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Renewable energy masters programs

Get the scoop on admission requirements for this course by following our guide. Answer three questions to find out your application deadline, what documents you need to submit, and get access to the Søknadsweb portal. Check if you meet the requirements here

20 Needed Bachelor's degree You've got to have a bachelor's degree that's comparable to one from Norway. Specialization and grades Minimum grade average requirement: you need to have a good grade in your specialization, similar to a Norwegian C. This is equivalent to a B in the US or an Upper Second Class in the UK. We don't use conversion tables for foreign grades; each application gets individual evaluation. Note that meeting the minimum grade requirement doesn't guarantee a spot – see our ranking section for more on selection criteria. The required specialization has 80 ECTS credits, including 20 advanced-level courses (2000 and 3000 UiO courses). You need: 10 ECTS math or stats 10 ECTS informatics 10 ECTS physics or chem or mechanics And 50 ECTS split between up to three of these subjects: Math/stats Informatics Physics Chem

The following UniOs programmes meet the requirements: Robotics and intelligent systems Physics and Astronomy Electrical Engineering, Informatics and Technology Geophysics and Climate Geology and Geography Chemistry and Biochemistry Materials Science for Energy and Nanotechnology

More documentation needed If you studied outside Oslo, upload course descriptions with matching names and codes on your transcript. Ranking Selection's based on grades in required subjects. If you have more than 80 ECTS credits, only the top 80 will count. Normally, exchange happens in semester three, but you can do a thesis abroad too. The Offshore Wind specialization starts autumn 2024. What you'll learn On completing this course, you'll know about various renewable energy forms and systems, including hydro, solar, wind, thermal, biomass, hydrogen, batteries, and thermoelectricity. You'll have advanced knowledge of modelling and simulating energy and electromechanical systems, and be able to apply that in industry with power electronics, electric motors, and control theory. The Master's program in Renewable Energy Systems offers students with thorough knowledge of the Norwegian energy supply system, international energy situation, and practical application skills. Upon completion, students can analyze new technologies, design fossil-free heat and power systems, and develop electrical and electromechanical components. They can also evaluate theories, plan smart grid solutions, and conduct independent research projects. The program aims to foster innovative thinking in renewable energy systems and related industrial applications.

Admission requires a completed bachelor's degree in engineering, with relevant mathematics, statistics, and physics credits. Recommended previous knowledge includes fundamental areas of renewable energy, basic feedback control systems, and electric circuits and machinery. Sustainable Energy Programme Aims to Educate Future Energy Neutrality Experts

A global programme is underway to educate students who can contribute to developing sustainable energy solutions for a future energy-neutral Europe. The interdisciplinary and flexible programme engages students in advanced research projects, focusing on renewable energy production, modelling, and innovation. Students will gain a comprehensive understanding of the main areas within renewable energy production, specializing in selected areas important to the energy supply system in Northern Europe. The programme addresses industry needs for multidisciplinary flexible systems and digitalization, offering a wide range of basic and advanced courses combined in partially overlapping ways. Students can group these courses into four major disciplines: Renewable Energy Sources and Production Techniques, Modelling and Simulation, Electrical Power Systems, Motors, and Grid, and Research and Innovation. The programme's first discipline covers six courses divided between electives in the 1st and 3rd semesters, allowing students to choose from various renewable energy sources and technologies, such as wind energy, fluid dynamics, and solar cells. These technologies will play a crucial role in transitioning from centralized energy systems to decentralized/distributed energy systems with high penetration of renewable energies. The Modelling and Simulation group introduces courses on mechatronic systems, data analysis techniques in renewable energy, and physical modelling for laboratory tests. Students will also learn programming skills and tools for research and innovation within renewable energy, applicable to other industries like process industry. The Electrical Power Systems, Motors, and Grid group covers essential electrical issues related to renewable energy, including power electronics, electric motor drives, and smartgrid systems. These courses focus on renewable energy stability and control, electrical motors design and control, and power conditioning devices for integration of renewable energy sources. UiA's Courses Offer In-Depth Knowledge of Renewable Energy

