, closing the sale to follow-up on the meetingPrepare and conduct a sales presentation by visually, verbally, and nonverbally communicating in-formation using professional selling skillsUse an appropriate selling strategy according to the needs of the customer, the characteristics of the product in question, the competition and the objectives of the selling companyBe effective in building, maintaining and extending customer relationshipsFunction as the market expert regarding information on products and competitors to both the selling and the buying organization	**Oral Examination**Individual oral examination without preparation based upon course assignment(s)Allowed tools: None External examiner
XA-BUE1	Forretningsøkonomi	5	Efter kurset bør den studerende være i stand til at Identificere og skitsere virksomhedens udbuds og efterspørgselsfunktionerIdentificere og skitsere virksomhedens	Efter gennemførsel af kurset skal den studerende være i stand til at: Gøre brug af forskellige metoder og modeller til at identificere virksomhedens udbud og prisfastsættelse under forskellige	Ved afslutningen af kurset, skal den studerende være i stand til, at Anvende mikroøkonomiske teorier til at analysere virksomhedens interne og eksterne forholdForstå virksomhedens	**Mundtlige eksaminationer** **Varighed:** **Individuel mundtlig eksamen uden forberedelse baseret på kursus**

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			profitmaksimerende produktionsmængde og prisIdentificere og skitsere forskellige markedsstrukturerIdentificere og skitsere det samlede udbud og efterspørgsel på et givent markedIdentificere de makroøkonomiske mål og værktøjIdentificere og beskrive de forskellige makroøkonomiske politikker	markedsformerAnalysere og vurdere velfærdsbeslutninger under forskellige konkurrencemæssige markedsforholdAnalysere og vurdere effektiviteten af både eksternaliteter og offentlige goderAnalysere og vurdere politiske beslutninger der har til formål at forbedre velfærden	omkostningsstruktur og dermed finde frem til den optimale pris og mængdesammensætning der er med til at maksimere virksomheden profit, under forskellige markedsformerAnvende makroøkonomiske teorier til at analyse den globale makroøkonomiske udviklingAnalysere og vurdere hvordan forskellige makroøkonomiske faktorers samspil påvirker virksomheden og dens beslutninger.	**opgave(r).** **Tilladte hjælpemidler: Alle** **Skriftlige eksaminationer** **Der gives i løbet af semestret to skriftlige tests hver af 2 timers varighed og som sammenlagt udgør den endelige karakter for faget.** **Tilladte hjælpemidler: Kursus litteratur i henhold til kursus pensumPersonlige noterComputerLommeregner** **Intern censor** **Eksamenskarakteren gives ud fra de to tests der afholdes i løbet af semester, hvor hver tæller 50% af den endelige karakter for kurset.** **Reeksamen (for begge tests) afholdes i den ordinære om-eksamensperiode i februar.**
XA-ENB ME1	Introduktion til maskiningeniør uddannelsen	5	De studerende skal tilegne sig viden om: SI-systemetKinematik: Hastighed og acceleration i 1D og 2D, projektilbevægelseDynamik: Newtons love, arbejde, kinetisk energi og potentiel energi, fjedre.	Efter afsluttet kursus kan de studerende: Bruge SI-systemet korrekt og udfør dimensionskontrol af beregningerAnalysere og løse enkle problemer inden for kinematik og dynamik	Ved kursets afslutning vil de studerende have opnået følgende kompetencer: Læse videnskabelig tekster indeholdende formler, grafer, diagrammer osv.Anvende en analytisk og systematisk tilgang til enkle, stiliserede tekniske problemerKommunikere enkle beregninger ved hjælp af præcist sprog, formler og skitser.	**Skriftlig eksamen** **Varighed: 4 timer** **Intern censor** **For at deltage i eksamen skal den praktiske kursus opgave være afsluttet og godkendt af underviseren inden for den frist, der er fastsat. Hvis den studerende ikke har løst den praktiske kursus opgave, er der anvendt et eksamensforsøg, og der aftales en ny frist for færdiggørelse af den praktiske kursus opgave.** **Alle sædvanlige hjælpemidler (inklusive laptops) er tilladte, men det er strengt forbudt at etablere adgang til internettet under eksamen. Pen-og-papir-løsninger skal scannes efter eksamen - der vil være adgang**

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						til scannere. **Bemærk, at reeksamen kan have en anden form end de almindelige eksamener.**
XA-ENB SW1	Introduktion til softwareingeniør programmet	5	Den studerende vil være i stand til at: Beskrive grundlæggende computersoftware programlogik og -flowIdentificere de grundlæggende komponenter i computerhardwarearkitekturBeskrive komponenter og egenskaber ved et indlejret systemBeskrive og teste en robots funktionalitetListe almindelige datatyper og beskrive begrebet typekonverteringIdentificere binære tal op til decimaltallet 15Definere begrebet "algoritme"Liste mindst tre typer sensorer, der bruges til at arbejde med robotterBeskrive imperativ programmeringskoncepter, herunder assignments, løkker, variabler og udtryk	Den studerende vil være i stand til at: Udføre grundlæggende programmering gennem et visuelt programmeringssprogOpbygge og beskrive et it-system, herunder brug af UML aktivitetsdiagrammerLøse simple fysiske udfordringer ved at konstruere og designe robotter ud fra brikker, motorer og sensorerStyre motorer og sensorer på en robot gennem softwareForklare formålet med multithreading i softwareArbejde med simple datastrukturer, herunder arraysAnvende de grundlæggende operationer i boolsk algebraLave simple mobilapplikationer til fjernstyring af en robot	Den studerende vil være i stand til at: Designe, konstruere og programmere robotter til specifikke aktiviteter og scenarierDesigne og implementere et it-systemLøse problemer gennem en analytisk, ingeniørmæssig tilgangForudse interaktionen mellem et autonomt system og dets miljø	Mundtlig eksamen Eksamen er fælles med XA-SEP1 Gruppepræsentation efterfulgt af individuel eksaminationGruppepræsentation af XA-SEP1 projekt – 15 minutterIndividuel eksamination – 20 minutter10 minutters eksamination i XA-SEP1 projekt10 minutters eksamination i et trukket XA-ENB ICT1 spørgsmål, baseret på kursusopgave Begge kurser gradueres individuelt Tilladte hjælpemidler: Alle Intern censur Bemærk, at reeksamination kan tage en anden form end den ordinære eksamen
XA-FCM1	Finansiering og Investering	5	Efter en vellykket afslutning af dette kursus vil den studerende være i stand til at forstå, hvordan virksomheder træffer beslutning om risiko, investeringer, finansiering og andre formueskabende processer, som virksomheder gennemgår. Den studerende vil tilegne sig viden om: Finansiel rapportering og budgetteringMetoder til beregning af kapitalinvesteringerStrategisk tilpasning af kapitalinvesteringer og forretningsstrategiRisiko og afkast vedrørende kapitalinvesteringer	De studerende vil lære at vælge og anvende passende værktøjer til styring og økonomisk regnskab til analytiske formål, til beslutningstagning og til måling af ydeevnen på forskellige niveauer og opdelinger i en organisation, af markeds- og produktsegmenter og af et firma som investeringsenhed. Den studerende erhverver færdigheder i: Analyse og fortolkning af regnskaberAnalyse og fortolkning af kapitalinvesteringsapplikationer	Efter afsluttet kursus skal den studerende kunne: Evaluere kapitalinvesteringsforslagSpille en rolle som en konstruktiv sparringspartner for virksomhedens medarbejdere, der er ansvarlige for de strategiske virksomhedsinvesteringer og finansieringforetage beregninger af afkastet på en investering, break-even - og sandsynlighedsanalyse af et foreslået investeringsscenarie	**Skriftlig eksamen** Varighed: 3 timer Alle studerende vil blive evalueret ud fra deres evne til at anvende de underviste metoder ved en praktisk øvelse. Der vil blive set på, om den studerende er i stand til at analysere de præsenterede data i forhold til den faktiske situation og evaluere risikofaktorer. Tilladte hjælpemidler: Kursus litteratur i henhold til kursusbeskrivelsenPersonlige noterBærbar PCLommeregner Ekstern censur.
