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Date: 30 June 2017

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# Curriculum

## Programme section

### Bachelor of Engineering in Global Business Engineering

- For students enrolled August 2017 & 2018

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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 (1<sup>st</sup>-4<sup>th</sup> semester), however all courses from the 5<sup>th</sup> 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 2<sup>nd</sup> 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		
<b>9<sup>th</sup> semester</b> Bachelor Project	Elective course	Elective course	<b>BPR2</b> Bachelor Project			
<b>8<sup>th</sup> semester</b> Internship	<b>INP1</b> Internship					
<b>7<sup>th</sup> semester</b> Bachelor Preparation	<b>ME MEM1</b> Machine Design	<b>ME ELE1</b> Electrical Engineering	<b>MST1</b> Management & Strategy	<b>SEP7</b> Semester Project		
<b>6<sup>th</sup> semester</b> Study abroad	<b>ME MEC2</b> Mechanics	<b>ME MED1</b> Machine Element Design	<b>ME TER 1</b> Thermodynamics	Elective course ME-engineering	Elective course	Elective course
<b>5<sup>th</sup> semester</b> Innovative Product Development	<b>ME TEM1</b> Technology and Environment	<b>ME MTR1</b> Materials Science	<b>ME TDE1</b> Technical Design	<b>LANG3</b> German/ French/ Spanish/ Danish	<b>SEP5</b> Semester Project	
<b>4<sup>th</sup> semester</b> Sustainable Energy	<b>ME DYN1</b> Dynamics	<b>ENB M2</b> Electronics, Thermodynamics	<b>LANG2</b> German/ French/ Spanish/ Danish	<b>FCM1</b> Financial Management	<b>INO1</b> Cross Disciplinary Innovation	<b>SEP4</b> Semester Project
<b>3<sup>rd</sup> semester</b> International Business Environment	<b>ME MEC1</b> Statics	<b>MAT3</b> Mathematics	<b>LANG1</b> German/ French/ Spanish/ Danish	<b>BUE1</b> Business Economics	<b>SEP3</b> Semester Project	
<b>2<sup>nd</sup> semester</b> Design and Technology	<b>ENB M1</b> Introduction to Mechanical Engineering	<b>MAT2</b> Mathematics	<b>GBC2</b> Global Business Communication	<b>MAM2</b> Marketing Management	<b>IBC1</b> Intercultural Business Communication	<b>SEP2</b> Semester Project
<b>1<sup>st</sup> semester</b> Robotics	<b>ENB ICT1</b> Introduction to Software Engineering	<b>MAT1</b> Mathematics	<b>GBC1</b> Global Business Communication	<b>MAM1</b> Marketing Management	<b>SSE1</b> Study Skills for Engineering Students	<b>SEP1</b> Semester Project

GBE-Software Engineering Specialisation

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

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

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### 4.1 1<sup>st</sup> 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:

<b>Introduction to software engineering (ENB ICT1)</b>
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.
<b>Mathematics 1 (MAT1)</b>
The purpose of this course is to develop the students' basic mathematic abilities within 2D and 3D vectors and vectorvalued functions in 2 dimensions.
<b>Global Business Communication1 (GBC1)</b>
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.
<b>Marketing Management 1 (MAM1)</b>
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.
<b>Study Skills for Engineering Students (SSE1)</b>
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.
<b>Semester Project (SEP1)</b>
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	<b>Oral examination</b> , 20 minutes <b>Internal censor</b> . 7-point scale <b>Reexamination</b> : As ordinary
Mathematics 1 (MAT1)	5 ECTS	<b>Written examination</b> , 4 hours. <b>Internal censor</b> . 7-point scale <b>Reexamination</b> : 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%), <b>External censor</b> . 7-point scale <b>Reexamination</b> : As ordinary.
Marketing Management 1 (MAM1)	5 ECTS	<b>Written examination</b> , 4 hours <b>External censor</b> . 7-point scale <b>Reexamination</b> : Can be oral
Study Skills for Engineering Students (SSE1)	5 ECTS	Passed/Not passed 80% attendance. Minimum three tests (written or oral) passed



Semester Project (SEP1)	5 ECTS	<b>Reexamination:</b> Written assignment <b>Oral examination</b> based on written report <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary
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## 4.2 2<sup>nd</sup> semester: Design & Technology

### Topics

- Introduction to Mechanical Engineering (ENBM1)
- 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:

<b>Introduction to Mechanical Engineering (ENB M1)</b>
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.
<b>Mathematics 2 (MAT2)</b>
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.
<b>Global Business Communication 2 (GBC2)</b>
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.
<b>Marketing Management (MAM2)</b>
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.
<b>Intercultural Business Communication (IBC1)</b>
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.

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

## 4.3 3<sup>rd</sup> 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:

<b>Mechanics 1 (ME MEC1)</b>
Provide the student with basic skills in statics to analyze and solve problems/tasks within machine design.
<b>Mathematics 3 (MAT3)</b>
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.
<b>German/French/Spanish/Danish (LANG1)</b>
<b>GER1/ FRE1/ SPA1</b>  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.
<b>DAN1</b>  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.
<b>Business Economics (BUE1)</b>
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.
<b>Semester Project (SEP3)</b>
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:

<b>Software Development with Java 1(IT SDJ1)</b>
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.
<b>German/French/Spanish/Danish (LANG1)</b>
<b>GER1/ FRE1/ SPA1</b>  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.
<b>DAN1</b>  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.
<b>Business Economics (BUE1)</b>

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

## 4.4 4<sup>th</sup> 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:

<b>Dynamics (ME DYN1)</b>
The course should teach the students how to use the laws of particle kinematics and kinetics.
<b>Electronics, Thermodynamics (ENB M2)</b>
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.
<b>German/French/Spanish/Danish (LANG2)</b>
<b>GER2/ FRE2/ SPA2</b> 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.
<b>DAN2</b> 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.
<b>Financial Management (FCM1)</b>
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.
<b>Cross Disciplinary Innovation (INO1)</b>
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.
<b>Semester Project (SEP4)</b>
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:

<b>Database Systems (IT DBS1)</b>
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).

<b>Responsive Web Design (IT RWD1)</b>
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.
<b>German/French/Spanish/Danish (LANG2)</b>
<b>GER2/ FRE2/ SPA2</b> 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.
<b>DAN2</b> 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.
<b>Financial Management (FCM1)</b>
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.
<b>Cross Disciplinary Innovation (INO1)</b>
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.
<b>Semester Project (SEP4)</b>
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	<b>Written examination</b> , 4 hours <b>Internal censor</b> . 7-point scale <b>Reexamination</b> : <i>Can</i> be oral <b>Prerequisite</b> : mandatory course work
Electronics, Thermodynamics (ENB M2)	5 ECTS	<b>Written examination</b> , 4 hours <b>External censor</b> . 7-point scale <b>Reexamination</b> : <i>Can</i> be oral
Database Systems (IT DBS1)	5 ECTS	<b>Written examination</b> , 4 hours <b>Internal censor</b> . 7-point scale <b>Reexamination</b> : <i>Can</i> be oral <b>Prerequisite</b> : 75% class attendance and

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

## 4.5 5<sup>th</sup> 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:

<b>Technology (ME TEM1)</b>
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.
<b>Material Science (ME MTR1)</b>
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.
<b>Construction (ME TDE1)</b>
To provide methods and tools within the fields of technical drawing and standard mechanical parts.
<b>German/French/Spanish/Danish (LANG3)</b>

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

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## 4.6 6<sup>th</sup> semester: StudyAbroad

### 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:

<b>Mechanics (ME MEC2)</b>
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.
<b>Machine Element Design (ME MED1)</b>
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.
<b>Thermodynamics (ME TER1)</b>
The student will obtain knowledge of the basic theory within thermodynamics and be able to perform elementary thermal calculations.

