DEGREE PROFILE OF **Bachelor í Verkfrøði (BSc)** *Bachelor of Science in Engineering*	
Type of degree & Length	**Single degree** (210 ECTS / 3½ years)
Institution	Fróðskaparsetur Føroya, Náttúruvísindadeildin *University of the Faroe Islands,* *Faculty of Science and Technology*
Accreditation organisation	Ministry of Foreign Affairs and Culture (UMMR), The Faroe Islands.
Period of reference	From August 2021
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 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 with strong background in mathematics and physics with options to focus on civil-, electrical-, or energy engineering.
3	ORIENTATION	A research based academic degree with possibilities for specialisation in either civil-, electrical- or energy engineering, giving wide opportunities for employability and further studies.
4	DISTINCTIVE FEATURES	The programme is organised as follows: - it includes one semester of work placement - from the fifth semester, students have the opportunity to focus on **either** civil-, electrical- or energy engineering - in the first four semesters, all courses are jointly taught - examples from problems in civil-, electrical- or energy engineering found in the Faroe Islands are included whenever it is possible - textbooks and literature are mainly in English, but materials in Faroes or Scandinavian languages are also used.

C	EMPLOYABILITY & FURTHER EDUCATION	
1	EMPLOYABILITY	Positions that require bachelor level expertise in respective fields of engineering.
2	FURTHER STUDIES	Master programmes in engineering with a broad intake. Master programmes in science with broad intake. Students must, however, always carefully examine any requirements, as education institutions follow different rules and regulations.

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

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 effectively solving practical and theoretical problems, and ability to handle stress. **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.
2	SUBJECT SPECIFIC
	Mathematical skills: Ability to apply mathematics to describe and solve problems in engineering and physics.

	Engineering skills: Ability to understand engineering problems, specifically in the fields of civil, energy or electrical engineering; to solve engineering problems; to reach conclusions using principles of mathematics, natural sciences, and engineering sciences **Computational skills**: Ability to use software such as programming languages and packages in mathematical and engineering investigations and to gather and interpret relevant data. **Applied skills in one of the elective topics:** **Civil engineering:** Ability to identify, formulate and analyse civil engineering problems including e.g. structures and geotechnics. **Electrical engineering**: Ability to demonstrate a thorough understanding of electrical engineering including design, modelling and control of electric power devises and systems. **Energy engineering**: Ability to analyse heat and electricity supply system characteristics; to propose energy saving measures; to identify, formulate and analyse problems related to renewable energy systems.

F	**COMPLETE LIST OF PROGRAMME LEARNING OUTCOMES**
	On completion of the study programme in BSc in Engineering the successful student will be able to: Apply 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. Apply acquired engineering skills to contribute to technical problem solving through project work, both independently and as a team member. Describe and discuss basic topics within civil-, electrical-, or energy engineering. Determine and minimise the energy requirements of buildings.

	If the elective topic is Civil Engineering, the successful student will be able to: Demonstrate understanding of earth materials in constructions of e.g. tunnels, roads, harbours and in investigation of subsurface conditions for buildings Assess load-bearing capacity in structures as related to Eurocodes and Faroese common practice Apply software models and perform basic modelling to analyse structural systems If the elective topic is Electrical Engineering, the successful student will be able to: Demonstrate understanding of electrical power devices and systems, through modelling, design, and control. Apply a variety of circuit analysis techniques (DC, transient, and AC) to analogue electrical circuits for signal and power purposes. If the elective topic is Energy Engineering, the successful student will be able to: Assess the local renewable energy resources, and perform basic modelling of wind, solar, hydro and tidal based energy systems. Select and size renewable energy systems including effective systems for ventilation, heating and cooling buildings, and renewable energy systems.