HSLU Lucerne University of Applied Sciences and Arts

School of Engineering and Architecture

Undergraduate modules in English for Engineering Students

Spring Semester 2026

Status as of 18 December, subject to change

FH Zentralschweiz

Introduction

University
The Lucerne University of Applied Sciences and Arts brings together six dynamic schools – Engineering and Architecture, Business, Computer Science and Information Technology, Social Work, Music, and Design, Film and Art. It offers a strong academic foundation combined with practical, real-world learning to prepare students for successful careers. All this takes place in cutting-edge facilities, located in the heart of Lucerne – a vibrant, innovative European city.

School of Engineering and Architecture
The School of Engineering and Architecture, located in Horw, is the main campus for disciplines in construction and engineering. With nine institutes working closely together, the campus offers ideal conditions for interdisciplinary education, research, and development – driving forward innovation and future-focused solutions.

Bachelor's degree programmes
Our campus is home to eleven applied bachelor's degree programs in Engineering, Information Technology, Architecture, and Construction. This stimulating academic setting encourages interdisciplinary collaboration and exchange across all areas of study. A semester typically comprises 30 ECTS credits.

Learning agreement
Exchange students are assigned to a bachelor's program that corresponds to their home degree. They must select modules totaling at least 15 ECTS credits per semester. Optionally, up to 6 ECTS credits may be taken from the School of Computer Science and Information Technology. Final approval is granted by the Head of Program in coordination with the International Office.

Available bachelor's degree programs:
- Building Technology | Energy
- Business Engineering | Innovation
- Digital Engineer | Robotics and Big Data
- Digital Construction
- Electrial Engineering and Information Technology
- Energy and Environmental Systems Engineering
- Mechanical Engineering
- Medical Engineering | Life Sciences

In addition, complementary modules are available from the:
- Institute for Natural Sciences and Humanities
- Languge Center, located in Lucerne
- School of Computer Science and Information Technology, located in Rotkreuz

The following pages provide a weekly overview of all modules, followed by detailed day-by-day listings. The detailed list at the end indicates whether a chosen module can be taken within the assigned degree program.

We hope this offering meets academic interests and supports individual study goals.

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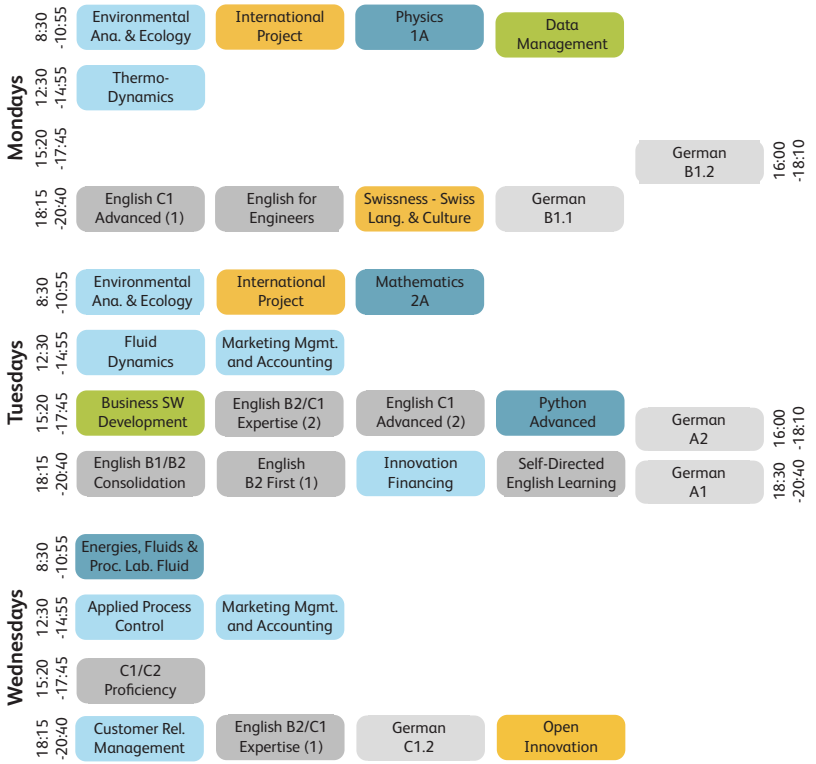
Vibrant campus of the
School of Engineering and Architecture