XA-FRE1	Fransk samfund og kultur 1	5	Efter kurset skal de studerende have opnået viden om, forståelse af, samt kunne reflektere over: det franske	Efter kurset skal de studerende kunne: kommunikere på fransk med brug af forholdsvis simple sætninger primært	Efter kurset skal de studerende kunne: kommunikere på et forholdsvis simpelt franskfungere og samarbejde med	**Mundtlig eksamen** **Prøven omfatter referat og samtale omkring en ekstemporal tekst samt**

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			sprog, herunder syntaks, fonetik, grammatik og semantikhistoriske, sociale, kulturelle og politiske forhold i Frankrig og fransktalende områder.	mundtligt og sekundært skriftligt.forstå talt fransk.læse, forstå samt diskutere autentiske tekster på fransk om kulturelle, sociale eller politiske forhold.holde præsentationer om kulturelle, sociale eller politiske forhold.skrive enkle tekster på fransk.søge information på fransk om kulturelle, sociale og politiske forhold og præsentere resultaterne heraf på fransk.	mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrundestrukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområderbruge viden om det franske sprog og det franske samfund såvel som de fransktalende områder i praksis i en international kontekst	**efterfølgende diskussion og perspektivering af spørgsmål i relation til kursets emner.** **Alle hjælpemidler, herunder også brug af Internet, er tilladt under forberedelsen.** **Ekstern censur.** **Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.**
XA-FRE2	Fransk Fagsprog 2	5	De studerende skal opnå viden om / forstå og reflektere over: det franske sprog inklusive grundlæggende grammatiksætningsstruktur, ordforråd og udtaleerhvervsliv i Frankrig. Emner, der vedrører erhvervslivet i andre fransktalende lande kan også inkluderes.	Efter kurset skal de studerende være i stand til at: bruge relevant forretningsterminologilæse og forstå autentiske tekster på fransk om spørgsmål, der vedrører erhvervslivetfinde, bruge og diskutere information på fransk om forretningsemnerlave præsentationer på fransk om forskellige emnerforberede enkle tekster på fransk med særligt fokus på den globale forretningsingeniørs fagområde.	Efter kurset skal de studerende være i stand til at: kommunikere på fransk på et klart sprog, mundtligt og skriftligt, i internationale sammenhængefungere og samarbejde med mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrundestrukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområderAnvende deres viden om sproget og det franske samfund og de fransktalende lande i en international sammenhæng.	**Mundtlig eksamen** Individuel mundtlig eksamen baseret på et emne fundet ved lodtrækning. Forberedelsestid 40 minutter. Tilladte hjælpemidler: Alle Ekstern censur Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.
XA-FRE3	Fransk fagsprog II	5	Efter kurset skal de studerende have opnået viden om og kunne reflektere over: det franske sprog, herunder syntaks, fonetik, grammatik og semantikviden om fransk industri og erhvervslivviden om interkulturelle forhold og forretningsprotokol i Frankrig eller fransktalende landeviden om præsentationsteknik	Efter kurset skal de studerende være i stand til at: læse, forstå og diskutere tekster på fransk om sociale, forretningsmæssige og tekniske forholdvære sikre i brugen af korrekt terminologi inden for fagområder diskuteret på klassenforhandle med fransktalende samarbejdspartnereholde præsentationer på franskudtrykke sig mundtligt på fransk med en rimelig høj grad af præcision.	Efter kurset skal de studerende være i stand til at: kommunikere på et klart sprog, mundtligt og skriftligt, i internationale sammenhængefungere og samarbejde med mennesker med forskellig uddannelsesmæssig, sproglig og kulturel baggrundstrukturere egen læring og tilegne sig ny viden inden for relevante ingeniørområder med en kritisk tilgangAnvende viden om sproget og det franske samfund og de fransktalende lande i praksis og i en international sammenhæng.	Den studerende eksamineres på grundlag af: 1) En præsentation og diskussion af en ukendt tekst, der uddeles inden forberedelsen, og et eller flere spørgsmål til pensum, ELLER en forhandlingssituation, hvor den studerende spiller den ene part og underviseren den anden part, samt et eller flere spørgsmål til pensum. 2) En præsentation af semesterprojektet SEP5 (10 min. power point-præsentation). Alle hjælpemidler er tilladt under forberedelsen. Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.

