Degree profile of **Bachelor í Orkuverkfrøði** *Bachelor of Science in Energy Engineering*	
Type of degree & Length	**Single degree** (210 ECTS / 3½ years)
Institution	Fróðskaparsetur Føroya, Megindeildin fyri náttúruvísindi og heilsuvísindi, Náttúruvísindadeildin, Føroyar. *University of the Faroe Islands, Faculty of Natural and Health Sciences, Department of Science and Technology, Faroe Islands*
Accreditation organisation	The Ministry of Education, Research and Culture (MMR), The Faroe Islands.
Period of reference	Accreditation from July 2015 for a period of 6 years
Cycle / Level	Bachelors level QF for EHEA: 1st cycle EQF level: level 6

A	**PURPOSE**
	To provide students with general knowledge in natural sciences and a broad background in energy engineering, thus preparing the students for engineering employment and for further studies at master level and beyond.

B	**CHARACTERISTICS**	
1	DISCIPLINE(S) / SUBJECT AREA(S)	Engineering and Natural Sciences (65:35).
2	GENERAL / SPECIALIST FOCUS	General programme in engineering and natural sciences with special focus on energy engineering.
3	ORIENTATION	An academic degree based on previous as well as current research, with specialisation in energy engineering, giving wide opportunities for employability and further studies.
4	DISTINCTIVE FEATURES	- The programme includes 30 ECTS of work placement. - The programme takes examples from the Faroese community whenever this is possible. - The programme is taught in Faroese, Danish (Nordic) and English.

C	**EMPLOYABILITY & FURTHER EDUCATION**	
1	EMPLOYABILITY	Positions that require bachelor level expertise in energy or engineering or ideally the combined field of energy engineering.
2	FURTHER STUDIES	Master programmes with a broad intake. Master programmes in engineering with a broad engineering intake. Master programmes in science with broad intake. Master programmes specialising in electrical or energy engineering.

D	EDUCATION STYLE	
1	LEARNING & TEACHING APPROACHES	Student centred, teacher centred, problem based learning, task based learning, research based learning, learning through laboratory exercise, work placement, group work and individual study,
2	ASSESSMENT METHODS	Written examinations, oral examinations, case studies, essays, presentations, reports, continuing assessments, project work, portfolio and self- or peer reflection.

E	PROGRAMME COMPETENCES
1	GENERIC
	• **Research ability**: Ability to gain new knowledge through independent and collaborative research. • **Teamwork**: Ability to work as part of a team and to assume responsibility for tasks. • **Management ability**: Ability to plan and manage projects taking into account resource constraints. • **Problem solving:** Ability to handle stress and effectively solving practical and theoretical problems. • **Creativity**: Ability to be creative in developing ideas and in formulating and solving problems. • **Communication skills**: Ability to communicate efficiently and to present complex information in a concise manner. • **Abstract and analytical thinking**: Ability to apply abstract and analytical thinking, and in this way reach conclusions based on facts and logic. • **Entrepreneurial and innovative skills**: Ability to assess the commercial potential of an idea and to some degree develop a commercial product from an idea.
2	SUBJECT SPECIFIC
	• **Research skills**: Ability to demonstrate knowledge of, and ability to use, research techniques and technology. • **Mathematical skills**: Ability to use mathematics to describe and solve problems in engineering and physics. • **Engineering skills**: Ability to understand engineering problems; to design solutions for the problems; to implement the solutions as part of engineering systems; and to operate these systems, thus solving the engineering problems. • **Energy engineering**: Ability to analyse energy consumption in different systems; to propose energy saving measures; and to demonstrate understanding of renewable energy resources, and the issues leading to limitations on these resources for technical, environmental, economic and societal reasons. • **Electrical engineering**: Ability to demonstrate a thorough understanding of electrical engineering including design, modelling and control of electric power systems. • **Computational skills**: Ability to use appropriate software such as programming languages and packages in mathematical and engineering investigations and to gather and interpret relevant data.

F	COMPLETE LIST OF PROGRAMME LEARNING OUTCOMES
	On the completion of the study programme in BSc in Energy Engineering the successful student will be able to: • Combine research based knowledge and practical knowhow to solve technical problems, whilst accounting for societal impacts. • Apply basic standard methods from mathematics, physics and chemistry to evaluate and solve ideal engineering problems. • Apply and demonstrate basic knowledge of programming languages for solving and documenting programming assignments. • Demonstrate knowledge of scientific methods in engineering and identify problems that can be dealt with under the topics of modern engineering. • Demonstrate knowledge of relevant information sources and be able to carry out critical literature review. • Communicate technical information, theory and results to a wide audience with the aid of graphic, written and oral communication. • Acquire new knowledge and critically appraise acquired knowledge. • Apply acquired engineering skills to contribute to technical problem solving through project work, both independently and as a team member. • Critically assess future requirements and expectations for energy systems, which are an essential part of modern life and society. • Apply a variety of circuit analysis techniques (DC, transient and AC) to analogue electrical circuits for signal and power purposes. The techniques are based on mathematical principles, such as linear algebra, differential equations, complex numbers and relevant simulation software. • Solve simple technical problems through the understanding of general electromagnetic principles: electric and magnetic fields, electromagnetic induction and electromagnetic wave propagation. • Critically evaluate the environmental impact of different energy resources, power generation and energy systems in general. • Assess the societal and technical implications of the different energy resources (fossil fuel, wind, hydro, tidal. wave, solar). • Solve simple energy problems (heat exchangers, turbines, heat pumps, heat transmission, renewable energy resources) based on mathematical modelling and an understanding of fluid mechanics and thermodynamics. • Assess energy requirements in buildings and design insulation, heating, cooling and ventilation systems.