Spring semester 2026
Overview

Start of contact studies:	Monday, 16 February 2026
End of contact studies:	Saturday, 30 May 2026
Easter break:	Friday, 3 April - Tuesday, 7 April 2026
Exams:	Monday, 15 June - Saturday, 4 July 2026
Intensive weeks:	Monday, 2 February - Saturday, 14 February 2026
	Monday, 31 August - Saturday, 12 September 2026



Eligibility

- Disciplinary module for all Engineering students
- Disciplinary module for specific Engineering students
- Interdisciplinary module for all students
- Module from School of Computer Science and Information Technology, to be confirmed by mid-December
- English language module for all students
- German language module from Language Center for all students

Bachelor programme / Host

BE	Business Engineering I Innovation
BT	Building Technology
EE	Energy and Environmental Systems Engineering
DE	Digital Engineering
ET	Electrical Engineering and Information Technology
ME	Mechanical Engineering
MT	Medical Engineering
NS	Natural Sciences and Humanities
CS	School of Computer Science and IT, Campus Rotkreuz
LC	Language Center, Campus Lucerne

Module type

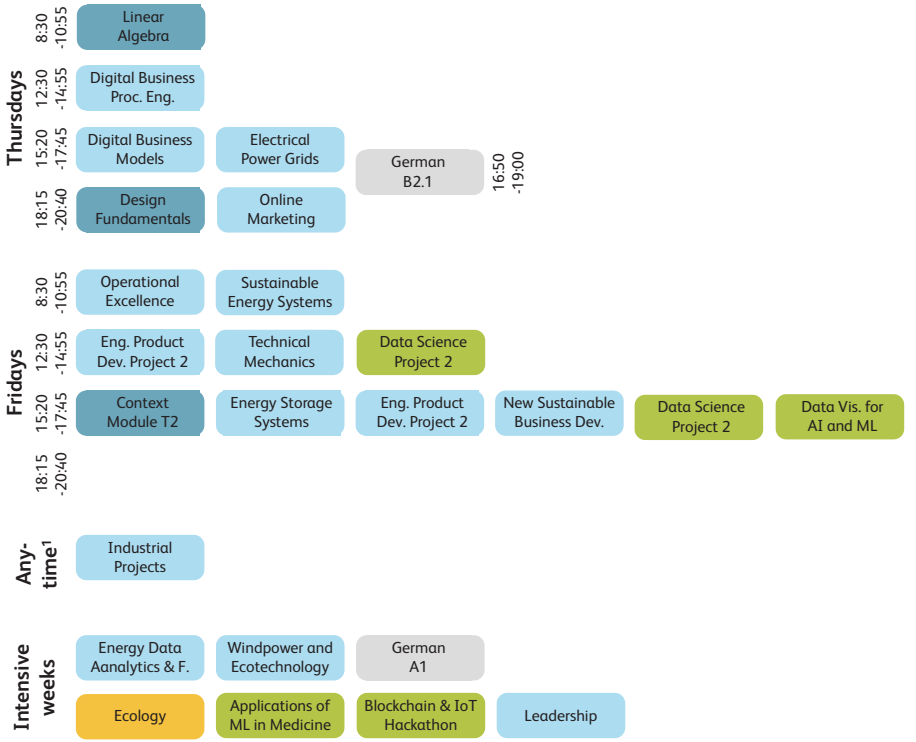
B	Block (Intensive weeks)
C	Core (Mandatory in host study programme)
P	Project
R	Related (Elective in host study programme)

Module level

b	basic (First year)
i	intermediate (Second year, some prerequisites)
a	advanced (Final year, prerequisites)

Module credits (One semester = 30 ECTS)

3	Lessons once a week or one intensive week
6	Lessons twice a week



Status as of 18 December 2025, subject to change.

