

BSc Energy Systems Engineering 2015/2016: Model - Curriculum for Full-time Students (3 years - ideal case)

Semester:	Basic Science	Technology and Environment	Mechanical Engineering	Business Application	Sustainability	Project Modules	Related Modules	Minor Modules	ETCS
6. (Spring)		Energy Storage Systems 3 Electric Power Grids 3		Operations Management 6	Sustainable Energy Systems 6	Bachelor Thesis Energy Systems Engineering 12	Systemic Emobility 3 Renewable Energies - Solar Energy 3 Renewable Energies - Bioenergy 3	Minor 7 3	
5. (Fall)		Environmental Engineering & Ecology 6	Energy, Fluid and Process Engineering 6	Energy Trading, Economics & Policies 3 Service Innovation 3	Corporate Ethics and Social Behavior 6	Practical Studies 3 Industrial Project Energy Systems Engineering 6	Energy Optimization with Pinch Analysis 3 Alliance Advantage 3	Minor 6 3	
4. (Spring)		Applied Process Control 3 Power Electronics and Drives 3	Thermodynamics and Fluid Dynamics 6	Strategic Management and Product Management 6		Engineering Product Development Project 2 6	HVAC Systems 3 Building Envelope 3 Usability 3 Engineering Tools 3	Innovation Financing 3 Sales Management (intensive week) 3 Leadership (intensive week) 3	Minor 5 3
3. (Fall)	Mathematics and Physics Technology 2 6	Electrical Engineering Consolidation 3	Materials Lab 3 Energies, Fluids and Process Lab 2 3	Controlling 3		Engineering Product Development Project 1 6	Windpower and Ecotechnology (Intensive weeks) 3	International Marketing 3	Minor 4 3
2. (Spring)	Mathematics and Physics Technology 1 6	Electrical Engineering with Lab 3	Technical Mechanics 3 Energies, Fluids and Process Lab 1 3	B2B Marketing 3		Context 2 - Communication 3		Industrial Design 1 3	Minor 3 3
1. (Fall)	Mathematics Fundamentals 6	Computer Science Fundamentals 6		Marketing Management and Accounting 6		Context 1 6		Minor 2 3 Minor 1 3	
ECTS	18	30	24	30	12	42 at least 39 ECTS	at least 15 ECTS	at least 15 ECTS	at least 180

Compulsory modules
12 ECTS credits are compulsory, 18 ECTS credits are elective.
Elective modules

A selection of
 Minor Modules
 is shown on the last tab

BSc Energy Systems Engineering 2014/2015: Model Curriculum with *Minor in Technology and Environment* for Full-time Students (3 years - ideal case)

Semester:	Basic Science	Technology and Environment	Mechanical Engineering	Business Application	Sustainability	Project Modules	Related Modules	Minor Modules	ECTS
6. (Spring)		Energy Storage Systems 3 Electric Power Grids 3			Sustainable Energy Systems 6	Bachelor Thesis Energy Systems Engineering 12	Systemic Emobility 3 Renewable Energies - Solar Energy 3		30
5. (Fall)		Environmental Engineering & Ecology 6	Energy, Fluid and Process Engineering 6		Corporate Ethics and Social Behavior 6	Industrial Project Energy Systems Engineering 6	Renewable Energies - Bioenergy 3 Energy Optimization with Pinch Analysis 3		30
4. (Spring)		Applied Process Control 3 Power Electronics and Drives 3	Thermodynamics and Fluid Dynamics 6	Strategic Management and Product Management 6		Engineering Product Development Project 2 6	HVAC Systems 3	Minor 5 3	30
3. (Fall)	Mathematics and Physics Technology 2 6	Electrical Engineering Consolidation 3	Materials Lab 3 Energies, Fluids and Process Lab 2 3	Controlling 3		Engineering Product Development Project 1 6	Building Envelope 3	Minor 4 3	30
2. (Spring)	Mathematics and Physics Technology 1 6	Electrical Engineering with Lab 3	Technical Mechanics 3 Energies, Fluids and Process Lab 1 3	B2B Marketing 3		Context 2 - Communication 3	Engineering Tools 3 Windpower and Ecotechnology (Intensive weeks) 3	Minor 3 3	30
1. (Fall)	Mathematics Fundamentals 6	Computer Sceince Fundamentals 6		Marketing Management and Accounting 6		Context 1 6		Minor 2 3 Minor 1 3	30
ECTS	18	30	24	18	12	39	24	15	180

