



 **Location:** Campus Villach
Europastraße 4, 9524 Villach

 **Duration:** 6 Semesters

 **Schedule:**
Mon until Fri full-time, partly on Saturdays

 **ECTS-Credits:** 180

 **Study places:** 12

 **Academic Degree:**
Bachelor of Science in Engineering (BSc)



UNDERSTANDING TECHNOLOGY. DEVELOPING SYSTEMS. SHAPING THE FUTURE.

Robotics, mechanics, and automation are the focus of the Green Mechatronics program. Here, you will gain the knowledge and skills to design intelligent machines and embedded systems that integrate sensors, actuators, electronics, and software. You will learn how systems are structured and operate: safely, efficiently, and with environmental awareness. In modern laboratories and practical projects, you will bring ideas to life. You will control, test, and refine systems so that they not only function, but also pave the way for new, sustainable applications.

STUDY CONTENT

In **Green Mechatronics**, you will study the mechanical, electronic, and digital fundamentals of modern systems. You will receive a comprehensive introduction to control engineering, dynamics, and industrial automation, and you will work with models and simulations to analyze dynamic processes and apply them to real systems.

In **Embedded Systems**, you will learn how hardware and software are integrated.

Sustainability provides a unifying framework: through life cycle assessment, eco-design, and the circular economy, you will learn how technical concepts are planned, evaluated, and implemented throughout their entire life cycle.

PROFESSION AND CAREER

Green Mechatronics provides a basic understanding of dynamic systems that operate with sensors and actuators, demonstrating how mechanics, electronics, and software interact.

Whether in robotics, automation technology, mechanical engineering, or interdisciplinary development projects, your ability to integrate mechanics, electronics, and software is required everywhere.

The program's strong emphasis on practical work enables you to quickly assume responsibility and apply your knowledge directly in your professional life. Alternatively, you can deepen your expertise in a further master's program, depending on your personal goals.

CURRICULUM

Semester 1	ECTS
Mathematics for Science 1	5
Experimental Physics 1: Motion	5
Circuit Analysis Methods	5
Sustainability concepts and studying successfully	5
Starting Project	5
Computer Science	5
Sum	30

Semester 2	ECTS
Mathematics for Science 2	5
Experimental Physics 2: Electrodynamics	5
Semiconductors and Circuits	5
Circular Economy and Waste Materials	5
Embedded Systems Programming	5
Signals and Systems 1	5
Sum	30

Semester 3	ECTS
Measurement Systems	5
AC Analysis	5
Signals and Systems 2:	5
Lifecycle Assessment and Eco Design	5
Embedded Systems Applications	5
Mechanical Systems	5
Sum	30

Semester 4	ECTS
Control Engineering	5
Industrial Automation	5
Dynamics and Simulation	5
Sustainable Materials and Smart Technologies	5

Elective Topic 1 (choose 1)	5
a Device Development (e)	
b Designing Experiments	
c Mechanics of Materials (m)	
d Embedded Communication Systems	
e Energy generation and modern networks	
Project Workshop	
EDU Project + Projectmanagement	5
Sum	30

Semester 5	ECTS
FPGA Systems	5
Elective Topic 2 (choose 1)	5
a Automotive Hybrids (m)	
b Smart Automation (m)	
c IIoT and Python Programming	
d ROS 2 for Industrial Robots (m)	
e Integrated Circuits Basics (e)	
f Computer Aided Systems Engineering	
g Power Electronics, Applications (e)	
Elective Topic 3	5
Open Choice Module 3	
Renewable Energy Systems	5
Capstone Projekt:	
Bachelor Project + Science Communication	10
Sum	30

Semester 6	ECTS
Industrial Training: Internship + Seminar	15
Skills for International Collaborations	5
Completion of Bachelor Degree: Bachelor Thesis, Seminar, Exam	10
Sum	30

Total Sum	180
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Green Modules = study-related sustainability topics

Elective Topic 1 and 2: Choose 1 out of proposed courses

Elective Topic 3: Open Choice Module = Choose from any internal or external courses

ECTS: European Credit Transfer System

SCHEDULE

Start: 1 October

Information Events at:
www.fh-kaernten.at/fhday

Study guidance:

info@fh-kaernten.at | +43 5 90500 7700

COSTS

Tuition fees per semester:

€ 363,36 for EU citizens,
€ 500 for non-EU countries

Student Union Fee: about € 24, annual adjustment

CONTACT

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