Course purpose - Software engineering specialisation:

<b>Web Engineering Processes (IT WEE1)</b>
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#.
<b>Business Intelligence (IT BUI1)</b>
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.
<b>Android Development (IT AND1)</b>
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	<b>Oral examination;</b> 20 minutes. <b>External censor.</b> 7-point scale <b>Reexamination:</b> As ordinary
Machine Element Design (ME MED 1)	5 ECTS	<b>Oral examination;</b> 20 minutes based on course assignment. <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary
Thermodynamics (ME TER1)	5 ECTS	<b>Written examination;</b> 4 hours (70%) <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> <i>Can be oral</i> <b>Prerequisite:</b> mandatory course activity

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

## 4.7 7<sup>th</sup> 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:

<b>.NET Programming 1 (IT DNP1)</b>
The purpose is to qualify the student to describe and implement the basic concepts of the C# programming language and the .NET developer platform.
<b>ERP systems and SAP ABAP/4 programming (IT ERP1)</b>
To introduces main aspects within design and implementation of ERP systems and SAP ABAP/4 Programming.
<b>Management and Strategy (MST1)</b>
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.
<b>Semester Project (SEP7)</b>
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	<b>Oral examination;</b> 20 minutes <b>External censor.</b> 7-point scale <b>Reexamination:</b> As ordinary
Electrical Engineering (ME ELE1)	5 ECTS	<b>Oral examination;</b> 20 minutes <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary
.NET Programming 1 (IT DNP1)	5 ECTS	<b>Written exam;</b> 4 hours <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> <i>Can</i> be oral <b>Prerequisite:</b> Course work handed in & 75% attendance
ERP systems SAP ABAP/4 Programming 1 (IT ERP1)	5 ECTS	<b>Oral examination;</b> 20 minutes (counts 50%) <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Course work handed in (counts 50%)
Management and Strategy (MST1)	5 ECTS	<b>Oral exam</b> based on written report. <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary. <b>Prerequisite:</b> Written report handed in on time
Semester Project (SEP7)	15 ECTS	<b>Oral exam</b> based on written report. <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As

		ordinary.
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## 4.8 8<sup>th</sup> semester: Internship

For further details, read section 6.

## 4.9 9<sup>th</sup> semester: Bachelor project

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

### Topics

GBE - Bachelor Project (BRP2)

Course purpose:

Bachelor Project (BRP2)
<p>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:</p> <ol style="list-style-type: none"> <li>1. Applied engineering</li> <li>2. Applied business</li> <li>3. Applied language and culture</li> </ol>

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	<b>Oral exam</b> based on written report. <b>External censor.</b> 7-point scale. <b>Reexamination:</b> As ordinary
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## 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 6<sup>th</sup> and 9<sup>th</sup> 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

<b>Doing Business in the US (DBU)</b>
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.
<b>Doing Business in China (DBC)</b>
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.
<b>E-commerce (ECO)</b>

## Introduction to Programming for Engineers (IT-IPE) – from Spring 2023

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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	<b>Oral examination;</b> 20 minutes <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Completed mandatory course activity.
Doing Business in China (DBC1)	5 ECTS	<b>Oral examination;</b> 20 minutes <b>Internal censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Completed mandatory course activity
E-commerce (ECO1)	5 ECTS	<b>Oral examination;</b> 20 minutes <b>External censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Completed mandatory course activity
Entrepreneurship (ENT1)	5 ECTS	<b>Oral examination;</b> 20 minutes

		<b>External censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Completed mandatory course activity.
Personal Selling and Sales Management (SSM1)	5 ECTS	<b>Oral examination;</b> 20 minutes <b>External censor.</b> 7-point scale <b>Reexamination:</b> As ordinary <b>Prerequisite:</b> Completed mandatory course activity
Project Management (PRM1)	5 ECTS	<b>Written exam;</b> Project group report and individual assignment <b>Internal censor;</b> 7-point scale <b>Reexamination:</b> As ordinary
Introduction to Programming for Engineers (IP-IPE1)	5 ECTS	

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## 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.

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## 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.

Rev. 01.02.2021

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

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

## Appendix 2: Courses Global Business Engineering Programme

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
GBE-BPR2	Bachelor Project (GBE-)	20	<p>Knowledge, Skills &amp; Competences</p> <p>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.</p> <p>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.</p> <p>In addition, the bachelor project must reflect the student's ability to express themselves professionally and in a structured way.</p> <p>Finally, the project must demonstrate individual judgement and self-critical reflection.</p>			<p>Presentation (10 -15 minutes per student) followed by an examination (20-30 minutes per student).</p> <p>External censor</p> <p>The total time for the oral exam including group presentation, examination, evaluation and feedback will be:</p> <ul style="list-style-type: none"> <li>• Groups of one student: 60 minutes</li> <li>• Groups of two students: 90 minutes</li> <li>• Groups of three or more students: 120 minutes</li> </ul> <p>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.</p> <p>Standard procedure for re-examination is to write a new project. Timing of re-examination follows the ordinary examination periods at GBE in January and June.</p> <p>There are 3 attempts to pass the bachelor project. Failure to hand in a bachelor report on time results in one missed attempt. Example: report is not handed in for the January exam. Handing in the report for the exam in June will constitute attempt no 2 and so on. 3rd and last attempt will be in January the following year. All in all, the bachelor project must be completed within one year (January-June-</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
						January). Exception to these rules will only be granted in the most exceptional of circumstances, e.g. serious illness, and must be approved by the GBE head of Department.
GBE-BUE1	Business Economics	5	<p>The students should be able to</p> <ul style="list-style-type: none"> <li>- Identify and sketch the firm's demand and supply functions</li> <li>- Identify and sketch the optimal price and quantity that maximizes the firms profit</li> <li>- Identify and sketch the different market structures</li> <li>- Identify and sketch the aggregate demand and Supply for the market / industry</li> <li>- Identify the Macroeconomic tools and objectives</li> <li>- Identify and describe the different macroeconomic policies</li> </ul>	<p>At the end of this course, and having completed the essential reading and activities, the students should be able to:</p> <ul style="list-style-type: none"> <li>- use appropriate tools to model company price and output decisions under different market structures</li> <li>- analyze and assess efficiency and welfare optimality of perfectly and imperfectly competitive markets</li> <li>- analyze and assess the effects of externalities and public goods on efficiency</li> <li>- analyze and assess government policies aimed at improving welfare.</li> </ul>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- use the most important theories from "Microeconomics"</li> <li>- to analyse the business microeconomic environment understand 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 structures</li> <li>- use the most important theories from "Macroeconomics" to obtain knowledge on the global macro economy</li> <li>- analyse and assess the connection between various macroeconomic changes and the significance of the change to the concrete company.</li> </ul>	<p>Written examination (TEST)</p> <p>Two tests each of 2 hours duration</p> <p>Allowed tools: Course literature according to the course description</p> <p>Personal notes Laptop Calculator</p> <p>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.</p>
GBE-DAN1	Danish Culture and Society 1	5	<p>The students should have knowledge about/understand and reflect on: The Danish language, including basic grammar, sentence structure, vocabulary and pronunciation.</p>	<p>After the course the students should be able to:</p> <p>Read and understand the contents of texts, which in a relatively simple language describes everyday life in Denmark.</p> <p>To scan texts for specific information.</p> <p>Write easy texts. Acquire knowledge about Danish culture and society.</p>	<p>After the course the students should to a certain extent, be able to:</p> <p>Communicate in Danish in an understandable language, orally and in writing.</p> <p>Function and cooperate with people with different educational, language, and cultural backgrounds.</p> <p>Understand and discuss every day conditions in a comparatively simple language.</p>	<p>Oral Examination</p> <p>Individual oral examination based upon a subject found by draw.</p> <p>No preparation</p> <p>Allowed tools: None</p> <p>External examiner</p> <p>Additional information:</p> <p>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 three 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.</p> <p>The course must be passed before the limit set in the course curriculum.</p>
GBE-DAN2	Danish Culture and Society 2	5	<p>The students should have knowledge about/understand and reflect on: The</p>	<p>After the course, the students should be able to: Read and understand the</p>	<p>After the course, the students should be able to: Communicate in Danish in an</p>	<p>Oral Examination</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			Danish language including basic grammar, sentence structure, vocabulary and pronunciation.	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.	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.	Individual oral examination based upon a subject found by draw. No preparation Allowed 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 announcement Formulating a CV and job application Making a job interview in Danish 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 an application Individual oral examination based upon a subject found by draw No preparation External 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 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.	After the course the student should be able to: - Analyze and comment on the attractiveness of the Chinese market for import/export and investment within the framework of the course content - Discuss the course content in relation to ongoing trends and rapid developments in China - Locate information relevant to setting up a business in China - Apply relevant terminology when discussing the course content Communicate by using basic Chinese language.	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 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.	Oral Examination  Individual oral examination based upon a subject 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:	After the course the student should be able to:	In their project work, during their internships, and in their future jobs as	Oral Examination Individual oral examination based upon