Spring semester 2026
Mondays

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
Environmental Analysis & Ecology	08.30 h	10.55 h	TA.BA_EE_ECO	EE	C	i	6
International Project	08.30 h	10.55 h	TA.BA_INTPRO	BE	P	a	6
Physics 1A	08.30 h	10.55 h	TA.BA_PHYSIK1A	NS	C	b	3
Data Management	09.00 h	11.25 h	I.BA_DAMGTF	I	R	b	3
Thermodynamics	12.30 h	14.55 h	TA.BA_THDYN	ME	R	i	3
German B1.2	16.00 h	18.10 h	W.SZ_DEUFF_B1_2	SZ	Z		3
English C1 Advanced (1)	18.15 h	20.40 h	TA.BA_CAE_SZ.01	NS	R	i	3
English for Engineers	18.15 h	20.40 h	TA.BA_EENG	NS	R	b	3
Swissness - Swiss Language and Culture	18.15 h	20.40 h	TA.BA_SWISS	NS	R	b	3
German B1.1	18.30 h	20.40 h	W.SZ_DEUFF_B1_1	SZ	Z		3

Environmental Analysis & Ecology

Prof. Dr. Claas WAGNER

Introduction to fundamental concepts of environmental analysis and ecology, including sustainability, ecosystems, biodiversity and climate system; environmental impact assessment; implications of CO2 emissions and other pollutants on natural systems and human mankind; application of analytical and economic tools for evaluating environmental impacts and causes of environmental problems.

International Project

Prof. Dr. Christine GRIMM

Ready to rethink design in an international team? This project-based course immerses you in Design Thinking, where you'll create innovative ideas and turn them into working prototypes alongside diverse, interdisciplinary peers. You'll explore concepts such as the Circular Economy and learn to rethink the future through the power of usercentered design. Plus, you'll have the opportunity to earn a Junior Coach Certificate for Design Thinking. Let's reshape the future!

Physics 1A

Dr. Sigrun KÖSTER

Teaching the basics of mechanics. Dynamics of the center of mass on the basis of Newton's laws, work, energy, momentum and their law's of conservation. Statics and motion of fluids: hydrostatic pressure, buoyancy, continuity equation, Bernoulli equation, flow resistance.

Data Management

Prof. Dr. Alexander DENZLER

Data is the new oil - it is the fuel of our modern, technology-based society. Against this background, it is particularly important to understand what data actually is, how it can be converted into information and what types of data exist. In a first step, the modelling, structure and querying of relational databases is taught. The second step then deals with so-called NoSQL databases. The focus here is on graph databases.

Thermodynamics

Prof. Dr. Ludger FISCHER

In-depth treatment of the conservation laws in thermodynamics, treatment of state changes and their effects in practical applications, irreversibility and the second law of thermodynamics, extended introduction to heat transfer, clockwise and counterclockwise thermodynamic cycles.

German B1.1 / B1.2

Dr. Isanna MENDE

The programme is aimed at non-German-speaking students with German language skills of at least level A2. Students who successfully complete the module can understand factual texts on concrete and abstract topics, write coherent texts on topics of general interest and from their own field of interest, hold a relatively fluent conversation on familiar topics without preparation. The pronunciation is easy to understand.

English C1 Advanced

Tina BRØDSGAARD

Expansion of vocabulary and grammar skills, as well as improvement of listening and reading comprehension to English C1 level. In addition, oral and written expression will be refined.

English for Engineers

Petruschka MEYER

Expanding your English technical vocabulary and linguistic skills for interdisciplinary communication in English. Analyzing graphics and texts from the field of technology. Professional presentation of processes and current technical topics.

Swissness - Swiss Lang. & Culture

Dr. Nina ZIMNIK

This class is rich with interactive learning experiences that allow students to "understand" Switzerland, navigate the local cultures (there are 4!) and develop intercultural skills. The class' intercultural teaching approach allows students to experience a foreign culture, exchange cross-cultural notions and link new knowledge with their own diverse backgrounds. It is offered as a general education class and transcends narrow disciplinary boundaries because of the wide ...