UiA offers a comprehensive education program that equips students with the core competencies required to tackle the challenges in flexible energy systems. The Research and innovation group comprises the Energy research project and Master's thesis in renewable energy, providing students with an opportunity to acquire in-depth knowledge on central topics relevant to renewable energy and work on R&D projects. Students can apply physical-based or data-driven modeling techniques to areas related to generation, transportation, storage, and distribution of renewable energy. The program also includes more transversal electives, such as life-cycle assessment and optimization of constructions, corporate economic analysis I, and UiA Samskaping – OpenLab, which enhances interdisciplinary team work. UiA has advanced laboratory facilities that support R&D activities in areas related to renewable energy and transportation systems, including solar energy, bioenergy, hydrogen, batteries, thermoelectric generators, power electronics, power systems, and smart grids. Students can also access a supercomputer at the Mechatronics Innovation Lab (MIL) for computational purposes. The strong cooperation with the industry provides UiA with access to data from several renewable energy plants and systems, enhancing the program's relevance and practicality. ENENE500-C Master's thesis in renewable energy details and assessments are outlined in separate course descriptions. Evaluation is primarily based on written exams, often accompanied by project submissions and presentations. Additionally, individual oral examinations and project work may be used for assessment. In some cases, midterm exams will also contribute to the overall evaluation. It is essential that all coursework is completed successfully before taking a written examination. The master's thesis is assessed by two external examiners. Internationalization agreements with foreign universities allow students to take courses abroad, which can count towards their home degree. These courses must be approved by UiA and typically occur in the third semester. Students can also choose to complete their master's thesis abroad. To continue in the study programme, students must have successfully completed at least 75 ECTS credits of coursework and all courses directly related to the thesis subject. Graduates will be qualified to enter the professional field as a graduate engineer or pursue further studies in engineering. Potential employers include energy producers, power-intensive industries, consulting companies, offshore industries, transportation companies, and public sector organizations. The programme also prepares students for research careers and doctoral studies in areas relevant to renewable energy. The qualification awarded is Master i teknologi (sivilingeniør) - Fornybar energi/ Master of Science in Renewable Energy. Student evaluations are conducted annually through the Quality System, section 4.2. Students can provide suggestions and ideas before the evaluation meeting by contacting Programme coordinator Sathyajith Mathew at post@uia.no or +47 3814 1000. A compulsory course is also included. Health, safety, and environment requirements for students at UiA include having a portable computer for teaching and exams. The renewable energy sector drives innovation with wind, sun, water, geothermal, and bioenergy technologies. Over 4000 European institutions offer courses at various levels, with English being the primary language of education in many programs. UiA's Master's Programme in Technology Studies simulates electrical and electromechanical components and systems, particularly motors and motor drives, for various applications in production, automation, and offshore equipment. The programme involves collaborative project work, advanced research problems, and the use of English as a working language. The four-part curriculum covers the entire industry and energy supply sector, focusing on renewable energy sources such as hydro power, bioenergy, wind energy, solar energy, hydrogen, fuel cells, and thermoelectricity for zero-emission transportation systems. The programme also explores production systems for electrical energy, industrial applications with modelling and simulation, electrical motor drives, power electronics, and advanced control theory. Design and control of energy systems are a key area of focus, including electricity supply, bio-fuelled plants for heat and power, and advanced control theory. Students will have the opportunity to participate in internships as part of their master's degree. Upon completion, graduates can move directly into professional roles as graduate engineers in various capacities, including energy producers, distribution companies, consulting firms, offshore industries, transportation companies, and the public sector. The programme meets the National Curriculum Regulations for Engineering Education in Norway and requires a completed three-year bachelor's degree in engineering or related fields with specific credit requirements. The Renewable Energy Systems master's programme at UiA offers a comprehensive education in green energy transition, focusing on critical issues and providing expertise for a sustainable future. From February to March (or until April 15th for Nordic citizens), international applicants can submit their applications. However, EU/EEA students are eligible year-round. Norway has introduced tuition fees for non-EU students. For more information about the fees, please visit our website. To apply, please contact admission@uia.no or reach out to the Faculty of Engineering and Science. This programme aims to equip future professionals with in-depth knowledge and practical skills to innovate, develop, and promote renewable energy solutions. The programme covers a wide range of topics, including green energy generation, conversion, storage, distribution, and management. Graduates will be able to meet both current and future national and global needs for clean and sustainable energy. UiA's commitment to academic excellence is reflected in its award-winning study programmes. In 2022, the Renewable Energy Systems programme received the UiO's Board Prize for its comprehensive scope and innovative teaching methods. The Department of Technology Systems, located in Kjeller near Oslo, benefits from collaborations with prominent research entities, including FFI and IFE. Upon completion, graduates will be equipped to work in various fields, such as sustainable energy systems, smart grids, and sustainable technologies. A master's degree also opens doors to a career in academia worldwide. Those who are academically ambitious can supplement their master's degree with an Honours certificate worth 20 credits, taken concurrently with the master's programme.