8. Describe and classify the diversity of life **DEGREE PROFILE OF**		
Bachelor í mýlalívsvísindum ***Bachelor of Science in Molecular Life Sciences***		
TYPE OF DEGREE & LENGTH	Single degree consisting of 180 ECTS over 3 years (60 ECTS/year)	
INSTITUTION(S)	University of the Faroe Islands.	
ACCREDITATION ORGANISATION(S)	**The Ministry of Education, Research and Culture (MMR), The Faroe Islands**	
PERIOD OF REFERENCE	Degree programme starting 2014; not accredited yet.	
CYCLE /LEVEL	National level: Bachelor; QF for EHEA: 1st cycle; EQF level 6.	
A	**PURPOSE**	
	To provide education with a broad insight into biology ranging from ecology to molecular biology, with particular emphasis on the latter. The education will also give the necessary tools from supporting sciences (chemistry, mathematics, statistics, bioinformatics). Many of the examples are taken from Faroese settings, including Faroese population, nature and environment.	
B	**CHARACTERISTICS**	
1	DISCIPLINE(S) / SUBJECT AREA(S)	Zoology; Botanics; Animal and Plant Anatomy and Physiology; Taxonomy; Evolution; Terrestrial and Marine Ecology; Biochemistry; Cell Biology; Genetics; Microbiology; Toxicology; Molecular Life Sciences; Laboratory Methods; Mathematics and Statistics; Chemistry; Geophysics;
2	GENERAL / SPECIALIST FOCUS	General education in theoretical and experimental biology and molecular life sciences, including supporting fields of science.
3	ORIENTATION	Based on previous research and with examples from current international and local research giving wide opportunities for employability and further studies.

4	DISTINCTIVE FEATURES	The programme is using numerous examples from Faroese terrestrial and marine biology, and in particular from the Faroese population and genetic diseases.
C	**EMPLOYABILITY & FURTHER EDUCATION**	
1	EMPLOYABILITY	Positions in fish and food industry and other companies (e.g. within quality assurance), research institutions (research assistant) and in administrative and management institutions. Upon acquiring additional competence in pedagogy: teaching in primary or secondary school.
2	FURTHER STUDIES	Master programmes in a wide range of fields within molecular life sciences biology such as biomedicine, bioinformatics, biotechnology, toxicology, and in related areas such as aquaculture, resource management, ecology and environmental monitoring, etc. Some areas may need the acquisition of further competence.
D	**EDUCATION STYLE**	
1	LEARNING & TEACHING APPROACHES	Lectures, laboratory classes, report and essay writing, group work, oral presentations by students, individual study based on literature, student presentations, discussions with academic staff, field work and excursions, preparing Bachelor thesis.
2	ASSESSMENT METHODS	Written exams; laboratory, field and project reports; continuing assessments; essays; oral exams and presentations; assessment and defence of Bachelor thesis.
E	**PROGRAMME COMPETENCES**	
1	GENERIC	
	1. **Learning competence:** ability to learn and enter new fields. 2. **Communication competence:** ability to discuss and communicate based on knowledge and science, and to write reports that present facts, results, etc., in a clear and succinct manner. 3. **Problem solving and co-operation competence:** To work both independently and in teams to solve problems. 4. **Knowledge and information updating competence:** ability to search the scientific literature and information outside the textbooks, and use this information in a critical manner. 5. **Research competence:** Having the knowledge and background to perform simple research projects. 6. **Competence of self-critical evaluation and management:** ability to assess their own needs in their studies and learning process, accept their personal responsibility in the learning process, and to seek the support they find necessary.	

2	SUBJECT SPECIFIC
	1. **Academic competence in biology and molecular life sciences:** Broad knowledge and understanding of biology and the diversity of life, expressed as the ability to describe and explain a wide variety of biological phenomena and processes ranging from to populations, foodwebs and ecosystems to molecular systems. Thus, the student should have knowledge and understanding of, and be able to explain, the structure and functions of molecules like DNA, RNA and proteins, how molecules interact to create metabolic pathways, how errors in metabolic or signalling pathways may cause disease, how interactions with pathogens may cause disease, mechanisms of toxicity, mechanisms of evolution, the interactions of different populations, the interactions between the living organisms and the abiotic environment. 2. **The competence of applying scientific principles in theoretical terms:** ability to apply scientific methods and scientific reasoning to distinguish between fact, fiction and faith, and have knowledge and understanding of biology as sciences of inquiry (experimental, observational, modelling). 3. **The basic competence of applying principles of scientific investigations in practical terms:** ability to apply the scientific principles and knowledge to basic experimental and/or observational design and practice, i.e., formulate a problem to be studied (hypothesis), suggest ways of investigating the problem and put these suggestions into practice, evaluate sources of error and uncertainty, and finally report the process and its results, and discuss its implications. 4. **Analytical competence:** ability to analyse a problem formulation, extract the essential parts, and break the problem down into manageable parts that each can be solved. 5. **Synthetic competence:** ability to combine knowledge from several fields, and apply them into new settings. 6. **Language competence:** English used in biological context.
F	**COMPLETE LIST OF PROGRAMME LEARNING OUTCOMES**
	On the completion of the study programme Bachelor of Science in molecular life sciences the successful student will be able to: 1. Demonstrate knowledge and understanding of biology at the level of molecules, cells, organisms, and ecosystems, and apply this knowledge into inquiries at the different levels. 2. Demonstrate knowledge and understanding how the different fields of biology are interconnected. 3. Demonstrate general knowledge and comprehension in fields supporting biology (chemistry, mathematics, statistics) and influencing biology (geophysics; for example how the parameters of descriptive oceanography are influencing marine biology). 4. Demonstrate knowledge and understanding in a variety of fields in general biology, like botanics, zoology, ecology, marine biology, etc. 5. Describe and classify the diversity of life. 6. Demonstrate knowledge of evolutionary processes from the molecular level to the ecological level, and describe how these processes have shaped the diversity of life. 7. Demonstrate general knowledge and comprehension of natural resources and sustainable management thereof. 8. Apply knowledge and understanding of laboratory and field experiments and perform the calculations needed for such experiments (e.g., concentrations, dilutions, pH). The student should demonstrate the understanding of the methods used in these experiments, the instruments and equipment used, and the application of critical interpretation to the results and observations obtained by such experiments. 9. Demonstrate an extensive knowledge of the structure and functions of cells (eukaryotes and prokaryotes). 10. Demonstrate an extensive understanding of the structure and functions of DNA, RNA and proteins, and how the functions of these molecules are important in a multitude of fields in biology and related areas (biochemistry, cell biology, genetics, microbiology, human health, etc). 11. Demonstrate a broad knowledge on how molecules can influence cellular processes (like signal transduction, gene expression, cell cycle) and thereby can influence the functions and actions of cells. 12. Demonstrate a broad knowledge on how molecules can cause toxicity and the mechanisms

	of toxicity. 13. Demonstrate a broad knowledge on how molecules and cells can be analyzed and on how the actions and functions of molecules can be inferred. 14. Demonstrate the knowledge and correct usage of scientific terminology and biological concepts in a multitude of fields in biology. 15. Demonstrate the ability to write scientific reports by combining, in a clear and succinct manner, (a) background knowledge, (b) methodological knowledge, (c) interpretational skills, and (d) the ability to put their results into perspective. 16. Search the scientific literature for information to find both primary references, review articles, and other relevant information, and use this information in a critical manner and in appropriate context.