## Mechanical Engineering and Production Technology modules in Academic Year 2022-2023

**60 ECTS** 

1st year BEMPP22A6

Module 2 (24.10.-16.12.2022) Module 1 (22.8.-14.10.2022)

Module 3 (9.1.-10.3.2023)

Module 4 (13.3.-5.5.2023)

**Introduction to Engineering Studies Mechanics** 

BE00DL09-3002 Professional Growth 3 ECTS; KM00CV11-3036 Algebra 3 ECTS; BE00DL06-3003 Introduction to Technical Physics 3 ECTS; BE00DL07-3002 Basics of Mechanical Drawing 3 ECTS; KM00DE52-3003 Finnish 1, 3 **ECTS** 

BE00DK26-3002 Statics 4 ECTS; BE00DK28-3002 Kinematics 4 ECTS; BE00DK30-3002 Mechanics Workshops 2 ECTS; KM00CV13-3025 Geometry and Linear Algebra 3 ECTS; KM00DE53-3002 Finnish 2, 2 ECTS

Manufacturing

BE00DK57-3002 Basics of Strength Theory 3 ECTS; BE00DK58-3002 Material Engineering 4 ECTS; KM00CV61-3022 Differential Calculus 2 ECTS; BE00DK59-3002 Manufacturing Methods 4 ECTS; KM00DE54-3002 Finnish 3, 2 ECTS

**Design of a Beam Structure** 

BE00DK60-3002 Strength Theory 2 ECTS; BE00DK61-3002 Welding Engineering 3 ECTS; KM00CV62-3021 Integral Calculus 2 ECTS; BE00DK62-3002 3D Design 5 ECTS; KM00DE55-3002 Finnish 4, 3 ECTS

Module extent is 15 ECTS

Core competence

module

60 ECTS

2nd year BEMPP21A6 **Machine Design** 

BE00DK63-3001 Strength Theory in Design 3 ECTS; BE00DK64-3001 Thermodynamics 3 ECTS; BE00DK65-3001 Machining 4 ECTS; BE00DK66-3001 Dynamics 3 ECTS; KM00DE59-3003 Technical English 1, 2 ECTS

**Machine Elements** 

BE00DK67-3001 Selection of Machine Elements 6 ECTS; BE00DK68-3001 Tolerances and Fits 3 ECTS; BE00DK69-3001 Statistical Mathematics and Reliability Engineering 3 ECTS; BE00DK70-3001 Electrical Engineering 3 ECTS

**Sheet Metal Structures** 

BE00DK74-3001 Design of Sheet Metal Products 6 ECTS; BE00DK75-3001 Sheet Metal Work 3 ECTS; BE00DM43-3002 Coatings 3 ECTS; KM00DE60-3002 Technical English 2, 3 ECTS

**Product Development** 

BE00DK76-3001 Control Systems 3 ECTS; BE00DK77-3001 Product Design 9 ECTS; BE00DK80-3001 **Entrepreneurship 3 ECTS** 

**Profiling** competence module

**Profiling** 

competence

module/ optional module

60 ECTS

3rd year BEMPP20A6 **BE00CW80-3001 Structural Analysis** 

Finite Element Methods 6 ECTS; Measuring Strength of Materials 3 ECTS; Structural Optimization 3 ECTS; Numerical Methods 3 ECTS BE00CW81-3001 Manufacturing **Automation in a Workshop** 

NC Programming 6 ECTS; Robotics 6 ECTS; Modern Manufacturing Methods 3 FCTS

BE00CO99-3004 **Robotics/ Optional Module**  BE00CW79-3001 Design of **Industrial Appliances** 

Product Data Management 3 ECTS; Project Management 3 ECTS; Design Project 9 ECTS

60 ECTS

**Optional Module** 

**Optional Module** 

**Final Thesis** 

**Work Placement** 

**Work Placement** 

4th year BEMPP19A6

Optional studies: BE00Cl14-3004 3D Engineering Academy (available throughout the academic year)

BE00CW82-3001 Advanced Mathematics (available throughout the academic year)

NOTE! You can undertake Work Placement at any time of your studies