Spring semester 2026
Tuesdays

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
Environmental Analysis & Ecology (continued)	08.30 h	10.55 h	TA.BA_EE_ECO	EE	C	i	6
International Project (continued)	08.30 h	10.55 h	TA.BA_INTPRO	BE	P	a	6
Mathematics 2A	08.30 h	10.55 h	TA.BA_MATH2A	NS	C	b	3
Fluid Dynamics	12.30 h	14.55 h	TA.BA_FLDYN	ME	R	i	3
Marketing Management and Accounting	12.30 h	14.55 h	TA.BA_MM+RW	BE	C	b	6
Business Software Development	15.20 h	17.45 h	I.BA_BUSOD	I	R	b	3
English B2/C1 Expertise (2)	15.20 h	17.45 h	TA.BA_EEXP.01	NS	R	i	3
English C1 Advanced (2)	15.20 h	17.45 h	TA.BA_CAE_SZ.02	NS	R	i	3
Python Advanced	15.20 h	17.45 h	TA.BA.PYTHON_AD	NS	C	i	3
German A2	16.00 h	18.10 h	W.SZ_DEUFF_A2	SZ	Z	b	3
English B1/B2 Consolidation	18.15 h	20.40 h	TA.BA_ECONS	NS	R	b	3
English B2 First (1)	18.15 h	20.40 h	TA.BA_FCE_SZ.01	NS	R	i	3
Innovation Financing	18.15 h	20.40 h	TA.BA_INNO_FN	BE	R	i	3
Self-Directed English Language Learning	18.15 h	20.40 h	TA.BA_SELL	NS	R	i	3
German A1	18.30 h	20.40 h	W.SZ_DEUFF_A1	SZ	Z	b	3

Business Software Development

Prof. Dr. Halldór JANETZKO

The module covers the most important components of business software. Students deepen their knowledge of code quality and refactoring. In the next step, students develop graphical user interfaces. File processing and network concepts are central components of business applications and are therefore also taught. The implementation of client-server architectures rounds off this module. The project phase in the last third of the course allows students to explore the

English B2/C1 Expertise

Prof. Irene DIETRICHS

Discussions on current topics, reading of authentic texts and varied listening comprehension exercises, as well as in-depth vocabulary development, combined with effective learning strategies. Communication at a sophisticated level, fluent, correct and effective written and oral; preliminary level to Cambridge Advanced Certificate.

Python Advanced

Dr. Oliver KASTEN

Advanced aspects of object-orientated Python programming with practical tasks on a provided Raspberry Pi. Treatment of the Linux operating system and insights into the integration of SQL databases as well as the advantages of client-server architectures.

German A2

Dr. Isanna MENDE

The course is aimed at non-German-speaking students with German language skills of at least level A1. Students who successfully complete the module understand and use sentences and frequently used expressions. Students will be able to communicate in simple situations involving a direct exchange of information. They can describe their own background, education and immediate environment in context.

English B1/B2 Consolidation

Yaël BORNSTEIN

By deepening grammar and expanding general vocabulary, in conversations, discussions, reading texts and listening comprehension, but also by writing texts, you will gain more confidence and enjoyment in the English language.

English B2 First

Anna CHRISTEN

Expand vocabulary to around 3000 words in order to formulate thoughts in a situation-appropriate, comprehensible and varied way; improve listening and reading comprehension; acquire strategies for mastering the standardised B2 First task types in preparation for the internationally recognised ‘Cambridge First B2’ exam.

Mathematics 2A

Prof. Dr. Jung Kyu CANCI

Complex numbers: normal and polar forms, Euler’s formula. First order differential equations: basic definitions, Euler’s method, method of separation of variables and method of variation of the constant. Second order differential equation: Different types of differential equations in particular linear equations, homogeneous and inhomogeneous. Several applications to real word problems, in particular to harmonic oscillations.

Fluid Dynamics

Prof. Dr. Ernesto Casartelli

In-depth treatment of conservation theorem in fluid mechanics. Potential theory and application to frictionless flows. Importance of friction (dissipation), boundary layers and effects in practical applications. Resistance of flowing bodies. Dimensional analysis, similarities and key figures. Treatment of compressible flows (supersonic).

Marketing Mgmt. and Accounting

Prof. Dr. Michael BLANKENAGEL

Fundamentals of marketing, knowledge and application of the methods of marketing research, conception, implementation and controlling, use of financial reporting and its analysis as well as cost accounting (cost accounting, contribution margin accounting and costing as instruments for decision-making, applied in a business game throughout the semester.

Innovation Financing

Dr. Matthias Daniel AEPLI

Introduction to corporate finance, approaches to innovation financing, determining risk and return of investments, understanding capital structure decisions, performing company valuation.