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XA-GBC1	International virksomhedskommunikation	5	Efter kurset skal de studerende være i stand til at: forstå et internationalt virksomhedsmiljøbeskrive kommunikationsmodellerredegøre for skriveprocessenredegøre for hvordan man formulerer rutinemæssige, positive og negative meddelelser på engelskbeskrive præsentationsteknikker på engelskredegøre for forskellige aspekter af professionel tekstformuleringredegøre for forskellige aspekter af semestrets tema.	Efter kurset skal de studerende være i stand til at: analysere en kommunikationssituation med hensyn til målgruppe, budskab, valg af kommunikationskanal osv.kommunikere præcist og med et varieret ordforråd på engelsk, mundtligt såvel som skriftligtudvikle materiale til brug i en virksomheds interne såvel som eksterne kommunikation med anvendelse af korrekt terminologi, syntaks og stilistikdiskutere sprogligt komplekse tekster på engelskanvende relevant terminologi inden for erhvervsmæssige og tekniske emneranvende relevante kommunikationsmodellerpræsentere resultaterne af et selvstuderet emne på engelsk professioneltskrive en projektrapport i en professionel stil, med henblik på anvendelse i virksomhedskommunikation og i henhold til retningslinjerne for rapportskrivningpræsentere resultaterne af et projektarbejde mundtligt på et klart og præcist sprog.	Som eksportingeniører skal de studerende i deres projektarbejde og i løbet af deres praktikophold kunne: anvende og udvælge relevante tilgange ved udarbejdelse af forskellige elementer af professionel virksomhedskommunikationkommunikere effektivt og professionelt med en virksomheds interne og eksterne interessenter ved hjælp af korrekt terminologi og syntaks både skriftligt og mundtligtinteragere og samarbejde med mennesker med forskellige kulturelle baggrundetilegne sig ny viden samt forholde sig kritisk til den nye viden inden for relevante jobrelaterede områder.	Skriftlig eksamen. Varighed: 4 timer. Tilladte hjælpemidler: Alle. Ekstern censor. Bemærk, at omprøve kan have en anden form end de almindelige eksamener.
XA-GER1	Tysk kultur og samfund	5	Efter kurset skal de studerende have opnået viden om, kunne forstå og reflektere over: det tyske sprog, inklusive syntaks, fonetik, grammatik og semantikhistoriske, sociale, kulturelle og politiske forhold i tysktalende områder.	Efter kurset skal de studerende være i stand til at: kommunikere rimeligt godt på tyskforstå talt tysklæse, forstå og diskutere autentiske tekster på tysk om kulturelle, sociale eller politiske spørgsmållave præsentationer om kulturelle, sociale eller politiske spørgsmålskrive enkle tekster på tysksøge information på tysk om kulturelle, sociale og politiske spørgsmål og præsentere resultaterne af dette på tysk.	Efter kurset skal de studerende til en vis grad kunne: kommunikere på et klart sprog, mundtligt og skriftligt, i en international kontekstfungere og samarbejde med mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrundestrukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområderbruge kendskabet til det tyske sprog og det tyske samfund såvel som de tysktalende områder i praksis i en international kontekst.	**Mundtlig eksamen** **Individuel mundtlig eksamen. Prøven består af en ukendt tekst og spørgsmål i relation til emner gennemgået på kurset.** **Forberedelsestid 40 minutter.** **Eksamens varighed: Ca. 20 minutter.** **Tilladte værktøjer: Alle** **Ekstern censur.** **Bemærk, at reeksamen kan have en anden form end de almindelige eksamener.** **Kurset skal være bestået inden for den periode, der er fastsat i henhold til studieordningen.**

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XA-GER2	Tysk fagsprog 2	5	De studerende skal have viden om / forstå og reflektere over: det tyske sprog inklusive grundlæggende grammatik,sætningsstruktur, ordforråd og udtale,erhvervslivet i Tyskland. Emner, der vedrører erhvervslivet i andre tysktalende lande, kan også inkluderes.	Efter kurset skal de studerende være i stand til at: bruge relevant forretningsterminologi,læse og forstå autentiske tekster på tysk om spørgsmål, der vedrører erhvervslivet,finde, bruge og diskutere information på tysk om forretningsemner,lave præsentationer på tysk om forskellige emner,forberede enkle tekster på tysk med særlig fokus på den globale forretningsingeniørs fagområde.	Efter kurset skal de studerende være i stand til at: kommunikere på tysk på et klart sprog, mundtligt og skriftligt, i internationale sammenhænge,fungere og samarbejde med mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrunde,strukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområder,sætte viden om sproget og det tyske samfund og de tysktalende lande i praksis i en international kontekst.	**Optagelse til eksamen er under forudsætning af, at** **1) et antal skriftlige opgaver - som er fastlagt af læreren ved semesterstart - er afleveret til tiden og godkendt, og at** **2) en mundtlig præsentation er afgivet og godkendt inden for den fastsatte frist.** **MundtligeksamenIndividuel mundtlig eksamen baseret på et emne fundet ved lodtrækning,Forberedelsestid 40 minutter. Eksamen: 20 minutter. Tilladte værktøjer: Alle** **Ekstern censur.** **Bemærk, at reeksamen kan have en anden form end de almindelige eksamener.**
XA-GER3	Tysk fagsprog II	5	De studerende vil opnå viden om / forstå og reflektere over: Det tyske sprog, inklusive syntaks, fonetik, grammatik og semantik. Viden om tysk industri og erhvervsliv. Viden om interkulturelle anliggender og forretningsprotokol i Tyskland og / eller tysktalende lande. Viden om, hvordan man laver præsentationer.	Efter kurset skal de studerende være i stand til at: Læse, forstå og diskutere tekster på tysk om sociale, forretningsmæssige og ingeniørmæssige spørgsmål.Være sikre i brugen af passende terminologi inden for de fagområder, der diskuteres i klassen.Forhandle med tysktalende samarbejdspartnere.Gennemføre præsentationer på tysk.Udtrykke sig mundtligt på tysk med stor nøjagtighed.	Efter kurset skal de studerende i høj grad være i stand til at: Kommunikere på et klart sprog, mundtligt og skriftligt, i internationale sammenhænge.Fungere og samarbejde med mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrunde.Strukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområder.Anvende viden om sproget og det tyske samfund og de tysktalende lande i praksis og i et internationalt sammenhæng.	Optagelse til eksamen sker under forudsætning af, at 3 obligatoriske skriftlige opgaver afleveres og godkendes inden for de fastsatte frister. Den studerende eksamineres på grundlag af: 1) En præsentation og diskussion af en tidligere ukendt tekst, uddelt inden forberedelsen, og et eller flere spørgsmål til kurset. ELLER en forhandlingssag, hvor den studerende spiller den ene del og underviseren den anden del, samt et eller flere spørgsmål til kursusplanen. 2) En præsentation af semesterprojektet SEP5 (10 min. Power point-præsentation). Alle hjælpemidler er tilladt. Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.

