

Bachelor of Engineering in MECHANICAL ENGINEERING

Specialization in SUSTAINABLE DESIGN ENGINEERING

PMECES25

Structure of studies	ECTS
Core Competence	120
Complementary Competence	45
Optional studies	30
Practical training	30
Thesis	15
Sum	240

1st Academic Year

"GETTING ENGINEERING BASIC SKILLS AND TOOLS & DESIGNER-ATTITUDE"

Autumn 2025

Engineering Tools 1	15
Introduction to Mathematical Sciences	5
Physics	5
ICT Tools	5

Studying and Communication Skills	15
Finnish A1	5
English Professional Skills B2	5
Introduction to Higher Education Studies	5

Spring 2026

Basic Skills for Engineers 1	15
Engineering Precalculus	5
User-centered Design Approach	4
Fundamentals of Sustainable Development	1
Finnish A2	5

Engineering Tools 1	15
Material science for mechanical engineering	5
Technical Drawing and 3D Modelling	5
Heat and Electricity	5

Recommended optional studies	
Occupational Safety	1
Hot work safety education and training	1

Summer 2026

Basic Training	10
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2nd Academic Year

"DEEPENING MECHANICAL ENGINEERING SKILLS & INTRODUCTION TO SUSTAINABLE DEVELOPMENT"

Autumn 2026

Basic Skills for Engineers 2	15
SUSTIS Sustainable Development Project	3
Introduction to Life Cycle Assessment	2
Visualization and Ideation	5
Calculus	5

Engineering Tools 3 - 15 ECTS	15
Production Technology	5
Engineering Mechanics	5
Product documentation	5

Spring 2027

Working Life Skills for Engineers 2	15
Designer CAD 1	5
Design of Machine Elements	5
Strength of Materials	5

Optional module, includes Finnish language	15
Finnish B1	5

Summer 2027

Field-Specific Training	10
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3rd Academic Year

"CO-CREATING SUSTAINABLE DESIGN ENGINEERING FOR THE FUTURE TRANSITIONS"

Autumn 2027

Design Skills	15
Digital Visualization	5
Designer CAD 2	5
Prototyping	5

Project and Research Skills	15
CAPSTONE Innovation project	10
Research Methods	5

Spring 2028

Future Co-Design	0
Service Design	5
Design for Circular Economy	5
Future Co-design Project	5

Optional module, includes Finnish language	15
Finnish B2	5
Finnish C1	5

Summer 2028

Professional Training	10
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4th Academic Year

"PROFESSIONAL DESIGN ENGINEERING"

Autumn 2028

Engineering Project	15
Engineering Project	15

Spring 2029

Optional Studies etc. if left	
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Thesis	15
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