Self-Directed English Learning

Franz HAGMANN

The focus is on maintaining English language skills, from level B2/FCE; teaching language learning techniques using the example of specialised texts with the aim of continuously and autonomously improving the individual language level.

German A1

Dr. Isanna MENDE

The programme is aimed at non-German-speaking students - beginners. The learning progress in this module is considerable. The programme is therefore tailored to motivated students. Students who successfully complete the module understand and use everyday expressions and simple sentences. Students can communicate in a simple way if the person they are talking to speaks slowly and clearly and is willing to help.

Spring semester 2026
Wednesdays

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
Energies, Fluids & Processes Laboratory Fluid	08.30 h	10.55 h	TA.BA_EFPLAB1	ME	C	b	3
Applied Process Control	12.30 h	14.55 h	TA.BA_APC	ET	C	i	3
Marketing Management and Accounting (continued)	12.30 h	14.55 h	TA.BA_MM+RW	BE	C	b	6
C1/C2 Proficiency Development	15.20 h	17.45 h	TA.BA.PROF_SZ	NS	R	i	3
Customer Relationship Management	18.15 h	20.40 h	TA.BA_CRM	BE	C	a	3
English B2/C1 Expertise (1)	18.15 h	20.40 h	TA.BA_EEXP.02	NS	R	i	3
German C1.2	18.15 h	20.40 h	W.SZ_DEUFF_C1_2	SZ	Z		3
Open Innovation	18.15 h	20.30 h	TA.BA_OPEN_ISA	NS	R	i	3

Energies, Fluids & Processes Lab Fluid

Prof. Dr. Ulf Christian MÜLLER

Introduction to the fundamentals of energy technology, balancing of systems (mass, material and energy), state variables and fluid properties (gases and liquids), forms of energy and energy transformations, basics of heat transfer, energy conservation for fluid mechanics (Bernoulli equation) and thermodynamics (1st LT) for closed and open systems). Practical relevance through lab tests with heat exchangers, pumps, compressors.

Applied Process Control

Prof. Dr. Armin TAGHIPOUR

The concepts of systems and signals will be elucidated. They will be characterized in the time domain and the s-domain (by means of the Laplace-Transformation). Students will get familiar with feedback loops and will learn to analyze and design controllers that guarantee stability and performances. Simulink exercises, lab demonstrations, and a MAIN case study will help to consolidate the acquired knowledge.

C1/C2 Proficiency Development

Anna CHRISTEN

Expansion of vocabulary and grammar skills as well as improvement of listening and reading comprehension to English C1+ level. Refinement of oral and written expression, along with the acquisition of strategies for tackling the standardized Cambridge English C2 Proficiency task types (primarily reading and listening comprehension, partly use of English, speaking, and writing).

Customer Relationship Management

Angelos APOSTOLIDIS

The module focuses on the importance of a customer-centric view and how to build a customer-centric strategy and relationship on this mindset. Therefore, the module will discuss the use of modern CRM-based concepts as well as the tools and applications that can be used operationally. The course will also discuss how to identify and classify customers and their needs.

English B2/C1 Expertise

Prof. Irene DIETRICHS

Discussions on current topics, reading of authentic texts and varied listening comprehension exercises, as well as in-depth vocabulary development, combined with effective learning strategies. Communication at a sophisticated level, fluent, correct and effective written and oral; preliminary level to Cambridge Advanced Certificate.

German C1.2

Yaël BORNSTEIN

After completing both modules C1.1 and C1.2, you will have reached level C1 according to the Common European Framework of Reference for Languages.

Open Innovation

Julie HARBOE

Learning the basic concepts of systematic ideation and purposive use of technology. Practicing methods of collaborative creativity. Discussing complex questions of partnership and intellectual property. Participating in a true innovation movement.