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XA-IBC1	Interkulturel forretningskommunikation	5	Den studerende skal have viden om: Grundlæggende kulturelle strukturer, elementer og funktionerKulturelle værdidimensionerVerbal, nonverbal og skriftlig interkulturel kommunikationBetydningen af kultur og interkulturel kommunikation i international businessInterkulturel ledelse, lederskab, teamsamarbejde, forhandlinger, etik og konflikthåndtering	Den studerende skal være i stand til at: Forstå hvordan kultur påvirker aspekter af international kommunikation og ledelseTilegne sig en bedre forståelse for påvirkningen fra egen kulturSkelne mellem væsentlige værdidimensioner, som definerer kulturelle forskelle mellem samfund eller grupperIdentificere kulturelle variabler i en kommunikationsproces og de faktorer, som kan forårsage støj i processenHåndtere tværkulturel kommunikation med succes	Den studerende skal efter kursets afslutning være i stand til atIdentificere, acceptere og tilpasse sig kulturelle ligheder og forskelleTilpasse sig kulturelt baserede forskelle i en kommunikationsstil (fx i forhandlinger og andre kommunikationssituationer)Finde, anvende og evaluere litteratur og information generelt vedrørende kulturel praksis i et land eller en regionAnvende effektive kommunikationsstrategier afhængig af en situation, kontekst og kulturAnvende passende præsentationsteknikker og passende professionel og kontekstuel terminologi.	**Eksaminationsform:** 24-timers eksamen. Individuel 30-minutters mundtlig eksamen baseret på en case, som trækkes 24 timer før eksaminationen. Eksamen foregår på engelsk. Tilladte hjælpemidler: Alle Ekstern censor.
XA-INP1	Engineering Internship (XA-)	30	Den studerende skal: • få viden om teori, metode og praksis inden for et erhverv eller et eller flere fagområder • være i stand til at forstå og reflektere over teorier, metode og praksis • være opmærksom på ikke-tekniske - samfundsmæssige, sundheds- og sikkerhedsmæssige, miljømæssige, økonomiske og industrielle - implikationer af ingeniørpraksis.	Den studerende skal: • være i stand til at anvende metoderne og værktøjerne i et eller flere studieretninger og anvende færdigheder relateret til arbejde inden for området/studieretningerne eller erhvervet • være i stand til at vurdere teoretiske og praktiske problemer og til at underbygge og udvælge relevante løsninger • være i stand til at kommunikere faglige spørgsmål.	Den studerende skal: • kunne håndtere komplekse og udviklingsorienterede situationer i studie- eller arbejdssammenhænge • være i stand til selvstændigt at deltage i professionelt og tværfagligt samarbejde med en professionel tilgang • kunne identificere egne læringsbehov og organisere egen læring i forskellige læringsmiljøer • fremme en ingeniørorienteret tilgang i de resterende semestre på bacheloruddannelsen • udvikle personlige færdigheder, der kræves til den professionelle karriere som ingeniør • danne grundlag for udvikling af personligt professionelt netværk	Vurdering afgøres på baggrund af følgende elementer: Opgaver i praktikken/læringsmålVirksomhedspræsentationLogbogOpgaver/projekterEndelig konklusionDeltagelse i workshop for kommende praktikanter
XA-MAM1	Marketing Management (DK)	5	De studerende introduceres til kerneteorier og -modeller inden for markedsføring for at kunne analysere: Markeder, markedsefterspørgsel og en virksomheds omgivelser samt dens nuværende strategi.Koncepterne omkring kundeværdi, -tilfredshed og -loyalitet som fundament for en succesfuld marketingstrategi.Konkurrencesituationen som virksomheden opererer i.Kundeadfærd og hvordan købsbeslutninger foretages på individ, gruppe og organisatorisk niveau.Segmenteringskriterier, definition af målgruppe og hvad der	Efter afslutningen af dette kursus, og når de studerende har gennemført den påkrævede læsning og aktiviteter, skal de studerende være i stand til at: Anvende marketing kerneteorier og -modeller på praktiske marketingproblemer med anerkendelse af deres brug og begrænsninger.Gennemføre en komplet og detaljeret situationsanalyse ved at anvende nøgleteorier og modeller som PEST analyse, Porters konkurrent analyse og tilhørende model for konkurrence strategier.Identificere væsentlige markeds- og kundetendenser inklusiv en	Efter en vellykket afslutning af kurset, vil den studerende være i stand til at: Analysere ethvert givet marked ved at gennemføre en PEST analyse, en grundig analyse af konkurrenter inkl. bedømmelse af den overordnede konkurrencesituation på markedet, udvikle en forståelse af kundeadfærden på både B2B og B2C markeder samt fastslå overordnede markedstendenser.Baseret på ovenstående analyse af markedssituationen, at kunne udvikle en konkurrencedygtig marketingstrategi indeholdende segmentering, definition af målgruppe og positionering.	**Skriftlig eksamen** Varighed: 4 timer Ekstern censor Tilladte hjælpemidler: LitteraturEgne noterLaptop, men intet internetLommeregnerVær opmærksom på, at reeksamen kan tage en anden form end de almindelige eksamener.

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			ligger bag en konkurrencedygtig positioneringsstrategi.Nøglekomponenterne i marketingmikset: Produkt, Pris, Promotion og Plads (distribution).	bedømmelse af deres muligheder og trusler for virksomheden.Analysere kundeadfærd på både forbrugermarkedet og det industrielle marked via fastlæggelse af kundebehov samt hvordan beslutninger om produktkøb træffes.Segmentere markeder med henblik på at identificere passende målgrupper og udvikling af en passende strategi og positionering som samtidigt både dækker målgruppens behov og er konkurrencedygtig.Omsætte strategien til handlingsplaner med et effektivt marketing mix inklusiv koncepter omkring branding/mærkeværdi, produktstrategi, produktlivscyklus, service management, valg af passende prisstrategi, styring af distributionskanaler samt masse/personlig/digital kommunikation.	Baseret i den valgte strategi, at udvikle et effektivt marketing mix med henblik på at implementere denne inklusiv forslag til konkrete marketingaktiviteter.	
