



BSc

FHV STUDIES 

Mechatronics Bachelor's Degree

The curriculum for the bachelor's degree in Mechatronics is designed to educate students in developing and efficiently implementing appropriate solutions and new methods in the areas of product development and production processes. Students graduate from this degree programme as engineers who are able to tackle problems in a comprehensive and systematic manner, who have gained real-life work experience during their studies and who are able to analyze, implement, automate and optimize products and production processes.

Degree Content

The degree in Mechatronics comprises the following areas:

- ◆ Fundamentals of engineering: 18%
- ◆ Mechanical engineering and mechanics: 25%
- ◆ Electronics/Electrical engineering and computer science: 28%
- ◆ Business administration: 10%
- ◆ Projects, management and research methods: 12%
- ◆ English: 7%

Special Infrastructure for Mechatronics

- ◆ Automation Laboratory
- ◆ Electronics Laboratory
- ◆ Mechanics Laboratory
- ◆ Design Laboratory

Mechatronics

1. Semester ECTS SWS

Mathematics 1 - Linear Algebra, Analysis	6	5
Team and Communication Training	2	2
Mechanics 1 - Statics	3	2
Fundamentals of Electrical Engineering 1 - Direct Current Engineering	4	3
Materials	2	2
Fundamentals of Programming	3	2
Scientific Working	1	1
Production Technology	4	4
Work and Presentation Techniques	1	1
Technical Drawing	1	1
Mechatronics - Project	1	1
English 1	2	1

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2. Semester ECTS SWS

Mathematics 2 - Ordinary Differential Equations	6	5
Physics in Mechatronics 1	3	2
Mechanics 2: Stress	3	2
Fundamentals of Electronic Engineering 2 - Alternating Current	4	3
Electronic Elements	2	2
Algorithms and Data Structures	3	2
Innovative Production Methods	3	3
Mechatronics - Project	2	1
Technical Drawing and CAD	2	2
English 2	2	1

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3. Semester ECTS SWS

Mathematics 3 - Integral Transformation	5	4
Analogue Technology	3	3
Mechanics 3 - Kinetics	2	1
Signal Theory	3	2
Machine Elements / CAD 1	3	3
Physics in Mechatronics 2	4	3
Fundamentals of Business Management	3	2
Mechatronics - Project	2	1
Project Management	1	1
Programmable Logic Controls	2	2
English 3	2	1

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4. Semester ECTS SWS

Digital and Microprocessor Engineering	4	3
Measurement Technology and Sensors	4	3
Thermodynamics	3	2
CAD / CAM	2	2
Machine Elements / CAD 2	3	2
Control Engineering	4	3
Company Accounting	3	3
Mechatronics - Project	3	1
Computer Systems	2	2
English 4	2	1

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5. Semester ECTS SWS

Focus Mechanical Engineering with Bachelor's Assignment or Focus Electronics Engineering with Bachelor's Assignment	15	8
Engineering Design / CAD	3	3
Robotics and Assembly Technologies	3	2
Production Management	2	2
Mechatronics Project	3	1
Computer Applications	2	2
Critical Thinking	2	1

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6. Semester ECTS SWS

Internship with Bachelor's Thesis	18	
Physical Applications	2	2
Drives	3	2
Design Methodology for Mechatronic Systems	2	2
Robotics Laboratory	3	2
Quality	2	2
	30	10

Subjects with integrated English language or instruction by native speakers

ECTS: European Credit Transfer System (full workload of a fulltime student per semester = 30 ECTS)

SWS: Teaching units per week



During the winter (autumn) semester the whole 5th semester (30 ECTS) in the Mechatronics degree programme is taught in English. The 5th semester offers the possibility for specialising in the fields of:

- ♦ Mechanical Engineering
- ♦ Electronic Engineering

FH VORARLBERG

Hochschulstraße 1
6850 Dornbirn, Austria

www.fhv.at/english

Basic knowledge in mechanical engineering (mechanics, materials, technical drawing, CAD, machine elements, manufacturing and programming) is a prerequisite for admission as exchange student into this semester conducted in English.

If students would like to choose the specialization field Electronic Engineering, additional knowledge in electronics engineering (direct and alternating current, electronic elements, analogue technology, control engineering, digital and microprocessor engineering) is required.



DI Dr. Johannes Steinschaden

Head of the Mechatronics degree programmes
T +43 (0)5572 792 5001
F +43 (0)5572 792 9500
johannes.steinschaden@fhv.at



Karin Wüstner-Dobler, MSc

Head of International Office
T +43 (0)5572 792 1201
F +43 (0)5572 792 9502
karin.wuestner-dobler@fhv.at