Spring semester 2026
Thursdays

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
Linear Algebra	08.30 h	10.55 h	TA.BA_LINALG	NS	C	b	3
Digital Business Process Engineering	12.30 h	14.55 h	TA.BA_DBPE	BE	C	a	3
Digital Business Models	15.20 h	17.45 h	TA.BA_DBM	BE	C	a	3
Electrical Power Grids	15.20 h	17.45 h	TA.BA_EPG	ET	C	a	3
German B2.1	16.50 h	19.00 h	W.SZ_DEUFF_B2_1	SZ	Z		3
Design Fundamentals	18.15 h	20.40 h	TA.BA_INDES1	BE	C	b	3
Online Marketing	18.15 h	20.40 h	TA.BA_ONMA	BE	C	a	3

Linear Algebra

Dr. Peter SCHEIBLECHNER

Vector geometry, linear systems of equations, Gaussian elimination procedure, matrices and their operations (transposition, addition, subtraction, scaling, multiplication, inversion), determinants, euclidian vector spaces, subspaces, linear independence, basis, coordinates and dimension, linear maps and their relationship with matrices and linear systems of equations, eigenvalues and -vectors, diagonalization, norms and dot product, orthonormal bases, Gram-Schmidt

Digital Business Process Engineering

Thomas SCHWANK

This module provides an introduction to the fundamentals, approaches and methods required for digital business process engineering on the basis of a cycle-based framework model (5 phases), which represents a typical management cycle. Different models, methods and techniques are applied, based on concrete practical examples. Transfer of knowledge is been facilitated and active work is necessary (group exercises, case studies).

Digital Business Models

Prof. Dr. Shaun WEST

Digital technologies are intangible and lead to service innovation per se. For most companies, service innovation represents a business model innovation. Thus, this module has tight links to TA.SI. Besides prominent case studies in the B2C area, the module will (but not exclusively) focus on the B2B area.

Electrical Power Grids

Severin NOWAK

The following topics are covered: Transformation of primary into electrical energy. Fundamentals of the main grid components of a power system (generators, transformers, substation and transmission lines/cables). Grid analysis technics such as load-flow and short-circuit calculation. Methods of power system control. Analysis of blackouts and concepts of protection systems. Renewable generation and their integration in power grids. Smart grid technologies and modern ....

German B2.1

Barbara Lima RAMPOLLA

Students who successfully complete the module understand complex texts on concrete and abstract topics. They can easily follow radio and television programmes. They communicate fluently and in a structured manner so that a normal conversation with native speakers is easily possible without major effort on either side. You express yourself clearly and in detail on general topics and explain your point of view on issues that interest you. You show a fairly good command

Design Fundamentals

Hannes FELBER

The module provides an understanding of the discipline and process of industrial design and human-centred design. Sub-areas of the design process such as perception, ergonomics, creativity, needs analysis, idea generation and prototyping are experienced in practical exercises. The ability to think innovatively is emphasised and intensively trained.

Online Marketing

Angelos APOSTOLIDIS

The module discusses the relevance and use of online marketing as part of companies' marketing measures and concepts. Current and common instruments of online marketing are critically examined and their use in an overall marketing strategy is evaluated. Common risks and opportunities as well as their measurement are also explored.

Spring semester 2026
Fridays

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
Operational Excellence	08.30 h	10.55 h	TA.BA_OAE	BE	C	a	3
Sustainable Energy Systems	08.30 h	10.55 h	TA.BA_SES	EE	C	i	3
Engineering Product Development Project 2	12.30 h	14.55 h	TA.BA_PDP2	BE	P	i	6
Technical Mechanics	12.30 h	14.55 h	TA.BA_TECHMECH	ME	C	b	3
Data Science Project 2	12.50 h	15.10 h	I.BA_DSPRO2	I	R	i	6
Context Module T2	15.20 h	17.45 h	TA.BA_KONTT2	NS	P	b	3
Energy Storage Systems	15.20 h	17.45 h	TA.BA_STORAGE	ME	R	a	3
Engineering Product Development Project 2 (continued)	15.20 h	17.45 h	TA.BA_PDP2	BE	P	i	6
New Sustainable Business Development	15.20 h	17.45 h	TA.BA_NBD	BE	C	a	3
Data Science Project 2 (continued)	15.30 h	17.50 h	I.BA_DSPRO2	I	R	i	6
Data Visualisation for AI and Machine Learning	15.30 h	17.50 h	I.BA_DVIZ	I	R	b	3

Operational Excellence

Prof. Dr. Michael KELLERHALS

Deepened analysis of the Supply Chain of industrial companies, in search of Excellence, based on the principles and tools of the Toyota Production System and its evolution into Lean Management. These concepts and tools will be explained and applied in several case studies and in a final production simulation game, so that participants will „touch with their hands“ the significant difference between traditional and „lean“ approaches in Operations.