XA-MAM2	Global Marketing Management (DK)	5	Forskellen mellem global, glocal og lokal international marketingstrategiEt bredt kendskab til det globale markedIdentificere trinene i den internationale markedsføringsproces og kompleksiteten i det internationale markedsføringsmiljøOpnå en forståelse for den nuværende situation i global marketing, de kræfter, der driver globalisering og de deraf følgende udfordringer for både eksisterende internationale virksomheder og for virksomheder, der planlægger at starte en internationaliseringsprocesForstå de specifikke udfordringer i forbindelse med international marketing og internationaliseringsprocessenOpnå en klar forståelse af alle aspekter af udarbejdelse af en international marketingstrategi samt udarbejdelse af den internationale marketing planlægningsprocesForstå forskelle i sociale / kulturelle normer, der påvirker købsadfærd og marketingstrategier på internationale markederInternationaliseringsstrategier for både små og store virksomhederGennemføre effektiv søgning, screening og udvælgelse af	Efter afslutningen af dette kursus, og når de studerende har gennemført den påkrævede læsning og aktiviteter, skal de studerende være i stand til at: Opbygge en markedsprofil for et land ved at gennemføre en PEST- og markedsanalyse (Makro & Mikro faktorer)Kritisk at evaluere en virksomheds internationale markedsmiljø og dets nuværende strategiEvaluere de muligheder og risici, der er forbundet med at indlede en international markedsstrategi eller udvide en allerede international tilstedeværelse i nye lande, for både små og store virksomhederGive input til international markedsstrategisk udviklingVære i stand til at bestemme hvilke markeder en virksomhed skal gå ind i og evaluere fordele og ulemper ved de forskellige indtrængningsmetoderUdarbejde et internationalt marketing mix, herunder at være i stand til at bestemme, hvilke dele af marketingmixet der skal tilpasses det enkelte marked og i hvilken grad	Efter en vellykket afslutning af kurset, vil den studerende være i stand til at: Identificere globale markedsmuligheder, især på nye vækstmarkeder, og vurdere de dermed forbundne risiciGennemføre en detaljeret landeanalyse, der omfatter både makro- og mikromarkedsfaktorerHurtigt og effektivt at undersøge markedsmuligheder og anvende markedsrelevante screening og segmenteringskriterierOpsætte en global marketingstrategi og udarbejde en international marketingplan, der er tilpasset virksomhedens mål og kompetencerAnalysere og fastlægge den mest hensigtsmæssige metode til markedsindtrængningLøbende at identificere vigtige internationale trends	Skriftlig eksamen Varighed: 4 timer Ekstern sensor Tilladte hjælpemidler: LitteraturEgne notaterLaptop, men ingen internetLommeregner Vær opmærksom på, at reeksamen kan tage en anden form end de almindelige eksamener.

Kode	Titel	ECTS-point	Viden	Færdigheder	Kompetencer	Bedømmelse
			nye markeder for virksomhedenForstå de forskellige markedsindtrængningsmetoder samt deres fordele og ulemperInternationale marketing mix strategier			
XA-MAT1	Matematik 1	5	Efter kurset bør den studerende være i stand til at løse simple matematiske problemer indenfor disse emner: 1 2D vektorer 2. 3D vektorer 3. Vektorfunktioner i 2D	Efter kurset bør den studerende være i stand til at: Analysere simple problemer indenfor 2D og 3D vektorer, vektorfunktioner i 2DAnvende matematiske terminologier indenfor ovennævnte emneområder	I deres projektarbejde og kurser, som er en del af diplomingeniør - eksport og teknologi (eksportingeniør) uddannelsen og deres fremtidige job, bliver den studerende i stand til at: Anvende matematisk viden til at løse specifikke problemer.	Skriftlig eksamen Varighed: 4 timer Intern censur Tilladte hjælpemidler ved eksamen: * Kursuslitteratur i henhold til pensum * Personlige noter * Computer * Regnemaskine Eksamen tæller 100 % af den endelige karakter. Kurset skal være bestået indenfor rammerne givet i studieordningen.
XA-MAT2	Matematik 2	5	Efter kurset bør den studerende være i stand til at løse simple matematiske problemer indenfor følgende fagfelter: 1. Optimering 2. Integration 3. Differential ligninger 4. Trigonometriske ligninger	Efter gennemførsel af kurset skal den studerende være i stand til at: Forstå og løse simple problemer inkluderende trigonometriske funktioner.Løse problemer, der inkluderer integration af funktioner med en variabel.Løse problemer der inkluderer en funktion og dens afledte.	I deres projektarbejde, gennem forretnings- og ingeniørrelaterede kurser som er den del af Eksportingeniør studiet og deres fremtidige jobs som eksportingeniører, skal den studerende være i stand til at: Bruge deres matematiske viden til at løse specifikke problemer.	**Skriftlig eksamen** **Varighed: 4 timer** **Tilladte hjælpemidler: Kursus litteratur I henhold til kursus pensumPersonlige noterComputerLommeregnerEkstern censor** **Bemærk, at re-eksamen kan tage en anden form end den ordinære eksamen.** **Kurset skal være bestået i henhold til tidsfristerne beskrevet i Studieordningen.**
XA-MAT3	Matematik 3	5	Den studerende vil opnå viden indenfor polære koordinater og lineær algebra, inklusiv løsning af systemer af lineære ligninger, inverse matricer og egenværdier.	Efter gennemførsel af kurset skal den studerende være i stand til at: Benytte polære koordinater til at beskrive punkter og kurverBestemme længder og arealer begrænset af kurver givet i polære koordinaterAnvende teknikker og resultater fra lineær algebra til at løse problemer indeholdende systemer af lineære ligningerBestemme inverse matricer og finde egenværdier for matricerAnvende CAS software til at løse opgaver indenfor lineær algebra	Ved afslutningen af kurset, skal den studerende være i stand til, atGenkende og løse simple problemer, hvor polære koordinater er nyttigeGenkende systemer af lineære ligninger, omformulere disse ved hjælp af lineær algebra og løse dem, om nødvendigt ved brug af CAS softwareLæse tekster hvor polære koordinater og basal lineær algebra bruges	Skriftlig eksamen. Varighed: 4 timer Tilladte hjælpemidler: Kursus litteratur i henhold til kursus pensumPersonlige noterComputerLommeregner Ekstern censor Kurset skal være bestået i henhold til tidsfristerne beskrevet i Studieordningen
XA-SEP1	Semester Projekt 1: Robotics	5	Den studerende skal have viden om og forstå: Anvendelse af robotterHvordan funktionaliteten af en robot kan beskrivesOpbygningen af autonome systemerHvordan funktionaliteten af en	Den studerende skal opnå færdigheder til at: Bygge en robotUdvikle software til at kontrollere en robotBeskrive funktionaliteten ved brug af en dynamisk modelTeste robottens	Den studerende skal være i stand til at: Reflektere over skabelsen af en autonom robot til et valgt markedReflektere over test af softwareKontrollere og strukturere et	**Mundtlig eksamen** 15 minutters gruppepræsentation af projektet. Dette gennemføres i form af