Compulsory modules
 12 ECTS credits are compulsory for Minor, 6 ECTS credits (TA.EFPEng) are elective.
 Elective modules

A selection of
 Minor Modules
 is shown on the last tab

BSc Energy Systems Engineering 2014/2015: Model Curriculum with *Minor in Business Application* for Full-time Students (3 years - ideal case)

Semester:	Basic Science	Technology and Environment	Mechanical Engineering	Business Application	Sustainability	Project Modules	Related Modules	Minor Modules	ETCS
6. (Spring)				Operations Management 6	Sustainable Energy Systems 6	Bachelor Thesis Energy Systems Engineering 12		Minor 8 3 Minor 7 3	30
5. (Fall)			Energy, Fluid and Process Engineering 6	Energy Trading, Economics & Policies 3 Service Innovation 3	Corporate Ethics and Social Behavior 6	Industrial Project Energy Systems Engineering 6	Alliance Advantage 3	Minor 6 3	30
4. (Spring)		Applied Process Control 3 Power Electronics and Drives 3	Thermodynamics and Fluid Dynamics 6	Strategic Management and Product Management 6		Engineering Product Development Project 2 6	Innovation Financing 3 Sales Management (intensive week) 3	Minor 5 3	30
3. (Fall)	Mathematics and Physics Technology 2 6	Electrical Engineering Consolidation 3	Materials Lab 3 Energies, Fluids and Process Lab 2 3	Controlling 3		Engineering Product Development Project 1 6	Leadership (intensive week) 3 International Marketing 3	Minor 4 3	33
2. (Spring)	Mathematics and Physics Technology 1 6	Electrical Engineering with Lab 3	Technical Mechanics 3 Energies, Fluids and Process Lab 1 3	B2B Marketing 3		Context 2 - Communication 3	Engineering Tools 3 Industrial Design 1 3	Minor 3 3	30
1. (Fall)	Mathematics Fundamentals 6	Computer Science Fundamentals 6		Marketing Management and Accounting 6		Context 1 6		Minor 2 3 Minor 1 3	30
ECTS	18	18	24	30	12	39	18	21	180

Compulsory modules
 12 ECTS credits are compulsory for Minor, 6 ECTS credits (TA.EFPEng) are elective.
 Elective modules

A selection of
 Minor Modules
 is shown on the last tab

Energy Systems Engineering 2014/2015: Minor modules

in English

English Proficiency Development (Spring)

German as a Foreign Language A1-C2 (Fall or Spring) - for international students only

Humanitarian and Development Engineering (Spring)

Open Innovation (Spring)

Social Project (Fall or Spring)

Swissness - Swiss Language and Culture (Fall or Spring) - for international students only

Technical Writing (Fall)

Tutorials (Fall or Spring)

Intensive weeks

Asia (intensive week)

Intellectual Property Management (intensive week)

International Winter School Lucerne (intensive week)

Recycling and its Impact on Sustainability (intensive week)

Technology and Society (intensive week)

Summer school (at partner Universities)

auf Deutsch

Bau- und Architekturgeschichte (HS + FS)

Contemporary Political Analysis (HS)

Designgeschichte (HS)

Licht, Schall und digitale Fotografie (FS)

Technik- und Mobilitätsgeschichte (FS + HS)

Blockwochen

Bautechnik und Konstruktion historisch (Blockwoche)

Gebäude als System (Blockwoche)

Gestalterische Ausdrucksmittel (Blockwoche)

Gewaltfreie Kommunikation (Blockwoche)

Grundlagen der Führung (Blockwoche)

Nanotechnologie (Blockwoche)

SME Management Practice (Blockwoche)