Sustainable Energy Systems

Severin NOWAK

Addressing the question of “how can we decarbonize our energy systems?”, this module provides the essential knowledge to understand decarbonization challenges and potential solutions. It investigated state-of-the-art technologies concerning energy “generation”, conversion, distribution and storage. Focus is also placed on understanding the various sectors to be decarbonized as well as important restrictions and boundary conditions (e.g. policies and economics).

Eng. Product Development Project 2

Prof. Dr. Simon ZÜST

Exemplary engineering learning project with processing of an interdisciplinary project task in a team. As a continuation of PDP1, partial solutions are brought together, the solution is realised and implemented, and the overall concept is tested. At the same time, presentations, visualisations and technical documentation of the results are created

Technical Mechanics

Prof. Dejan ROMANCUK

This course enables students to calculate simple static problems within the field of mechanics to pre-evaluate the support reaction, forces, momentum, stress and strain acting inside a body to determine its strength and safety.

Data Science Project 2

Dr. Umberto MICHELUCCI

In this advanced course, students will embark on creating sophisticated data science and machine learning solutions. From the outset, they select a project that will be honed into a full-fledged application. The curriculum is an intricate tapestry of expert-led lectures and mentorship sessions, crafted to impart skills that meet the demands of the industry. Beyond the elementary principles of data science, the syllabus delves into intricate topics such as neural network foundations...

Context Module T2

Petruschka MEYER

Develop English for academic and professional purposes, i.e. English communication skills, furthering presentation techniques and clear concise writing of documents considering their target audience appropriately.

Energy Storage Systems

Prof. Dr. Jörg WORLITCHEK

Principles of energy supply, focused on renewable energies. Importance, application, overview of, planning and use of energy storage. Thermal energy: Fundamentals of thermodynamics, exergy analysis and interpretation, modeling and application, thermal energy networks. Electrical energy storage: fundamentals of electrical storage, analysis and interpretation. Modeling and applications and electrical networks. Combined use.

New Sust. Business Development

Prof. Dr. Patrick LINK

This module focuses on developing new business in the area of sustainability. Companies are analyzed using known frameworks and tools in the area of product- and strategic management, sustainability, circular economy, business model innovation, corporate finance, and project management. It uses case studies and covers sustainability, agile methods, intrapreneurship, ambidextrous organization design, corporate venturing, mergers, acquisitions ...

Data Visualisazion for AI and ML

Dr. Curdin DERUNGS

Principles and concepts for data visualization. Strategies and best practices for effective communication with data, based on theory and practical examples. Key tools for static and interactive data visualization in Python.

Spring semester 2026
Industrial Projects

Module Name	Start	Module Code	Host	Type	Level	ECTS
Industrial Project Business Engineering	By arrangement	TA.BA_PAIND+WI	BE	P	a	6
Industrial Project Digital Engineering	By arrangement	TA.BA_PAIND_DE	ME	P	a	6
Industrial Project Electrical Engineering	By arrangement	TA.BA_PAIND+E1	EE	P	a	6
Industrial Project Energy and Environ. Sys. Engineering	By arrangement	TA.BA_PAIND_EESE	BE	P	a	6
Industrial Project Mechanical Engineering	By arrangement	TA.BA_PAIND+M1	ME	P	a	6
Industrial Project Medical Engineering	By arrangement	TA.BA_PAIND_MT	MT	P	a	6

Business Engineering

Günter ZEPF

Independent execution of an individual project within a company. Application and deepening of problem solving, project management and professional competencies under consideration of the systemic context. Creation of convincing scientific documentation and a presentation of the results.

Digital Engineering

Lukas MÜLLER

Independent realization of individual project work. Application and consolidation of the problem-solving, project management and technical skills learnt during the course, taking systemic contexts into account. Preparation of technical and scientific documentation and presentation of the results. The work is in the context of the specialization.

Electrical Engineering

Prof. Dr. Marc ACHERMANN

The student will gain engineering experience by solving a real-world R&D problem commissioned by an industry partner or an applied research unit. Coaching will be provided by experienced lecturers.