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			robot kan testesRoller i grupper og gruppedynamikHvordan en marketingplan udvikles og udarbejdes.	funktionalitetUdvise markante færdigheder i at kommunikere, både skriftlig og mundligtPræsentere en projektrapport på en velstruktureret mådeBeskrive et projekt i en procesrapportLøse en konkret opgave i samarbejde med gruppemedlemmerAnalysere et marked ved at indsamle relevante data mht. makrotendenser (PEST analyse) og tendenser i mikro miljøet (konkurrenter og kunder)Segmentere et marked ud fra relevante segmenteringskriterierUdvælge en målgruppe tilpasset virksomhedens kompetencer og projektets indtjeningspotentialeOpsummere markedsanalysen vha. en SWOT analyseUdvikle et marketing mix med henblik på at omsætte den valgte strategi i praksis (målgruppe, positionering og konkurrencemæssige fordele).	projekt i takt med at det skrider fremadReflektere over gruppens præstation og individuelle læringsprocesserReflektere over at arbejde på tværs af kulturerReflektere over deltagelsen i peer reviewsVære i stand til at identificere relevante informationskilder og bedømme deres troværdighed samt relevansUdvikle en konkurrencedygtig marketingplan inklusiv strategisk refleksion, udvælgelse af målgruppe, en tilhørende konkurrence strategi samt et passende marketing mix basered på konklusionerne fra markedsanalysenBygge en prototype til en udstillingsbod som passer til markedet	en udstillingsbod. 10 minutters individuel eksamination af projektet som dækker hhv. ENB og Marketing 10 minutters individuel eksamination i kurset ENB Eksamensspørgsmål i den individuelle eksamen er baseret på projektet og viden fra MAM og ENB. I tilfælde af reeksamen kan hver del (projektet og ENB1) eksamineres separat. I tilfælde af manglende beståelse af projektet, skal der skrives et nyt projekt uden vejledning. Tilladte hjælpemidler: Alle Intern censur **Reeksamen:** Sidste fredag i juni afholdes informationsmøde for studerende, der er dumpet semesterprojekt i januar eller juni. Her oplyses om specifikke deadlines og nærmere forløb for projektarbejdet, ligesom der dannes nye projektgrupper, hvor det er muligt i forhold til antallet af ikke bestående studerende på de enkelte semestre. På basis af den feedback, de studerende har modtaget efter ordinær eksamen, skal der enten udarbejdes et nyt projekt, eller det ikke bestående projekt skal forbedres. Projektet skal afleveres medio august (præcis dato oplyses på mødet). Der ydes ingen vejledning i perioden frem til aflevering. Projektet evalueres ved mundtlig reeksamen i september.

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XA-SEP2	Semesterprojekt 2 (XA-)	5	The students should acquire knowledge in project work, study new topics and apply theory learned in project methodology, engineering basics, marketing management, business communication, and technical drawing. The project is hands-on experience in practicing what the students have learned in engineering, business and communication. Besides, the students are expected to develop their personal skills, such as for instance how to cooperate, show responsibility, motivate themselves, etc. with the aim of reaching a good result of their project work.	Upon completion of the project SEP2 the students should have acquired skills in how to: **Engineering:** search and study technical informationmake technical drawings for production using 3D CADconduct practical tests and collect datause collected data and make conclusions on the basis of this data **Marketing:** make an analysis of a market for a selected countrydevelop a marketing strategy for the companycomplete an international marketing plan including recommendations to the company for a possible penetration into the selected market **Business Communication:** plan and analyse the communication situationstructure the project report, and organize the text in logical, coherent sectionswrite the project report in a professional style used in business communication and according to the guidelines for writing reports in VIAuse grammatically correct written Englishpresent the results of the project work orally in a clear and concise language **Process skills:** draft a comprehensible group contract taking into account challenges from the first semester projectcooperate in teamsmotivate themselves and othersbe responsible for time management and prioritizing	Upon completing the course, the students will have gained competences in identifying, drawing and applying suitable components in a machine design. Furthermore, the students will have competences in comparing, arguing for, and deciding on technical solutions. The students will also be able to analyse a foreign market, decide on a market strategy and complete an international market plan. Besides, the students will be able to communicate effectively and professionally using the correct syntax and terminology for technical language both orally and in writing. The student will also be able to interact and cooperate in a technical/business context with people from different cultural backgrounds.	**Oral Examination** **Group presentation based on a project report followed by an individual examination of all group members in a group session.** **Duration: Presentation 15 minutes and examination approx. 10 min. per student.** **Allowed tools: All.** **Internal examiner** **Description of the exam:** **Evaluation** **The evaluation of the project work is based on:** **A written project report, a process report, and technical documentation (appendices).** **An oral group presentation based on a project report followed by an individual examination of all group members in a group session.** **Examination** **The examination is an oral exam and consists of: A group presentation of the main conclusions of the project report and the process report (15) min. per group).An individual examination (approx. 10 min. per group member with the presence of the whole group) based on the project report and the general knowledge that the student has gained through the courses: SSE, SEP1, ENB1, ENB2, CAD, GBC1, GBC2, MAM1, MAM2.** **Grading criteria** **Each area will be evaluated according to its weight in the project:**

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						engineering 1/3, marketing 1/3, and Business communication and project methodology 1/3. Students receive one overall mark. Each area (engineering, marketing and business communication and project methodology) counts for 33,3 % of the overall mark. **Both the written part and the oral part will be taken into consideration when the grade is given.** **Grades will be given according to the Danish 7-point grading scale.** **Deadlines for passing the course** **As described in the GBE curriculum.**
