SUSTAINABLE DESIGN ENGINEERING

Bachelor of Engineering in MECHANICAL ENGINEERING



1st Academic Year

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

Autumn 2024	
Engineering Tools 1	15
Introduction to Mathematical Science	es 5
Physic	cs 5
ICT-too	ls 5
Working Life Skills for Engineers	15

Spring 2025	
Engineering Tools 2 - 15 ECTS	15
Engineering Precalculus	5
Technical Drawing and 3D Modelling	5
Heat and Electricity	5

User-centered Design Approach Visualization, Prototyping and Ideation

Designer CAD 1

Finnish B2 5

Finnish C1

Summer 2025	
Basic Training	10

Norking Life Skills for Engineers	15	ı
Finnish A1	5	ı
English Professional Skills B2	5	ı
Introduction to Higher Education Studies	5	ı

Recommended optional studies	
Occupational Safety	
Hot work safety education and training	
Finnish A2	

Design Skills 1 - 15 ECTS

2nd Academic Year

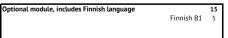
"DEEPENING MECHANICAL ENGINEERING SKILLS & INTRODUCTION TO SUSTAINABLE DEVELOPMENT"





Summer 2026	
Field-Specific Training	10

Engineering Tools 3 - 15 ECTS		15
	Calculus	5
	Engineering Mechanics	5
	Product documentation	5



3rd Academic Year

"SPECIALIZING IN ENGINEERING AND SUSTAINABLE DESIGN INNOVATION"

Autumn 2026	
Optimal Design and Control - 15 ECTS	15
Computational Design of Structures and Fluid-thermal Systems	6
Robust and Optimal Control	4
Optimal Design and Control Project	5
Project Skills and Entrepreneurship	15
Innovation project	10
Entrepreneurship and Sustainable Business	5

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

Summer 2027	
Professional Training	10

4th Academic Year
"CO-CREATING SUSTAINABLE DESIGN ENGINEERING FOR THE FUTURE TRANSITIONS"

Autumn 2027		
Future Co-Design		15
	Service Design	5
	Design for Circular Economy	5
	Future Co-design Project	5

Spring 2028		
Optional Studies etc. if left		

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