4TU.Energy Curriculum Overview

4TU .Energy

ENERGY FOR LIFE

- MSc Energy for life-molecular nutritional physiology of energy metabolism (6 ECTS)
- BSc Thermodynamics of Bio Processes (6 ECTS)

CHEMISTRY FOR ENERGY

- MSc Inorganic materials science (5 ECTS)
- MSc Advanced catalysis (5 ECTS)
- BSc Separation Technology (5 ECTS)
- MSc Sustainable chemicals (5 ECTS)
- MSc Catalytic processes & materials (5 ECTS)
- MSc Electrochemistry: Fundamentals & techniques (5 ECTS)
- MSc Electrochemical engineering (2.5 ECTS)
- MSc Catalysis science and technology (5 ECTS)

HYDROGEN

- MSc Hydrogen technology (5 ECTS)

BATTERIES

- MSc Energy storage (5 ECTS)
- BSc Electrical power systems (5 ECTS)
- BSc Energy storage (5 ECTS)
- MSc Power quality phenomena (5 ECTS)
- MSc Transport phenomena (5 ECTS)
- MSc Advanced thermal energy storage (2.5 ECTS)
- MSc Secondary batteries and hydrogen storage (2.5 ECTS)
- BSc Energy storage and transport (5 ECTS)

SYSTEM INTEGRATION/ TRANSITION

- BSc Energy management (5 ECTS)
- MSc Energy, economy and society (5 ECTS)
- MSc Capita selecta economic matters for climate assessment (3 ECTS)
- BSc Modelling dynamic systems (6 ECTS)
- MSc Physical modelling (6ECTS)
- MSc Design of Integrated Energy Systems (5 ECTS)
- MSc Energy management (4 ECTS)
- BSc Energy transition & sustainability (9 ECTS)
- BSc Honors part energy transitions (15 ECTS)
- MSc Critical sustainable futures (2 ECTS)
- MSc Sustainable engineering (5 ECTS)
- MSc Optimization of sustainable energy systems (5 ECTS)
- MSc System integration project (10 ECTS)
- BSc Energy transition challenges (15 ECTS)
- BSc Principles of biobased economy (6 ECTS)
- MSc Circular sustainable business development (5 ECTS)
- BSc Economics and governance of energy transitions (6 ECTS)
- BSc Dynamics of energy systems (5 ECTS)
- MSc Life cycle analysis (3 ECTS)
- MSc Electrical energy systems in transition (2.5 ECTS)
- MSc Control and operation of future energy systems(5 ECTS)
- BSc The Energy Transition: A Roadmap to a Cleaner & Smarter Energy System (5 ECTS)
- BSc Sustainable impact (5 ECTS)
- MSc Electrical power engineering and system integration (5 ECTS)
- MSc Stakeholder analysis in sustainability transitions (2 ECTS)
- BSc Sustainable electrical distribution networks* (3 ECTS)
- MSc Sustainability transitions and responsible innovation(5 ECTS)
- MSc Sustainability and justice (2 ECTS)
- MSc Power system dynamics (4 ECTS)
- MSc Water management (4 ECTS)
- MSc Business model for sustainable energy (5 ECTS)
- MSc Sustainability and law (3 ECTS)
- MSc Psychology of sustainability (5 ECTS)
- MSc Environmental management (4 ECTS)
- BSc Energy transition perspectives (0 ECTS)
- BSc Climate change: understanding the causes and solutions (5 ECTS)
- MSc Sustainability politics and policies (5 ECTS)
- MSc Policy and sustainability (3 ECTS)
- MSc The sustainability game (2 ECTS)
- BSc Sustainable civil engineering (0 ECTS)

RENEWABLE ENERGY SOURCES

- MSc Electrical power systems of the future (4 ECTS)
- MSc Physical aspects of energy and sustainable development(5 ECTS)
- MSc Floating offshore wind energy (3 ECTS)
- MSc Solar Energy (5 ECTS)
- MSc Airborne wind energy (3 ECTS)
- BSc Reliability of sustainable power systems* (3 ECTS)
- BSc Introduction to Electrical Power Engineering* (6 ECTS)
- BSc Energy efficiency* (3 ECTS)
- MSc Energy conversion technology (5 ECTS)
- BSc Electrical energy conversion* (5 ECTS)
- MSc Energy from biomass (5 ECTS)
- BSc Honors part 1 nuclear fusion (15 ECTS)
- BSc Sustainable energy supply* (5 ECTS)
- MSc Renewable Energy Technologies (6 ECTS)
- MSc Sustainable energy sources (5 ECTS)
- MSc Solar energy (5 ECTS)
- BSc Energy (5 ECTS)
- MSc Physics of energy materials (6 ECTS)
- BSc Mechanics and transport by flow in porous media (5 ECTS)
- MSc Clean engines and future fuels (5 ECTS)
- BSc Renewable Energy Technology (3 ECTS)

COMPUTER SYSTEMS

- MSc Smart grids, ICT and electricity markets (5 ECTS)
- MSc Digital twin earth for Water, energy, and food security (5 ECTS)
- MSc Cyber security of power grids (4 ECTS)
- MSc Intelligent electrical power grids (4 ECTS)
- MSc Distributed energy management for smart grids (5 ECTS)
- MSc Digitalization & sustainability (2 ECTS)

EARTH SYSTEMS

- BSc Mineral Resource Geology and Modelling (5 ECTS)
- MSc Climate physics (9 ECTS)
- MSc Grand Challenges and Applied Earth Sciences* (9 ECTS)
- MSc Energy Geoscience (2.5 ECTS)
- MSc Geo-Energy Engineering Applications (6 ECTS)

BUILT ENVIRONMENT

- BSc House and anchoring in the landscape (10 ECTS)
- BSc Construction materials and sustainability (5 ECTS)
- BSc Health & sustainable living environment (5 ECTS)
- MSc Building performance and energy systems simulation (5 ECTS)
- BSc Construction and climate (5 ECTS)
- MSc Circularity in the built environment (5 ECTS)
- BSc Circularity and energy performance in the built environment (5 ECTS)
- BSc Residential building and environment (10 ECTS)
- MSc Building integrated photovoltaics (5 ECTS)
- BSc Introduction building performance (5 ECTS)
- MSc Sustainable buildings/physical aspects of building materials (5 ECTS)
- MSc Urban Energy, Water and Nutrient Cycles (6 ECTS)

HEAT

- BSc Solar heat system (5 ECTS)
- MSc Monte Carlo Simulations for Energy Applications (5 ECTS)
- MSc Thermal energy storage (2.5 ECTS)
- MSc Thermal energy storage and demand (5 ECTS online)

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*Course name colour is aligned with university logo
*More course info in hyperlinks or attachments is available on digital version online
*Feedback/Input is very welcome via 4TU.Energy website > Education > Curriculum Overview Input
*Courses indicated with * might have local curriculum changes please check with corresponding university

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