XA-SEP3	Semesterprojekt 3 (XA-)	10	Den studerende vil tilegne sig viden i projektarbejde og nye læseplaner samt anvende teori, der læres i projektmetodik, erhvervsøkonomi og interkulturel erhvervskommunikation. Den studerende vil tilegne sig viden om, hvordan man: Foretager forskning og undersøgelser om relevante kulturelle og økonomiske emner med det formål at oprette et datterselskab i et fremmed landLæser dokumentationen på LEJOSBenytter sig af faciliteterne i MakerSpaceKører, styrer og oplader mini-mobile robotterFølger kravene til projektskrivning på engelskGør brug af forskellige krav til akademisk skrivning med hensyn til syntaks, sammenhæng og struktur.	Efter afsluttet kursus har den studerende opnået færdigheder i: Forskningsmetoder til relevante makroøkonomiske dataForskningsmetoder, analyse og forståelse af kulturelle ligheder og forskelle i de udvalgte landeTeamworkFremstilling af faktiske modeller ved hjælp af 3d-print og laserskæringMekaniske driv- og løftesystemerAnalyse af belastninger og styrker ved enkle ramme- og maskindele3D CAD-modelleringProgrammering af et realtidsindbygget systemBrug af et UML-aktivitetsdiagram og et klassediagram til at modellere et selvdesignet systemAt udfærdige skriftlige rapporter på et klart og præcist sprog ved hjælp af korrekt engelsk og i overensstemmelse med retningslinjerne for projektskrivning.	Efter afsluttet kursus vil den studerende have opnået kompetencer i at finde og analysere landsspecifikke makroøkonomiske data med henblik på at evaluere forretningsmulighederne i et udvalgt land. Desuden vil den studerende være i stand til at identificere og forklare kulturelle ligheder og forskelle i de pågældende lande. Den studerende vil have opnået interkulturel kompetence, som gør det muligt for ham / hende at samarbejde med udenlandske forretningspartnere og organisationer samt med kolleger og medarbejdere fra et andet land. På baggrund af ovennævnte makroøkonomiske og interkulturelle analyser, vil den studerende også have lært, hvordan man vurderer forretningsmulighederne på et udvalgt marked under hensyntagen til både de makroøkonomiske og kulturelle perspektiver. Endvidere har den studerende lært at omdanne forretningsmulighederne til en	**Mundtlig eksamen** Individuel mundtlig eksamen uden forberedelse baseret på kursusopgave/r Varighed: ca. 20 min (inklusiv karaktergivning) Tilladte hjælpemidler: Alle Intern censor

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					håndgribelig prototype af en systemløsning. Prototypen demonstrerer den funktionelle anvendelighed og muligheden for at realisere løsningen. Den studerende får kompetencer i at designe, modellere og dimensionere enkle mekaniske maskinkonstruktioner og kombinere standard maskine elementer for at drive en enhed fremad.	
XA-SEP4	Semesterprojekt 4: Investering i vedvarende energi	5	Den studerende skal kunne forstå: 3D tegning (CAD) Programmering af software ved hjælp af Java- og relationelle databaser Termodynamik og elektriske kredsløb Beregninger af kapitalinvesteringer til produktudvikling Projektmetodologi såvel som projektarbejdsevner	Den studerende vil opnå færdigheder til at: **Alle studerende:** Evaluere de finansielle elementer i en investering Brug projektmetoden baseret på Engineerings "Retningslinjer for ingeniørprojekter". **Engineering** Softwareingeniør studerende: Databasefunktion (SQL)Java applikation Mekanikstuderende: Mål og beregn energi og energi til solenergisystemer	Efter kurset vil de studerende være i stand til at: Identificere og løse tværfaglige problemer i et gruppeprojektHåndtere både skriftlig og mundtlig formidling af projektresultater	**Mundtlig eksamen** Individuel mundtlig eksamen uden forberedelse baseret på kursusopgave (r). Tilladte hjælpemidler: Alle Intern censur Bemærk, at reeksamen kan have en anden form end de almindelige eksamener. **Reeksamen** Studerende, der ikke består semesterprojektet i januar eller juni, skal deltage i et informationsmøde den sidste fredag i juni. På dette møde får de studerende information om specifikke tidsfrister samt processen for reeksamen. De studerende danner nye grupper, størrelsen af grupperne sker i forhold til antallet af studerende, der ikke har bestået på de enkelte semestre, hvis muligt. Baseret på den feedback de studerende har modtaget efter den ordinære eksamen, skal de forberede et nyt projekt, eller det mislykkede projekt skal forbedres. Frist for indlevering af projektet er medio august (den nøjagtige dato informeres på mødet). Der vil ikke være nogen vejledning i perioden op til indlevering.

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						Den mundtlige vurdering af projektet finder sted i september.
XA-SEP5	Semesterprojekt : Fri innovativ produktdesign	10	Vigtige dimensioner af projektledelsesfærdigheder i grupperForretnings- og marketingteorier relevante for det pågældende projektTeknisk teori fra valgt specialisering (Softwareingeniør / Maskiningeniør)	Være i stand til at generere ideer, udvikle koncepter og træffe endelige systematiske valg baseret på relevante krav og kriterierVære i stand til at vælge teorier, modeller og metoder, der er relevante for problemerne i projektetKunne designe, dimensionere og dokumentere maskiner / software i overensstemmelse med regler og forskrifterUdvise analytisk, rationel såvel som innovativ tænkningDemonstrere selv-initiativ, interpersonelle færdigheder, kritik, selvkritik, ønske om at lære.	Færdigheder i projektledelseDefinere, styre og implementere projekter, der bygger bro mellem tekniske og forretningsmæssige problemerAnvende input fra forretnings- / marketingdel til teknisk løsning og vice versaTag metodiske beslutninger baseret på diskussion og analyse af relevante modeller og teorierFokusere på de relevante spørgsmål for at give en sammenhængende løsningUdvikle tekniske løsninger, der både opfylder markedets behov og har forretningspotentiale.	Projektrapporten skal afleveres til tiden for at blive registreret til eksamen. Grupperne præsenterer projektet (maks. 15 min.) efterfulgt af en individuel eksamen i både tekniske og forretningsfag (ca. 15 min. i alt). Eksamen kan enten gennemføres af de studerende enkeltvis eller som en gruppe. I tilfælde af sidstnævnte er karaktergivningen stadig individuel (ikke en gruppe). Eksamensgrundlaget er projektrapporten. Eksamineringen kan dreje projektkarakteren op eller ned for den enkelte studerende afhængigt af præstationen. Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.
