# Autumn 1
- **Orientation to engineering studies**
  - Professional growth
  - Introduction to technical mathematics
  - Introduction to technical physics
  - Work safety and rules of working life
  - Organisational communication
- **Mechanics**
  - Statics
  - Kinetics
  - Mechanics workshops
  - Basics of mechanical drawing
  - Mathematical tools for mechanics
  - Reporting in English

# Autumn 2
- **Manufacturing**
  - Basics of strength theory
  - Material engineering
  - Chemistry for material engineering
  - Manufacturing methods
  - Swedish / Practical Finnish
- **Design of a Beam Structure**
  - Strength theory in design
  - Dynamics
  - Differential calculus
  - Technical drawing

# Spring 1
- **Design and Calculation of Machine Elements**
  - Machine Elements 1
  - Dynamics 1
  - Engineering Materials
  - Reporting in Finnish
- **Engineering Design 2**
  - Technical Drawing and Modelling
  - Technical differential and integral calculus
  - Strength of Materials 2
  - Technical Mathematical Statistic
- **Machine Automation**
  - Electrical Engineering
  - Sensors and Industrial Controls
  - Working English

# Spring 2
- **Workshop Automation**
  - Robotic systems
  - NC-technology
  - Computer-aided NC programming
  - Production management
- **Mechanical Engineering**
  - Strength of materials 3
  - Machine elements 2
  - Advanced hydraulics
  - Machine design

## Core competence
- Mechanics
- Dynamics
- Thermodynamics

## Profiling
- Strength of Materials
- Technical Mathematics
- Statics

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**Academic year 2016 – 2017 modules in Mechanical Engineering**