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			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.	<ul style="list-style-type: none"> <li>Analyse and comment on the attractiveness of the US market for export and investment within the framework of the course content</li> <li>Discuss the course content in relation to on-going trends and developments</li> <li>Locate information relevant to setting up in business in the US</li> <li>Locate information in relation to demographic trends in the US</li> </ul> <p>Apply relevant terminology when discussing the course content</p>	<p>global business engineers, the students should be able to:</p> <ul style="list-style-type: none"> <li>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.</li> <li>Communicate effectively about US topics, using correct terminology. Critically acquire new knowledge about trends and developments in the US.</li> </ul>	<p>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.</p>
GBE-DMA1	Digital Marketing	5	<p>The students will be introduced to core theories, models and tools in the field of digital marketing that will result in knowledge of:</p> <ul style="list-style-type: none"> <li>The role of digital marketing as a part of business world and company's overall marketing strategy using the SOSTAC model</li> <li>Integrated digital marketing by using the RACE framework</li> <li>Translating SMART goals into digital strategy formulation</li> <li>To validate the relevance and the usefulness of tools in connection with decisions concerning DM strategic choices.</li> <li>Based on a digital marketing strategy analyse, map and design the customer experience</li> <li>Developing customer personas</li> <li>Online customer journeys with digital touchpoints</li> </ul>	<p>At the end of this course, and having completed the essential reading and activities, the students should be able to</p> <p>Participate in the planning and execution of a company's digital marketing</p> <p>Identify key factors relevant for the planning process</p> <p>Define DM KPIs corresponding with business objectives</p> <p>Choose and integrate relevant digital channels into a company's overall marketing strategy, depending on context and objectives</p> <p>Describe social profiles/personas</p> <p>Create customer journey maps with relevant digital touch points</p>	<p>After a successful completion of the course the student will have the competencies to:</p> <p>Develop strategies for obtaining competitive advantages through digital marketing</p> <p>Measure and evaluate on a company's digital marketing strategy</p> <p>Design DM strategies according to a company's objectives and available resources.</p> <p>Utilize social media's potential for relationship-building and online community creation</p> <p>Analyse and identify best ways to attract customers via SEO efforts</p> <p>Develop strategies for marketing automation</p>	<p>Prerequisites for exam: Mandatory assignment handed in before deadline and in line with the project description and requirements including alignment with the VIA Guidelines for Writing Projects. The written project accounts for 30% of the total grade.</p> <p>Exam type: Individual oral examination. The exam will include student's presentation of key aspects of the group project. It should include reference to:</p> <p>The corresponding course models and theories</p> <p>The key findings and recommendations</p> <p>Additional reflections / personal comments outside of the written report</p> <p>A Q&amp;A will follow</p> <p>Oral Exam accounts for 70% of the total grade (Total time 20 min: 5 min presentation, 10 min Q&amp;A, 5 min evaluation).</p> <p>Internal censor</p> <p>Tools allowed: Personal notes, Final Project, (no class slides)</p> <p>Re-exam: Please note that re-examinations may take a different form than the ordinary exams.</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>- Understand social media's potential for relationship-building and online community creation.</li> <li>- Lead generation and qualifying of prospects with inbound marketing methods</li> <li>- SEO and SEM (paid search marketing)</li> <li>- Marketing automation</li> </ul> <p>To identify the control methods for DM programs that correspond with business objectives.</p>			
GBE-ENB ICT1	Engineering Basics for Information and Communication Technology	5	<p>The student will be able to:</p> <ul style="list-style-type: none"> <li>- Describe the basics of computer software program logic and flow</li> <li>- Identify the basic components of computer hardware architecture</li> <li>- Describe the components and properties of embedded systems</li> <li>- Describe and test the functionality of a robot</li> <li>- List common data types and describe the concept of type conversion</li> <li>- Identify binary numbers up to the decimal number 15</li> <li>- Define the term "algorithm"</li> <li>- List at least three types of sensors used for working with robots</li> <li>- Identify the basic activity diagram notations and symbols</li> <li>- Describe imperative programming concepts, including assignments, loops, variables, conditions and expressions</li> </ul>	<p>The student will be able to:</p> <ul style="list-style-type: none"> <li>- Perform basic programming through a visual programming language</li> <li>- Design and describe an IT system, including using UML activity diagrams</li> <li>- Solve simple physical challenges by constructing and designing robots from bricks, motors and sensors</li> <li>- Control the motors and sensors of a robot through software</li> <li>- Explain the purpose of multithreading when writing software</li> <li>- Work with basic data structures, including arrays</li> <li>- Apply the basic operations of boolean algebra</li> <li>- Create simple mobile applications in order to remotely control a robot</li> </ul>	<p>The student will be able to:</p> <ul style="list-style-type: none"> <li>- Design, construct and program robots for specific activities and scenarios</li> <li>- Design and implement an IT system</li> <li>- Solve problems through an analytical, engineering approach</li> <li>- Predict the interaction between an autonomous system and its environment</li> </ul>	<p>Oral Examination</p> <p>The examination is a joint exam with GBE-SEP1</p> <p>Group presentation followed by individual examination</p> <p>Group presentation of the GBE-SEP1 project – 15 minutes</p> <p>Individual examination – 20 minutes</p> <p>10 minutes of examination in the GBE-SEP1 project</p> <p>10 minutes of examination in a drawn GBE-ENB ICT1 question, based on course work</p> <p>Both courses are graded individually</p> <p>Allowed tools: All</p> <p>Internal examiner</p> <p>Please note that re-examination may take a different form than the ordinary exam</p>
GBE-ENB M1	Engineering Basics for Mechanical Engineering	5	<p>The students should acquire knowledge about:</p> <ul style="list-style-type: none"> <li>- The SI unit system</li> <li>- Kinematics: velocity and acceleration in 1D and 2D, projectile motion</li> <li>- Dynamics: Newton's Laws, work, kinetic and potential energy.</li> </ul>	<p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>- Correctly use the SI-unit system and perform dimensional checks of calculations</li> <li>- Analyze and solve simple problems within kinematics and dynamics.</li> </ul>	<p>The students should gain competences in:</p> <ul style="list-style-type: none"> <li>- Reading scientific text including formulae, graphs, diagrams etc.</li> <li>- Applying an analytical and systematic approach to simple, stylized engineering problems</li> <li>- Communicating simple calculations using concise language, formulae, and sketches.</li> </ul>	<p>Written examination.</p> <p>Duration: 4 Hours</p> <p>Internal examiner</p> <p>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 allowed, but the student is strictly forbidden to access</p>

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						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 exams.
GBE-ENB-M2	Engineering Basics for Mechanical Engineering 2	5	The student should acquire knowledge about: <ul style="list-style-type: none"> <li>- Within the topic of DC electricity: Electric charge, electric potential, current and resistance, Ohm's law, electric power, circuit analysis, solar panels.</li> <li>- Within the topic of thermodynamics: Temperature and heat, phase changes and heat transfer, the ideal gas equation</li> </ul>	After completing this course the student must be able to: <ul style="list-style-type: none"> <li>- Solve simple exercises in electrostatics</li> <li>- Solve simple exercises related to DC circuits</li> <li>Solve simple exercises in thermodynamics</li> </ul>	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	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.	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	The student will have acquired competencies to generate business ideas, qualify business ideas, reflect on 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 or change and personal characteristics related to the student and business partners.	Prerequisites for exam: Hand in of both group and individual assignments.  <u>Exam type:</u> Oral group examination consisting of a group presentation followed by a discussion between students and examiners. Duration of exam will be 60 minutes to groups of 3 or 4 persons or 75 minutes to groups of 5 or 6 persons. Internal censor is used. Individual grade is based on overall assessment of written group report, presentation and discussion and individual report.  <u>Tools allowed:</u> All  <u>Re-exam:</u> As ordinary.
GBE-PRO1	Product Management	5	After the course, the students should be able to: <ul style="list-style-type: none"> <li>• Define what is a Product, a Product Line, a Product Portfolio, Product Elements, Modules and Platforms in relation to both software and more tangible products.</li> </ul>	After the course the students should be able to: <ul style="list-style-type: none"> <li>• Explain and evaluate relevant Product Management tools and processes</li> <li>• Explain how to design, evaluate, choose and implement appropriate</li> </ul>	After the course the students should be able to: <ul style="list-style-type: none"> <li>• Compare and discuss the basic issues of Product Management in an organizational context</li> <li>• Evaluate and apply the appropriate Product</li> </ul>	<u>Prerequisites for exam:</u> Hand in of a written report on the case work.  <u>Exam type:</u> Individual oral exam with internal censor based on the written report on the case work and the curriculum. Duration – 20 minutes per student including evaluation.



Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>Understand the roles and responsibilities as a Product Manager</li> <li>Describe the elements of the product management planning process and a range of product management tools.</li> </ul>	<p>Product Management tools and strategies</p> <ul style="list-style-type: none"> <li>Understand product development concepts and expectations for Product Managers</li> </ul>	<p>Managements tools and models</p> <ul style="list-style-type: none"> <li>Apply methods for implementation of a Product Master plan planning process in an organizational context</li> </ul>	<p>Grade is based on overall assessment of written report and oral examination.</p> <p><u>Tools allowed:</u> All</p> <p><u>Re-exam:</u> As ordinary.</p>
GBE-FCM1	Financial Management	5	<p>Upon completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>Read and understand company financial reports</li> <li>Explain how companies make decisions on investments and carry out risk assessments in connection with investment decisions</li> <li>Identify methods for making calculations and assessments of investment proposals</li> <li>Identify different options for raising capital for company investments</li> <li>Explain methods for optimizing companies' use of working capital</li> </ul>	<p>Upon completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>Analyze and interpret company financial reports in a communication context.</li> <li>Select and apply methods for making calculations and assessments of companies' investment proposals</li> <li>Select and apply methods for analyzing the risk profile of companies' investment proposals</li> <li>Use methods to measure company financial performance</li> <li>Apply methods that can optimize companies' use of working capital</li> </ul>	<p>Upon completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>Carry out and present calculations of the return on an investment, perform sensitivity analysis and set up relevant scenarios and probability analysis.</li> <li>Act as a constructive sparring partner for executives' who are responsible for decisions about strategic investments in and financing of capital equipment and or product/market development</li> <li>Evaluate and present the financial consequences of an investment proposal.</li> </ul>	<p><u>Prerequisites for exam:</u> None</p> <p><u>Exam type:</u> 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.</p> <p>External censor</p> <p>Examinations account for 100 % of final grade.</p> <p><u>Tools allowed:</u> Course literature according to the course description Personal notes laptop Calculator</p> <p><u>Re-exam:</u> Please note that re-examinations may take a different form than the ordinary exams</p>
GBE-FRE1	French Culture and Society	5	<p>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.</p>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>communicate in French by using rather simple sentence structures, primarily in oral French and secondarily in written French</li> <li>understand spoken French.</li> </ul>	<p>After the course the students should be able to</p> <ul style="list-style-type: none"> <li>communicate in a rather simple French.</li> <li>function and cooperate with people with different educational, language, and cultural backgrounds.</li> </ul>	<p>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</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
				<ul style="list-style-type: none"> <li>- read, understand and discuss authentic texts in French about cultural, social or political issues.</li> <li>- make presentations on cultural, social or political issues.</li> <li>- write simple texts in French.</li> <li>- search information in French on cultural, social and political issues and present the results of this in French.</li> </ul>	<ul style="list-style-type: none"> <li>- 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.</li> </ul>	The course must be passed before the limit set in the course curriculum.
GBE-FRE2	French Business Language I	5	<p>The students should have knowledge about/understand and reflect on:</p> <ul style="list-style-type: none"> <li>- the French language including basic grammarsentence structure, vocabulary and pronunciation</li> <li>- business and industry in France</li> </ul> <p>Topics relating to business and industry in other French-speaking countries can also be included.</p>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- use relevant business terminology</li> <li>- read and understand authentic texts in French on issues relating to business and industry</li> <li>- find, use, and discuss information in French on business subjects</li> <li>- make presentations in French on various subjects</li> <li>- prepare simple texts in French with special focus on the global business engineer's professional area</li> </ul>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- communicate in French in a clear language, orally and in writing, in international contexts.</li> <li>- function and cooperate with people with different educational, language, and cultural backgrounds.</li> <li>- structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas.</li> <li>- put the knowledge of the language and the French society and the French-speaking countries into practice in an international context.</li> </ul>	<p>Oral examination</p> <p>Individual oral examination based upon a subject found by draw.</p> <p>Preparation time 40 minutes.</p> <p>Allowed tools: All</p> <p>External examiner</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-FRE3	French Business Language II	5	<p>The students should have knowledge about/understand and reflect on:</p> <ul style="list-style-type: none"> <li>- The French language, including syntax, phonetics, grammar, and semantics.</li> <li>- French industry and business life.</li> <li>- Intercultural affairs and business protocol in France and/or French-speaking countries.</li> <li>- How to make presentations.</li> </ul>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- Read, understand and discuss texts in French on social, business and engineering issues.</li> <li>- Be confident in using appropriate terminology within subject areas discussed in class.</li> <li>- Negotiate with French-speaking cooperation partners.</li> <li>- Make presentations in French.</li> <li>- Express themselves orally in French with a rather high level of accuracy.</li> </ul>	<p>After the course, the students should, to a high extent, be able to:</p> <ul style="list-style-type: none"> <li>- Communicate in a clear language, orally and in writing, in international contexts.</li> <li>- Function and cooperate with people with different educational, language, and cultural backgrounds.</li> <li>- Structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas.</li> <li>- Put the knowledge of the language and the French society and the French-speaking countries into practice in an international context.</li> </ul>	<p>The student is examined on the basis of:</p> <ol style="list-style-type: none"> <li>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.</li> <li>2) A presentation of the semester project SEP5 (10 min. power point presentation).</li> </ol>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
						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	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- understand the international business environment</li> <li>- describe communication models</li> <li>- explain the writing process</li> <li>- identify approaches to writing routine, positive and negative messages in English</li> <li>- describe presentation techniques in English</li> <li>- Account for different aspects of professional writing</li> <li>- Account for different aspects of the semester theme.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- analyse a communication situation as to target group, message, choice of communication channel etc.</li> <li>- communicate precisely and with a varied vocabulary in English, orally as well as in writing</li> <li>- develop material to be used in a company's internal as well as external communication using correct terminology, syntax and stylistics</li> <li>- discuss linguistically complex texts in English</li> <li>- apply relevant terminology within business and technical subjects</li> <li>- apply relevant communication models</li> <li>- present the results of self-studied subjects in English professionally</li> <li>- write a project report in a professional style used in business communication and according to the guidelines for writing reports</li> <li>- present the results of the project work orally in a clear and concise language.</li> </ul>	<p>In their project work, during their internships, and in their future jobs as global business engineers, the students should be able to:</p> <ul style="list-style-type: none"> <li>- Apply selected relevant approaches when writing professional business messages</li> <li>- Communicate effectively and professionally with a company's internal and external stakeholders, using correct terminology and syntactically correct structures in speech and writing</li> <li>- Interact and cooperate with people from different cultural backgrounds</li> <li>- Critically acquire new knowledge within relevant job-related areas.</li> </ul>	<p>Written examination. Duration: 4 Hours. Allowed tools: All. External examiner.</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-GBC2	Global Business Communication 2	5	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- identify approaches to writing persuasive messages in English</li> <li>- identify requirements to project writing in English</li> <li>- account for the conventions of technical writing in English</li> <li>- describe different aspects of the semester theme</li> <li>- account for different academic writing requirements in terms of syntax, coherence and structure.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- analyse a communication situation as to target group, message, choice of communication channel etc.</li> <li>- communicate precisely and with a varied vocabulary in English, orally as well as in writing</li> <li>- apply different academic writing requirements in terms of syntax, coherence and structure</li> <li>- discuss linguistically complex texts in English</li> </ul>	<p>In their project work, during their internships, and in their future jobs as global business engineers, the students should be able to:</p> <ul style="list-style-type: none"> <li>- apply selected relevant approaches when writing professional business messages</li> <li>- communicate effectively and professionally with a company's internal and external stakeholders, using correct terminology and syntactically correct structures in speech and writing</li> <li>- interact and cooperate with people from different cultural backgrounds</li> </ul>	<p>Written examination. Duration: 4 Hours Allowed tools: All External examiner</p> <p>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.</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
				<ul style="list-style-type: none"> <li>- apply relevant terminology within business and technical subject</li> <li>- supply the conventions of technical writing in English</li> <li>- present the results of self-studied subjects in English professional</li> <li>- write a project report in accordance with the guidelines</li> <li>- present aspects of the semester theme orally in a clear and concise language.</li> </ul>	<ul style="list-style-type: none"> <li>- critically acquire new knowledge within relevant job-related areas.</li> </ul>	
GBE-GER1	German Culture and Society	5	<p>After the course the students should have knowledge about, understand and reflect on</p> <ul style="list-style-type: none"> <li>- the German language, including syntax, phonetics, grammar, and semantics</li> <li>- historical, social, cultural, and political conditions in German-speaking areas.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- communicate reasonably well in German</li> <li>- understand spoken German</li> <li>- read, understand and discuss authentic texts in German about cultural, social or political issues</li> <li>- make presentations on cultural, social or political issues</li> <li>- write simple texts in German</li> <li>- search information in German on cultural, social and political issues and to present the results of this in German.</li> </ul>	<p>After the course the students should to a certain extent, be able to</p> <ul style="list-style-type: none"> <li>- communicate in a clear language, orally and in writing, in an international context</li> <li>- function and cooperate with people with different educational, language, and cultural backgrounds</li> <li>- structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas</li> <li>- use the knowledge of the German language and the German society as well as the German-speaking areas in practice in an international context.</li> </ul>	<p>Oral examination</p> <p>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.</p> <p>Allowed tools: All</p> <p>External examiner.</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p> <p>The course must be passed before the limit set in the course curriculum.</p>
GBE-GER2	German Business Language I	5	<p>The students should have knowledge about/understand and reflect on:</p> <ul style="list-style-type: none"> <li>- the German language including basic grammar</li> <li>- sentence structure, vocabulary and pronunciation</li> <li>- business and industry in Germany</li> </ul> <p>Topics relating to business and industry in other German-speaking countries can also be included.</p>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- use relevant business terminology</li> <li>- read and understand authentic texts in German on issues relating to business and industry</li> <li>- find, use, and discuss information in German on business subjects</li> <li>- make presentations in German on various subjects</li> <li>- prepare simple texts in German with special focus on the global business engineer's professional area.</li> </ul>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- communicate in German in a clear language, orally and in writing, in international contexts</li> <li>- function and cooperate with people with different educational, language, and cultural backgrounds</li> <li>- structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas</li> <li>- put the knowledge of the language and the German society and the</li> </ul>	<p>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.</p> <p>Oral examination</p> <p>Individual oral examination based upon a subject found by draw</p> <p>Preparation time 40 minutes, examination 20 minutes.</p> <p>Allowed tools: All</p> <p>External examiner.</p> <p>Please note that re-examinations may</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
					German-speaking countries into practice in an international context.	take a different form than the ordinary exams.
GBE-GER3	German Business Language II	5	<p>Have knowledge about/understand and reflect on:</p> <ul style="list-style-type: none"> <li>- The German language, including syntax, phonetics, grammar, and semantics.</li> <li>- Have knowledge about German industry and business life.</li> <li>- Have knowledge about intercultural affairs and business protocol in Germany and/or German-speaking countries.</li> <li>- Have knowledge about how to make presentations.</li> </ul>	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- Read, understand and discuss texts in German on social, business and engineering issues.</li> <li>- Be confident in using appropriate terminology within subject areas discussed in class.</li> <li>- Negotiate with German-speaking cooperation partners.</li> <li>- Make presentations in German.</li> <li>- Express themselves orally in German with a rather high level of accuracy.</li> </ul>	<p>After the course, the students should, to a high extent, be able to:</p> <ul style="list-style-type: none"> <li>- Communicate in a clear language, orally and in writing, in international contexts.</li> <li>- Function and cooperate with people with different educational, language, and cultural backgrounds.</li> <li>- Structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas.</li> <li>- Put the knowledge of the language and the German society and the German-speaking countries into practice in an international context.</li> </ul>	<p>Admission to the examination is on condition that 3 compulsory written assignments will be handed in and approved within the stipulated deadlines.</p> <p>The student is examined on the basis of:</p> <p>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.</p> <p>2) A presentation of the semester project SEP5 (10 min. power point presentation).</p> <p>All aids are allowed. Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-IBC1	Intercultural Business Communication	5	<p>After the course the student will have knowledge about:</p> <ul style="list-style-type: none"> <li>- the basic structures, elements and functions of culture</li> <li>- cultural value dimensions</li> <li>- verbal, non-verbal and written intercultural communication</li> <li>- the importance of culture and intercultural communication in international business</li> <li>- intercultural management, leadership, teamwork, negotiations, ethics and conflicts.</li> </ul>	<p>Upon successful completion of this course, the student will:</p> <ul style="list-style-type: none"> <li>- understand how culture affects aspects of international communication and management</li> <li>- acquire a better understanding of his/her own cultural conditioning</li> <li>- distinguish the major dimensions which define cultural differences among societies or groups</li> <li>- recognise the cultural variables in the communication process and what factors can cause noise in the process</li> <li>- successfully manage cross-cultural communications.</li> </ul>	<p>Upon successful completion of this course, the student will be able to</p> <ul style="list-style-type: none"> <li>- identify, accept and adjust to cultural similarities and differences</li> <li>- adjust 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 region</li> <li>- apply effective communication strategies depending on situation, context and culture</li> </ul>	<p>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.</p>
GBE-INO1	Engineering Innovation	5	<p>After having successfully completed the course, the students will have gained: -</p>	<p>After having successfully completed the course, the students will be able to:</p>	<p>After having successfully completed the course, the students will have gained competences in:</p>	<p>Prerequisites: Mandatory assignments handed in before deadline and accepted.</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
	Weeks (GBE/XA)		<ul style="list-style-type: none"> <li>- An understanding of innovation and its uses within the field of engineering</li> <li>- Knowledge about Design Thinking (double diamond) process</li> <li>- Knowledge about how to create a systematic and measurable progress in innovation tasks</li> </ul>	<ul style="list-style-type: none"> <li>- Engage in innovative processes in a cross-/inter-/multidisciplinary setting</li> <li>- Conceive, plan, and execute innovative ideas</li> <li>- Work methodically with innovation</li> <li>- Collect and apply relevant information about technologies, markets and end users</li> </ul>	<ul style="list-style-type: none"> <li>- Introducing innovative ideas into project work</li> <li>- Contributing own professional skills in teams with the objective of solving problems by using innovative processes and models</li> <li>- Clarifying multidisciplinary group competencies</li> </ul>	<p>Attendance 80%</p> <p>Type of examination: Individually written 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: No tools allowed (besides laptop for test) Re-exams:</p>
GBE-INP1	Engineering Internship (GBE-)	30	<p>The student must:</p> <ul style="list-style-type: none"> <li>• gain knowledge of theory, methodology and practice within a profession or one or more fields of study</li> <li>• be able to understand and reflect on theories, methodology and practice</li> <li>• be aware of non-technical – societal, health and safety, environmental, economic and industrial – implications of engineering practice.</li> </ul>	<p>The student must:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• be able to assess theoretical and practical problems and to substantiate and select relevant solutions</li> <li>• be able to communicate professional issues.</li> </ul>	<p>The student must:</p> <ul style="list-style-type: none"> <li>• be able to handle complex and development oriented situations in study or work contexts</li> <li>• be able to independently participate in professional and interdisciplinary collaboration with a professional approach</li> <li>• be able to identify own learning needs and to organise own learning in different learning environments</li> <li>• promote an engineering-oriented approach during the remaining semesters on the Bachelor programme</li> <li>• develop personal skills required for the professional career as engineer</li> <li>• form the basis for developing personal/professional network</li> </ul>	<p>In order to get an internship evaluated, the student must fulfill the following requirements concerning mandatory assignments:</p> <ul style="list-style-type: none"> <li>• Expected outcome/specific learnings targets for the internship position</li> <li>• Company presentation</li> <li>• Logbook</li> <li>• Main academic assignment(s)</li> <li>• Final reflections</li> <li>• Participation in workshop for coming interns</li> </ul>
GBE-MAM1	Marketing Management	5	<p>The students are introduced to core theories and models within marketing management to be able to analyse:</p> <ul style="list-style-type: none"> <li>- markets, market demand, a company's marketing environment and its current strategy</li> <li>- the concepts of customer value, satisfaction and loyalty as the basis for all successful marketing strategies</li> <li>- the competitive environment in which the company operates</li> <li>- customer behavior and how purchase decisions are made at the individual, group and organizational level</li> <li>- segmentation criteria, target group definition and what constitutes a competitive marketing positioning strategy</li> </ul>	<p>At the end of this course, and having completed the essential reading and activities, the students should be able to</p> <ul style="list-style-type: none"> <li>- apply core theories and models within marketing management to practical marketing problems while acknowledging their use and limitations</li> <li>- carry 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 strategies</li> <li>- identify key market and customer trends with their possibilities and threats</li> <li>- analyze customer behavior in both consumer and business markets, determine customer needs and</li> </ul>	<p>After a successful completion of the course the student will be able to</p> <ul style="list-style-type: none"> <li>- analyse 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 developments based on the above analysis of the marketing environment, design a competitive marketing strategy encompassing segmentation, target group definition and positioning</li> <li>- based on the chosen strategy, develop an effective marketing mix in terms of product, price, promotion and distribution strategies to implement the marketing strategy</li> </ul>	<p>Written examination</p> <p>External examiner</p> <p>Duration: 4 hours</p> <p>Allowed tools: Course literature, personal notes, laptop (no internet) and calculator.</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>- the key components of the marketing mix: Product, price, promotion and place.</li> </ul>	<ul style="list-style-type: none"> <li>- determine how product purchase decisions are made</li> <li>- segment markets in order to determine appropriate target groups and to develop a fitting strategy and positioning to cover their needs while being competitive</li> <li>- execute 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 mass/personal/digital communication.</li> </ul>	<ul style="list-style-type: none"> <li>- based on market analysis and suggested strategy, design and illustrate suggestions for concrete marketing activities.</li> </ul>	
GBE-MAM2	Global Marketing Management	5	<p>The difference between:</p> <ul style="list-style-type: none"> <li>- global, glocal and local international marketing strategies</li> <li>- A broad knowledge of the global market place</li> <li>- Identify the steps in the international marketing process and the complexities of the international marketing environment</li> <li>- Gain 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 process</li> <li>- Appreciate and understand the specific problems associated with international marketing and the internationalization process</li> <li>- Have a clear understanding of all aspects of international marketing strategy development and the international marketing planning process</li> <li>- Understand the differences in social/cultural conventions that affect buyer behaviour and</li> </ul>	<p>At the end of this course, and having completed the essential reading and activities, the students should be able to</p> <ul style="list-style-type: none"> <li>- Build a market profile of a country by conducting a PEST and market analysis (Macro &amp; Micro) Critically evaluate a company's international marketing environment and its current strategy</li> <li>- Access 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 companies</li> <li>- Provide input to international market strategy development</li> <li>- Decide which markets to enter and evaluate the pros and cons of different entry modes</li> <li>- Design an international marketing mix including the ability to determine which parts of the marketing mix will require adaptation and to which degree</li> </ul>	<p>After a successful completion of the course the student will be able to:</p> <ul style="list-style-type: none"> <li>- Identify global market opportunities, in particular in developing and emerging markets, and assess the associated risks</li> <li>- Conduct a detailed country analysis including both macro and micro market factors</li> <li>- Quickly and effectively research market opportunities and to apply relevant country selection screening and segmentation criteria</li> <li>- Develop a global marketing strategy and write an international marketing plan that is aligned with the objectives and competencies of the company</li> <li>- Analyze and determine the most appropriate method of market entry</li> <li>- Spot important international trends on a continuous basis</li> </ul>	<p>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.</p>



Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<p>marketing strategies in international markets</p> <ul style="list-style-type: none"> <li>- Internationalization strategies for both small and large companies</li> <li>- Conduct effective search, screening and selection of new countries to enter</li> <li>- The complete range of market entry methods and their advantages and disadvantages</li> <li>- International marketing mix strategies</li> </ul>			
GBE-MAT1	Mathematics 1	5	<p>After the course the students should be able to solve simple mathematical problems within the areas of:</p> <ol style="list-style-type: none"> <li>1. 2D vectors</li> <li>2. 3D vectors</li> <li>3. Vector valued functions in 2D</li> </ol>	<p>After the course the students should be able to: analyse simple problems within 2D and 3D vectors, vector valued functions in 2D apply relevant terminology within basic mathematical subjects.</p>	<p>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</p>	<p>Written examination Duration: 4 Hours Allowed tools: Course literature according to the course description</p> <p>Personal notes Laptop (no web access) Calculator. Internal examiner</p> <p>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.</p>
GBE-MAT2	Mathematics 2	5	<p>After the course the students should be able to solve simple mathematical problems within the areas of:</p> <ol style="list-style-type: none"> <li>1. Optimisation</li> <li>2. Integration</li> <li>3. Differential equations</li> <li>4. Trigonometric equations</li> </ol>	<p>After completing this course the student must be able to:</p> <ul style="list-style-type: none"> <li>- Understand and solve simple problems including trigonometric functions.</li> <li>- Solve problems, which include integration of functions with one unknown factor.</li> <li>- Solve problems, which include the function and its derivative.</li> </ul>	<p>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</p>	<p>Written examination Duration: 4 hours</p> <p>Allowed tools: Course literature according to the course description</p> <p>Personal notes Laptop (no web access) Calculator External Examiner Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-MAT3	Mathematics 3	5	<p>The student will obtain knowledge within polar coordinates and linear algebra including solution of systems of linear equations, inverse matrices and eigenvalues.</p>	<p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>- Use polar coordinates for describing points and curves</li> <li>- Determine lengths and areas bounded by curves given in polar coordinates</li> </ul>	<p>After completing this course, the student can:</p> <ul style="list-style-type: none"> <li>- Recognize and solve simple problems where polar coordinates are useful</li> <li>- Recognize systems of linear equations, reformulate them in the language of linear algebra, and</li> </ul>	<p>Written examination Duration: 4 hours</p> <p>Allowed Tools: * Course literature according to the course description * Personal notes * Laptop (no web access) * Calculator</p>



Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
				<ul style="list-style-type: none"> <li>- Apply techniques and results from linear algebra to solve problems in linear systems of linear equations</li> <li>- Determine inverse matrices and find eigenvalues of matrices</li> <li>- Use CAS software for linear algebra</li> </ul>	<ul style="list-style-type: none"> <li>- solve them, if necessary using CAS software</li> <li>- Read texts where polar coordinates or basic linear algebra is used</li> </ul>	<p>External examiner. The course must be passed according to time limits in the curriculum. Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-MST1	Management and Strategy	5	<p>After the course, the students should be able to:</p> <ul style="list-style-type: none"> <li>- Describe organizational behavior and structures</li> <li>- Define the concept of management and leadership including the different styles of management and leadership</li> <li>- Identify the basic issues of business strategy</li> <li>- Describe the elements of the strategic planning process and a range of strategic tools.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- Evaluate, design, and choose appropriate organizational structures</li> <li>- Evaluate and choose relevant management and leadership strategies</li> <li>- Apply methods for organizational change processes</li> <li>- Analyze the external macro and micro environment in the context of business strategy making</li> <li>- Analyze the internal environment in the context of business strategy making</li> <li>- Summarize strategic options</li> <li>- Explain how to design, evaluate, choose and implement appropriate business strategies</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- Compare and discuss the basic issues of management and leadership</li> <li>- Evaluate and apply the appropriate kind of management/leadership in a given situational context</li> <li>- Compare and discuss the basic issues of business strategy</li> <li>- Apply different strategic tools</li> <li>- Apply methods for implementation of a strategic planning process in an organizational context</li> </ul>	<p>Oral Examination</p> <p>Individual oral examination without preparation based upon course assignment(s)</p> <p>Allowed tools: All</p>
GBE-PRM1	Project Management (GBE)	5	<p>The students will be able to:</p> <ul style="list-style-type: none"> <li>• Apply the planning process method to a complex project</li> <li>• Describe and explain what it takes to manage and run a complex project</li> </ul>	<p>The students will be able to use the methodology and tools for...</p> <ul style="list-style-type: none"> <li>• Estimating Project Time and Costs</li> <li>• Planning a Project</li> <li>• Using Risk Management</li> <li>• Conducting Team Management</li> <li>• Completing a project</li> </ul>	<p>During the course the students will work with analysis of a real time project and by applying acquired theoretical knowledge being able to outline used methods and tools including:</p> <ul style="list-style-type: none"> <li>• Project Description / Scope</li> <li>• Project plan</li> <li>• Project organization</li> <li>• Risk Analysis</li> <li>• Communication plan based on stakeholder analysis</li> </ul> <p>All leading to successfully managing and controlling a project.</p>	<p><u>Prerequisites for exam:</u> Hand in and acceptance of all mandatory group assignments.</p> <p><u>Exam type:</u> Written examination consisting of two reports. One being the written group report on the case work handed in before end of semester and one being a final individual reflection report produced after hand in of group report External censor is used. Grade is based on overall assessment of written group report and individual report.</p> <p><u>Tools allowed:</u> All</p> <p>Re-exam: As ordinary</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
GBE-SEP1	Semester Project 1: Robotics	5	<p>The student should be able to understand:</p> <ul style="list-style-type: none"> <li>- The use of robots</li> <li>- How to describe functionality of a robot</li> <li>- The nature of autonomous systems</li> <li>- How to test the functionality of a robot</li> <li>- Group roles and group dynamics.</li> <li>- How to develop and prepare a marketing plan</li> </ul>	<p>The student should achieve the skills to:</p> <ul style="list-style-type: none"> <li>- Build a robot</li> <li>- Develop software to control a robot</li> <li>- Describe functionality using a dynamic model</li> <li>- Test the functionality of a robot</li> <li>- Present considerable skills for presentation, both written and oral</li> <li>- Present a project report in a well-structured manner</li> <li>- Describe a project in a process report</li> <li>- Solve a specific task in collaboration with group members</li> <li>- Analyze a market by collecting relevant data relating to macro trends (PEST analysis) and trends in the micro environment (competitors and customers)</li> <li>- Segment a market based on relevant segmentation criteria</li> <li>- Select a target group based on a fit between company competences and market profitability Summarize the market analysis using the SWOT analysis.</li> </ul>	<p>The student should be able to:</p> <ul style="list-style-type: none"> <li>- Reflect on creation of an autonomous robot for a selected market</li> <li>- Reflect on software testing</li> <li>- Control and structure a project as it progresses</li> <li>- Reflect on the group performance and individual learning processes</li> <li>- Reflect on working cross cultural</li> <li>- Reflect on participation in peer review</li> <li>- Be able to identify relevant sources of information and assess their credibility and relevance</li> <li>- Develop 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 analysis</li> <li>- Create a prototype of an exhibition stand, which is appropriate for the market.</li> </ul>	<p>Oral Examination</p> <p>15 minutes group presentation of the project. This will be done in the form of an exhibition stand.</p> <p>10 minutes individual examination in the SEP1 project (ENB and MAM related).</p> <p>10 minutes individual examination in the course ENB1.</p> <p>Exam questions in individual parts are based on the project and course content.</p> <p>In case of reexam, each part can be examined separately.</p> <p>In case of failure of project part of exam, a new project must be conducted without supervision.</p> <p>Allowed tools: All</p> <p>Internal examiner</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p> <p>Re-examination</p> <p>Students who failed a semester project in January or June must attend an information meeting on the last Friday in June.</p> <p>At this meeting, the students will get information on specific deadlines as well as the process of re-exam.</p> <p>They will form new groups, if possible in relation to the number of failed students at the individual semesters.</p> <p>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.</p> <p>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.</p> <p>Oral assessment of the project takes place in September.</p>
GBE-SEP2	Semester Project 2 (GBE- )	5	<p>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</p>	<p>Upon completion of the project SEP2 the students should have acquired skills in how to:</p> <ul style="list-style-type: none"> <li>- Engineering: search and study technical information</li> <li>- make technical drawings for production using 3D CAD</li> </ul>	<p>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.</p>	<p>Oral Examination</p> <p>Group presentation based on a project report followed by an individual examination of all group members in a group session.</p> <p>Duration: Presentation 15 minutes and</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<p>students have learned in engineering, business and communication.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>- conduct practical tests and collect data</li> <li>- use collected data and make conclusions on the basis of this data</li> </ul> <p>Marketing: make an analysis of a market for a selected country</p> <ul style="list-style-type: none"> <li>- develop a marketing strategy for the company</li> <li>- complete an international marketing plan including recommendations to the company for a possible penetration into the selected market</li> </ul> <p>Business Communication:</p> <ul style="list-style-type: none"> <li>- plan and analyse the communication situation</li> <li>- structure the project report, and organize the text in logical, coherent sections.</li> <li>- write the project report in a professional style used in business communication and according to the guidelines for writing reports in VIA</li> <li>- use grammatically correct written English</li> <li>- present the results of the project work orally in a clear and concise language</li> </ul> <p>Process skills: draft a comprehensible group contract taking into account challenges from the first semester project</p> <ul style="list-style-type: none"> <li>- cooperate in teams</li> <li>- motivate themselves and others</li> <li>- be responsible for time management and prioritizing</li> </ul>	<p>The students will also be able to analyse a foreign market, decide on a market strategy and complete an international market plan.</p> <p>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.</p>	<p>examination approx. 10 min. per student.</p> <p>Allowed tools: All.</p> <p>Internal examiner.</p> <p>Description of the exam:</p> <p>Evaluation The evaluation of the project work is based on: A written project report, a process report, and technical documentation (appendices).</p> <p>An oral group presentation based on a project report followed by an individual examination of all group members in a group session.</p> <p>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 has gained through the courses: SSE, SEP1, ENB1, ENB2, CAD, GBC1, GBC2, MAM1, MAM2.</p> <p>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.</p> <p>Grades will be given according to the</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
						<p>Danish 7-point grading scale.</p> <p>Deadlines for passing the course As described in the GBE curriculum.</p>
GBE-SEP3	Semester Project 3 (GBE- )	10	<p>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.</p> <p>The student should acquire knowledge about how to:</p> <ul style="list-style-type: none"> <li>- Carry out research and studies on relevant cultural and economic topics with the purpose of setting up a subsidiary in a foreign country</li> <li>- Read the documentation on LEJOS</li> <li>- Make use of the facilities in Makerspace</li> <li>- How to drive, control and charge mini mobile robots</li> <li>- Follow the requirements for project writing in English</li> <li>- Make use of different academic writing requirements in terms of syntax, coherence and structure</li> </ul>	<p>Following the completion of the course, the student has skills in:</p> <ul style="list-style-type: none"> <li>- Research methods for relevant macro-economic data</li> <li>- Research methods, analysis and understanding of cultural similarities and differences in the select-ed countries</li> <li>- Teamwork</li> <li>- Making actuals models using 3d print and laser cutting</li> <li>- Mechanical drive and lifting systems</li> <li>- Analyzing loads and strengths of simple frame and machine parts3D CAD modeling</li> <li>- Programming a Real-Time Embedded system</li> <li>- Using an UML Activity Diagram and an Class Diagram to model a self-designed system</li> <li>- Report writing in a clear and concise language, using correct English and in accordance with the guidelines for project writing.</li> </ul>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The student will gain competences in designing, modeling and dimensioning simple mechanical machine structures and combine standard machine elements to drive a unit forward.</p>	<p>Oral Examination</p> <p>Individual oral examination without preparation based upon course assignment(s)</p> <p>Duration: App. 20 min (grading included)</p> <p>Allowed Tools: All</p> <p>Internal examiner</p>
GBE-SEP4	Semester Project 4: Investment in renewable energy	5	<p>The student should be able to understand:</p> <ul style="list-style-type: none"> <li>- 3D drawing (CAD)Software programming using Java &amp; relational databases</li> </ul>	<p>The student should achieve the skills to:</p> <ul style="list-style-type: none"> <li>- All students: Evaluate the financial elements of an investment</li> <li>- Use the project methodology based on the Engineering</li> </ul>	<p>The student should be able to: The students will be able to identify and solve cross-disciplinary problems in a group project</p>	<p>Oral Examination</p> <p>Individual oral examination without preparation based upon course assignment(s)</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>- Thermodynamics and electric circuits</li> <li>- Capital investment calculations for product development</li> <li>- Project methodology as well as project work skills</li> </ul>	<p>guidelines</p> <ul style="list-style-type: none"> <li>- Software engineering students: Database operation (SQL).Java application</li> <li>- Mechanical engineering students: Measure and calculate energy and power for solar energy systems</li> </ul>	The students can handle both written and oral communication of project results	<p>Allowed tools: All</p> <p>Internal examiner</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p> <p>Re-examination</p> <p>Students who failed a semester project in January or June must attend an information meeting on the last Friday in June.</p> <p>At this meeting, the students will get information on specific deadlines as well as the process of re-exam.</p> <p>They will form new groups, if possible in relation to the number of failed students at the individual semesters.</p> <p>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.</p> <p>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.</p> <p>Oral assessment of the project takes place in September.</p>
GBE-SEP5	Study Project: Free Innovative Product Design	10	<p>Key dimensions of project management skills in groups</p> <ul style="list-style-type: none"> <li>- Project planning</li> <li>- Innovation process</li> <li>- Applied theory from selected technical specialization (ICT/ME)</li> </ul>	<ul style="list-style-type: none"> <li>- Be able to generate ideas, develop concepts and make final systematic choices based on relevant requirements and criteria</li> <li>- Be able to choose theories, models and methods relevant to the problems in the project</li> <li>- Be able to design, dimension and document machines / software in accordance with rules and regulations</li> <li>- Demonstrate analytical, rational as well as innovative thinking</li> <li>- Demonstrate self-initiative, interpersonal skills, criticism, self-criticism, desire to learn.</li> </ul>	<p>Project management skills</p> <ul style="list-style-type: none"> <li>- Define, manage and implement projects bridging technical and business issues</li> <li>- Apply input from business/marketing part to technical solution and vice versa</li> <li>- Make methodical decisions based on discussion and analysis of relevant models and theories</li> <li>- Focus on the relevant issues to provide a coherent solution</li> <li>- Develop technical solutions that both meet the needs of the market and have business potential.</li> </ul>	<p>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).</p> <p>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.</p>
GBE-SEP7	Semester Project - UN 17 Sustainable Development	15	<p>Students will achieve knowledge within the areas of:</p> <ul style="list-style-type: none"> <li>- Key dimensions of project management skills in groups.</li> </ul>	After completion of the project, the students will be able to:	After completion of the project, the student should be able to:	<p>Oral Examination</p> <p>Group presentation followed by an individual examination with the</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
	Goals and Environmental Social Governance		<ul style="list-style-type: none"> <li>- Technical theory &amp; methods from selected specialization (ICT/ME) relevant for the project in question.</li> <li>- Business and cultural theories and methods relevant for the project in question.UN 17 Sustainable Development Goals.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate the relevance and importance of UN 17 SDG's in connection with business strategy.</li> <li>- Apply relevant project methodology and project management tools in a cross-cultural context.</li> <li>- Choose and apply relevant technical tools and methods from the selected specialization (ICT/ME) to solve a specific product development task.</li> <li>- 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.</li> <li>- Apply the chosen second foreign language for research in an academic context.</li> </ul>	<ul style="list-style-type: none"> <li>- 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.</li> <li>- Identify and solve cross-disciplinary problems in a group project.</li> <li>- Plan and implement a project plan in a cross-cultural context.</li> <li>- Formulate a solid Project Description for the 9th semester Bachelor project.</li> </ul>	<p>presence of the whole group. Duration presentation 15 - 20 minutes.</p> <p>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.</p>
GBE-SPA1	Spanish Culture and Society	5	<p>After the course the students should have knowledge about, understand and reflect on</p> <ul style="list-style-type: none"> <li>- the Spanish language, including syntax, phonetics, grammar, and semantics</li> <li>- historical, social, cultural, and political conditions in Spanish-speaking areas.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- communicate in Spanish by using rather simple sentence structures, primarily in oral Spanish and secondarily in written Spanish</li> <li>- understand spoken Spanish</li> <li>- read, understand and discuss authentic texts in Spanish about cultural, social or political issues</li> <li>- make presentations on cultural, social or political issues</li> <li>- write simple texts in Spanish</li> <li>- search information in Spanish on cultural, social and political issues and present the results of this in Spanish.</li> </ul>	<p>After the course the students should be able to:</p> <ul style="list-style-type: none"> <li>- communicate in a a rather simple Spanish</li> <li>- function and cooperate with people with different educational, language, and cultural backgrounds</li> <li>- structure own learning and critically acquire new knowledge within relevant engineering areas</li> <li>- use the knowledge of the Spanish language and the Spanish society as well as the Spanish-speaking areas in practice in an international context.</li> </ul>	<p>Oral examination</p> <p>Individual oral examination based upon a subject found by draw. Preparation time 40 minutes.</p> <p>Allowed tools: All</p> <p>NB: Internet access not allowed except studynet and online dictionaries.</p> <p>External examiner.</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p> <p>The course must be passed before the limit set in the course curriculum.</p>

Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
GBE-SPA2	Spanish Business Language I	5	The students should have knowledge about/understand and reflect on: <ul style="list-style-type: none"> <li>- The Spanish language including basic grammar, sentence structure, vocabulary and pronunciation</li> <li>- Knowledge about business and industry in Spain. Topics relating to business and industry in other Spanish-speaking countries can also be included</li> </ul>	After the course, the students should be able to: <ul style="list-style-type: none"> <li>- Use relevant business terminology</li> <li>- Read and understand authentic texts in Spanish on issues relating to business and industry</li> <li>- Find, use, and discuss information in Spanish on business subjects</li> <li>- Make presentations in Spanish on various subjects</li> <li>- Prepare simple texts in Spanish with special focus on the global business engineer's professional area.</li> </ul>	After the course, the students should be able to: <ul style="list-style-type: none"> <li>- Communicate in Spanish in a clear language, orally and in writing, in international contexts</li> <li>- Function and cooperate with people with different educational, language, and cultural backgrounds</li> <li>- Structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas</li> <li>- Put the knowledge of the language and the Spanish society and the Spanish-speaking countries into practice in an international context.</li> </ul>	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 on the <ul style="list-style-type: none"> <li>- Spanish language, including syntax, phonetics, grammar, and semantics</li> <li>- Spanish industry and business life</li> <li>- Intercultural affairs and business protocol in Spain and/or Spanish-speaking countries</li> <li>- How to make presentations.</li> </ul>	After the course, the students should be able to: <ul style="list-style-type: none"> <li>- read, understand and discuss texts in Spanish on social, business and engineering issues</li> <li>- be confident in using appropriate terminology within subject areas discussed in class</li> <li>- negotiate with Spanish-speaking cooperation partners</li> <li>- make presentations in Spanish</li> <li>- express themselves orally in Spanish with a rather high level of accuracy.</li> </ul>	After the course, the students should, to a high extent, be able to: <ul style="list-style-type: none"> <li>- communicate in a clear language, orally and in writing, in international contexts</li> <li>- function and cooperate with people with different educational, language, and cultural backgrounds</li> <li>- structure own learning in an effective way and critically acquire new knowledge within relevant engineering areas</li> <li>- put the knowledge of the language and the Spanish society and the Spanish-speaking countries into practice in an international context.</li> </ul>	Oral Examination The student is examined on the basis of: <ol style="list-style-type: none"> <li>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.</li> <li>2) A presentation of the semester project SEP5 (10 min. power point presentation).</li> </ol> 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: <ul style="list-style-type: none"> <li>- Explain the study activity model and the SOLO taxonomy</li> <li>- Differentiate between different learning styles and identify own preferred learning style</li> <li>- Understand the concept of plagiarism</li> </ul>	The student should be able to: <ul style="list-style-type: none"> <li>- Apply good study techniques for planning, reading and note-taking in an intentional manner</li> <li>- Apply an appropriate project methodology based on the GBE Engineering guidelines</li> <li>- Develop a problem analysis</li> </ul>	The students should be able to: <ul style="list-style-type: none"> <li>- Reflect on active learning and on how to take responsibility for own learning</li> <li>- Analyse and apply team dynamics, such as communication, motivation, decision-making and conflict resolution</li> </ul>	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



Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>- Define the characteristics of reliable sources (source criticism) Outline cultural traits that can influence team work in a project</li> <li>- Outline the stages of team 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 implementation</li> <li>- Understand the role of the supervisor and project supervision in general</li> <li>- Understand the importance of innovation and innovative processes and the principles behind divergent and convergent phases.</li> </ul>	<ul style="list-style-type: none"> <li>- Understand and apply generic tools for project planning and execution including the IT tools MS Teams, Planner and Gantt charts</li> </ul>	<ul style="list-style-type: none"> <li>- Reflect on the importance of work style and behaviour, team roles and culture</li> <li>- Generate a project outcome (report, appendix etc.) that demonstrates effective communication skills.</li> </ul>	<p>failing three attempts.</p> <p>Please note that re-examinations may take a different form than the ordinary exams.</p>
GBE-SSM1	Strategic Sales Management	5	<ul style="list-style-type: none"> <li>• The different kinds of sales jobs and personal characteristics of successful sales persons</li> <li>• Understand 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 strategy</li> <li>• The connection between the purchasing behavior of the customer and the right sales strategy</li> <li>• The buying center concept and factors affecting the customer decision-making process</li> <li>• Prospecting: how to find new sales leads and methods to qualify them as potential customers</li> <li>• A deep understanding of the key phases in the personal selling process:</li> </ul>	<ul style="list-style-type: none"> <li>• Create a prospecting plan to find new customers</li> <li>• Plan and design the sales meeting by finding and using relevant information</li> <li>• Determine the members of the 'buying center', their needs and purchase motivations</li> <li>• How to determine customer value and create a strong value proposition</li> <li>• Prepare and present a sales presentation in a convincing manner</li> <li>• Be effective in sales negotiation and handling of objections</li> <li>• Be able to close a sale</li> <li>• Manage customer relationships to maximize long term customer satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Be able to effectively prospect for new customers</li> <li>• Overall 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 meeting</li> <li>• Prepare and conduct a sales presentation: visual, verbal, and nonverbal communication of information using professional selling skills</li> <li>• Use 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 company</li> <li>• Be effective in building, maintaining and extending customer relationships</li> </ul>	<p><u>Permit criteria for attending examination:</u></p> <ul style="list-style-type: none"> <li>• Mandatory assignments handed in before deadline and accepted.</li> </ul> <p><u>Exam type</u></p> <ul style="list-style-type: none"> <li>• Individual oral examination without preparation based upon course assignment(s)</li> <li>• External examiner</li> </ul> <p><u>Allowed tools:</u> None</p>



Code	Title	ECTS-point	Knowledge	Skills	Competences	Examination
			<ul style="list-style-type: none"> <li>○ 1. The opening at a sales meeting</li> <li>○ 2. Need and problem identification</li> <li>○ 3. Presentation and demonstration of relevant solution</li> <li>○ 4. Effective techniques to deal with buyers' objections</li> <li>○ 5. To negotiate a deal</li> <li>○ 6. Techniques to close a sale (get the order)</li> <li>○ 7. Follow-up on the sales meeting</li> <li>● Basic knowledge about sales organization and sales administration including international aspects</li> <li>● Define customer value from the buyers perspective</li> <li>● How to transform product features into customer benefits</li> <li>● Building, maintaining and extending customer relationships</li> <li>● Awareness of ethical practices in personal selling</li> </ul>		<ul style="list-style-type: none"> <li>● Function as the market expert regarding information on products and competitors to both the selling and the buying organization</li> </ul>	