XA-SPA1	Spansk samfund og kultur 1	5	Efter kurset skal de studerende have opnået viden om, og kunne forstå og reflektere over: det spanske sprog, herunder syntaks, fonetik, grammatik og semantikhistoriske, sociale, kulturelle og politiske forhold i spansktalende områder.	Efter kurset skal de studerende have tilegnet sig følgende færdigheder: kommunikere rimeligt godt på spanskforstå talt spansklæse, forstå og diskutere autentiske tekster på spansk om kulturelle, sociale eller politiske spørgsmålholde præsentationer om kulturelle, sociale eller politiske forholdskrive enkle tekster på spansksøge information på spansk om kulturelle, sociale og politiske forhold og præsentere resultaterne af dette på spansk	Efter kurset skal de studerende til en vis grad kunne: kommunikere på et forholdsvist klart sprog, mundtligt og skriftligt, i en international kontekst fungere og samarbejde med mennesker med forskellig uddannelsesmæssig, sproglig og kulturel baggrund strukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante ingeniørområder anvende viden om det spanske sprog og samfund samt de spansktalende områder i praksis i en international kontekst	**Mundtlig eksamen** Prøven er baseret på en ukendt tekst og spørgsmål i relation til emnets emner. Alle hjælpemidler er tilladt under forberedelse. Ekstern censur. Bemærk, at reeksamen kan have en anden form end de almindelige eksamener.
XA-SPA2	Spansk Fagsprog 2	5	De studerende skal have viden om / forstå og reflektere over: Det spanske sprog inklusive grundlæggende grammatik, sætningsstruktur, ordforråd og udtaleViden om erhvervslivet i Spanien. Emner, der vedrører erhvervslivet i andre spansktalende lande, kan også inkluderes	Efter kurset skal de studerende være i stand til atBruge relevant forretningsterminologiLæse og forstå autentiske tekster på spansk om spørgsmål, der vedrører erhvervslivetFinde, bruge og diskutere oplysninger på spansk om forretningsemnerLave præsentationer på spansk om forskellige emnerForberede enkle tekster på	Efter kurset skal de studerende være i stand til at: Kommunikere på spansk på et klart sprog, mundtligt og skriftligt, i internationale sammenhængeFungere og samarbejde med mennesker med forskellige uddannelsesmæssige, sproglige og kulturelle baggrundeStrukturere egen læring på en effektiv måde og kritisk tilegne sig ny viden inden for relevante	**Mundtlig eksamen** Prøven er baseret på en uset tekst og spørgsmål i relation til emner fra kurset. Alle hjælpemidler er tilladt under forberedelsen. Ekstern censur.

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				spansk med særligt fokus på den globale forretningsingeniørs fagområde.	ingeniørområderAnvende viden om sproget og det spanske samfund og de spansktalende lande i en international sammenhæng.	Bemærk, at reeksamen kan have en anden form end de almindelige eksamener.
XA-SPA3	Spansk fagsprog III	5	Efter kurset skal de studerende have opnået viden om og kunne reflektere over: det spanske sprog, herunder syntaks, fonetik, grammatik og semantikviden om spansk industri og erhvervslivviden om interkulturelle forhold og forretningsprotokol i Spanien eller spansktalende landeviden om, hvordan man laver præsentationer.	Efter kurset skal de studerende være i stand til at: læse, forstå og diskutere tekster på spansk om sociale, forretningsmæssige og tekniske forholdvære sikker i brugen af passende terminologi inden for fagområder diskuteret i klassenforhandle med spansktalende samarbejdspartnereholde præsentationer på spanskudtrykke sig mundtligt på spansk på overbevisende vis.	Efter kurset skal de studerende være i stand til at: kommunikere på et klart sprog, mundtligt og skriftligt, i internationale sammenhængefungere og samarbejde med mennesker med forskellig uddannelsesmæssig, sproglig og kulturel baggrundstrukturere egen læring og tilegne sig ny viden inden for relevante ingeniørområder med en kritisk tilgangAnvende viden om sproget og det spanske samfund og de spansktalende lande i praksis og i en international sammenhæng.	Den studerende eksamineres på grundlag af: 1) En præsentation og diskussion af en ukendt tekst, der uddeles inden forberedelsen, og et eller flere spørgsmål til pensum, ELLER en forhandlingssituation, hvor den studerende spiller den ene part og læreren den anden part, og et eller flere spørgsmål til pensum. 2) En præsentation af semesterprojektet SEP5 (10 min. Power point-præsentation). Alle hjælpemidler er tilladt under forberedelsen. Bemærk, at reeksamen kan have en anden form end den ordinære eksamen.
XA-SSE1	Studieforberedende kursus for Ingeniørstuderende (GBE)	5	Den studerende skal være i stand at: Forklare studieaktivitetsmodellen og SOLO taksonomienForstå begrebet 'plagiat'Definere hvad der forstås ved pålidelige kilder (kildekritik)Redegøre for kulturelle forskelle der kan påvirke teamarbejdet i et projektSkitsere faserne i teamets udvikling (f.eks. Tuckmans faser)Forklare fordele og ulemper ved problembaseret læring (PBL)Beskrive de forskellige faser i et projekt (problemanalyse, problemformulering, projektplanlægning og implementering)Forstå vejlederens rolle og projektvejledning generelt Forstå vigtigheden af innovation og innovative processer og principperne bag divergente og konvergente faser	Den studerende skal være i stand til at: Udvælge og anvende gode studieteknikker i fht. planlægning, læsning og notetagningAnvende en hensigtsmæssig projektmetode baseret på uddannelsens 'Guidelines'Udvikle en problemanalyseForstå og anvende generiske redskaber til projektplanlægning- og udførelse herunder IT værktøjer som MS Teams, Planner og Gantt kort	Den studerende skal være i stand til atReflektere over aktiv læring og ansvaret for egen læringAnalysere og anvende teamdynamikker, såsom kommunikation, motivation, beslutningstagning og konfliktløsningReflektere over betydningen af arbejdsmåde og adfærd samt teamroller og kulturGenerere et projektresultat (rapport, appendix etc.), som demonstrerer effektive kommunikationsfærdigheder	Godkendelse/Ikke-godkendelse