Energy and Env. Syst. Engineering

Prof. Dr. Claas WAGNER

Independent execution of an individual project within a company. Application and deepening of problem solving, project management and professional competencies under consideration of the systemic context. Creation of convincing scientific documentation and a presentation of the results.

Mechanical Engineering

Prof. Joshua LANTER

In this project module, students independently plan, organize, and carry out a complete engineering project. They are responsible for managing the workflow, applying engineering and project-management methods on their own, and documenting their progress and results. A supervisor is available for coaching, but no theoretical content is taught within the module. The focus lies entirely on hands-on project execution and self-directed problem-solving

Medical Engineering

Prof. Dr. Piero Angelo MARANGI

Independent execution of individual project work in a company or institution. Application and development of the problem-solving skills, project management skills and subject-specific skills and knowledge acquired during the degree program taking systemic relationships into account. Creation of a convincing scientific text and presentation of the results.

Spring semester 2026
Intensive Weeks

Module Name	Start	End	Module Code	Host	Type	Level	ECTS
German A1	2.02.26	13.02.26	W.SZ.DEUFF_A1	LC	B	b	3
Windpower and Ecotechnology	2.02.26	7.02.26	TA.BA_WIND_ECO	EE	B	b	3
Energy Data Analytics & Forecasting	9.02.26	13.02.26	TA.BA_EDAF	ET	B	a	3
Leadership	31.08.26	4.09.26	TA.BA_LEAD	BE	B	i	3
Ecology	7.09.26	11.09.26	TA.BA_OEK	NS	B	b	3
Applications of Machine Learning in Medicine	Mid-Sep		I.BA_AMLMED_MM	CS	B	i	3
Blockchain & IoT Hackathon	Mid-Sep		I.BA_IOTHACK	CS	B	i	3

Windpower and Ecotechnology

Prof. Dr. Claas WAGNER

Basics of wind energy engineering, starting with determination of wind power potentials, applied to different kinds of turbines and systems including selection of materials and components up-to the estimation of electrical power production. Stakeholder analysis and environmental impact analyses are applied to assess the impact of emissions.

Energy Data Analytics & Forecasting

Severin NOWAK

In this intensive week, we consider how machine learning and optimization algorithms can be used to help solve challenges in the energy domain. The participants will apply those algorithms to specific use cases regarding photovoltaics, e-mobility, storage or self-consumption optimization in order to predict load and/or production, optimizing use of storage systems etc. Real-world data will be used, and practical experience will be provided.. Through a project...

Leadership

Prof. Dr. Michele KELLERHALS

Students shall understand the concept of leadership and its different aspects and success factors by looking at themselves, their teams and organizations. The training will be based on basic theoretical concepts but to make it more applicable in real life one of the key elements of the training is practicing with tools that leaders apply to be successful. One of the aims of the training is to prepare the students for their future roles as leaders: project leaders or product ...

Ecology

Prof. Dr. Claas WAGNER

Relationships and life cycles in ecosystems, effects of greenhouse gases on the environment and environmental policies and economics.

Application of ML in Medicine

Simone LIONETTI

The module is divided into three sections linked to different datasets from the medical field. For each dataset, analyses are performed to generate understanding and machine learning tasks are formulated to identify technological potential. The focus is on problems typical of medical data, such as domain-specific feature engineering, generalisation between cohorts, annotation problems, interpretability, confidentiality and skewed, biased or unbalanced data.

Blockchain & IoT Hackathon

Prof. Dr. Tim WEINGÄRTNER

During the block week, knowledge about blockchain in combination with IoT is built up on the basis of specific use cases. The interdisciplinary teams ensure different perspectives on the technologies and use cases. The block week is organised together with business partners, who also provide coaches. The week is modelled on the setup of a hackathon. An exciting prize awaits the winning team.

Contact

Lucerne University of Applied Sciences and Arts
School of Engineering and Architecture
Technikumstrasse 21
6048 Horw
Switzerland

International Relations
Head: Prof. Dr. Stephen Wittkopf
Exchange Coordinator: Janka Krasselt
Outgoing Exchange Coordinator: Vera Hertig
Incoming Exchange Coordinator: Heidi Estermann

Disclaimer
The selection of modules and timetables is subject to minor adjustments for organizational reasons. The finalized schedule will be confirmed shortly before the start of the semester.

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Status as of 18 December 2025, subject to change.